

THE RESILIENCE OF RURAL ETHIOPIAN LIVELIHOODS

A case study from Hararghe zone, Eastern Ethiopia

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in Development and
International Cooperation
Social and Public Policy
A Pro Gradu Thesis
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ABSTRACT

The purpose of this thesis was to examine the resilience and sustainability of rural Ethiopian livelihoods. The resilience and sustainability of livelihoods were studied in framework of food security. Preventing, coping and recovering from the shocks and stresses, in this case from drought and food insecurity, form an essential part of resilience and sustainability and therefore preventing and coping strategies were emphasized in this study. Also the effectiveness of the external aid was touched in empirical data because of its essential existence in the studied villages.

The empirical data was gathered by interviewing people living in six rural villages in Hararghe zone, Eastern Ethiopia. In total, 12 interviews were executed. Semi-structured group interviews were used as the main data collection method and the findings were analyzed with qualitative methods; coding and finding themes from the data. The villagers were selected to be the key informants because the study is based on sustainable livelihoods thinking which emphasizes bottom-up approach and gives voice to local people.

The results showed that resilience and sustainability in studied villages were low and fragile because of the severe shortage of water and lack of financial support. Difficult climatic conditions caused negative relations between ecological and economic sustainability. The villages have not been able to recover from the drought and are currently using the coping and preventing strategies to survive. From the results it could be also concluded that forms of external aid should be credit- or development based instead of temporary food aid.

Key words: resilience, sustainable livelihoods, coping strategies, rural areas, Ethiopia

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1. INTRODUCTION

Background of the study

Famines have always interested me, especially the reasons and consequences of those events. Probably the shocking images of the Ethiopian famines in 1970s and 1980s have had an influence on this. When the decision was made that this thesis would discuss food security, I decided that the focus would be in Ethiopia. I wanted to study how the food security situation has changed after the 1980s and what kind of current effects does it have. From the beginning it was a foregone conclusion that the focus would be on rural areas. In my opinion, rural areas have a lot of potential and, for example, urbanization and its negative consequences could be decreased if rural areas could get more attention. In this thesis I wanted to emphasize that rural people are not weak people who are just suffering from the environmental shocks without defending themselves and their livelihoods. According to Chambers (1987, 13), the behavior of the desperate should not be confused with the behavior of poor but not desperate.

When I found the resilience theory, I was sure that this theory could support my thoughts. Resilience emphasizes the capacity of a system to absorb disturbance and to reorganize so that the system could still retain the same functions, structures and identity (Walker et al. 2004, 6). Also the sustainable livelihood (SL) approach gives a good framework to this study because the main aspects of SL are to put poor people first, start from the bottom-up perspective and give a voice to local people. Connecting sustainable livelihood and resilience is supported by Chambers & Conway (1992, 16): "Sustainable livelihoods are those that can avoid or resist such stresses and shocks and/or that are resilient and able to bounce back".

I also state that during those times when there is a lot of discussion about the amount of development aid and its effective use, local rural coping strategies should be promoted more. If the amount of aid decreases, the local strategies will have a more important role in preventing, coping and recovering from stresses and shocks.

Aim and objective of the study

The aim of this master's thesis was to understand the problems which people currently face in the rural villages of Ethiopia. Another aim was to focus on strengths of the local people to prevent, cope and recover from these challenges. The study examined especially the malnutrition situation and coping strategies which villagers and their communities used during the food insecure periods. This research also studied the role of the external assistance in the villages, and what kind of an aid would be most effective and mostly needed – or is it needed? All these issues were related to the question of resilience; Are rural villages and communities resilient in Hararghe, Eastern Ethiopia? Can their livelihoods survive during the food insecure times?

The objective of this research was to indicate that rural people have strengths which they could utilize during food insecure times. The objective was also to hear the local voice and to support the idea that their local strengths should be encouraged and supported more.

Research questions

This thesis tried to find answers to one main research question and to one sub-question:

- Are rural livelihoods resilient in Hararghe, East Eastern Ethiopia?
 - What kind of coping strategies do the local people and communities have?

The hypothesis of this thesis was that rural villagers need to have certain amount of coping strategies to be resilient towards food insecurity. To guarantee the sustainability of their livelihood, the community needs to be in turn resilient. This thesis was founded on the entirety formed from these three concepts; resilience, sustainable livelihoods and coping strategies. Accumulation of these concepts is indicated in Figure 1 below.



Figure 1. Accumulation of coping strategies, resilience and sustainable livelihoods

2. METHODS

Spoken or written representations and records of human experience are studied by qualitative researchers using various methods and multiple sources of data (Punch 1998, 174). Interviewing is widely used method in qualitative research when trying to understand human beings and their behavior. Interviewing is powerful tool but using it might be more difficult than it might seem at first. Ambiguity of questions and answers is an issue which almost every researcher faces. (Fontana & Prokos 2007, 9.)

This research was a qualitative study and the main empirical data consisted of semi-structured group interviews implemented in six rural communities in Eastern Ethiopia, in Hararghe zone. (Location of the Hararghe zone is indicated in Figure 2.)

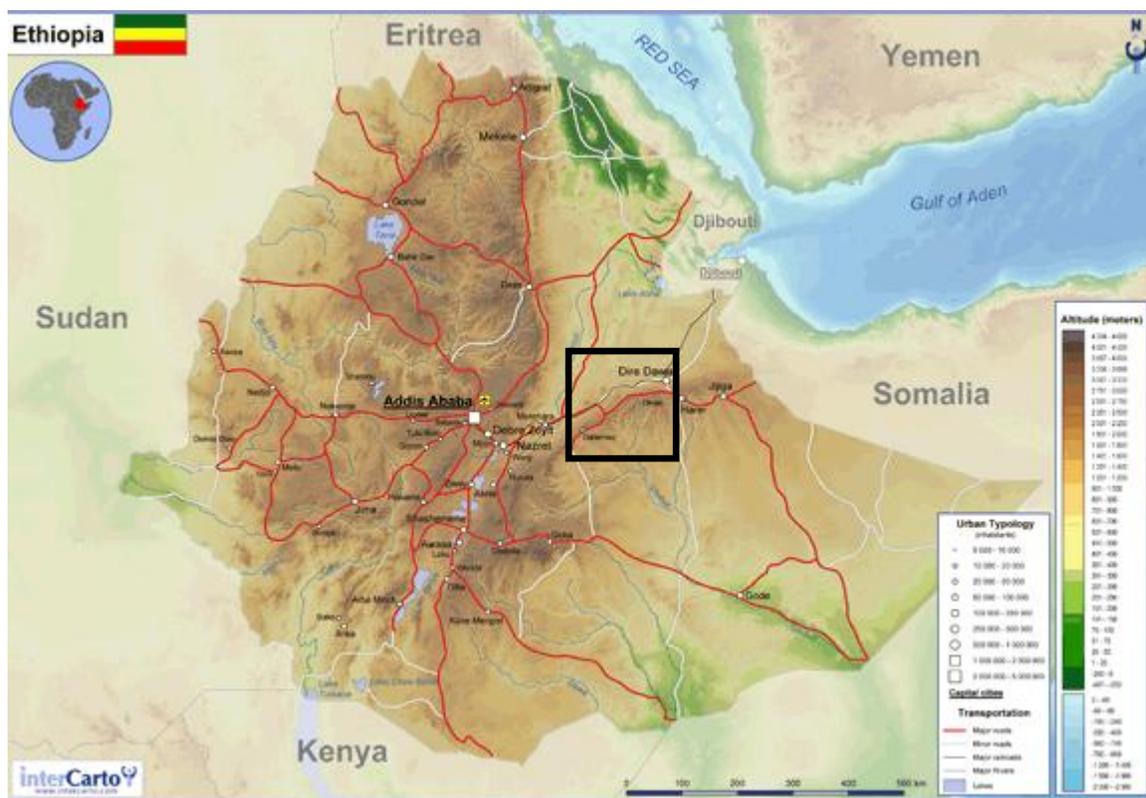


Figure 2. Map of Ethiopia

The selection of studied villages was based on non-random sampling and on the judgment of the researcher and supporting organization (World Food Programme). Three food insecure woredas (administrative units) were chosen from Hararghe zone in order to guarantee geographical diversity. Six villages were selected from the woredas with the help of local people and World Food Programme staff. Also the accessibility and safety issues were main determinants. In all six villages two interviews were actualized, one with the leaders of the community, one with the regular villagers. The number of participants in the interviews varied from two to eight. (More information about the interviewees in Appendix 1.)

2.1. Group interview

Group interview is a general term to describe a situation where researcher works with several people at the same time. Originally, focus group interviews were one type of interview used in marketing and political research but currently terms ‘focus group interview’ and ‘group interview’ are used interchangeably. (Punch 1998, 177.) Interactive quality is a key attribute of focus group interviews. Focus group interviews do not simply indicate interviewing several people at the same time, rather it means researching formation and negotiation of accounts within a context of group. How social interaction affects to individuals’ way to define and discuss about issues? (Seale 2004, 194.) Well prepared and managed group interviews can be a good way to research controversial issues, as long as trust is established. If the purpose is to gain the view of the group, group interview is the best method. Interviewing group members one by one probably would not yield the same results. To get comprehensive data it is effective to give people a possibility to react to others’ views, either giving support or expressing another view. The negative side of group interviews is that group dynamics will influence the results of the interview. (Robson 2007, 76.)

Group interviews were selected as the main method of data collection because of the cultural issues. In Africa people are used to talking together, and especially when the interviewer comes from outside of the community, they can get support from each other during the interview. In some of the villages it might have been impossible to hear especially women’s

voice without organizing a group interview because some of them were reserved and shy especially in the beginning.

Group interviews were the most effective way of gathering information from the respondents because the aim of this study was to research resilience and coping strategies of rural communities. The opinions which were comprised together with the villagers gave data which was suitable when answering to the research questions. The information received in group interview rather than addressing individuals is more reliable because people could correct issues which others might remember incorrectly, and they could also diversify the conversation when they hear others' stories and experiences.

2.2. Semi-structured interview

A semi-structured interview guide was used in all interviews. The guide included six components which were: personal and communal data, the concept of malnutrition and food security, problems caused by food insecurity, preventing, coping and recovery. The questions were slightly different for the leaders and for the regular villagers; for example, the figures about the community were not questioned from the regular villagers. Otherwise the interviews followed the same scheme in every village.

Semi-structured interviews follow the order of the interview guide with suggested themes but there is a dimension for the interviewees to develop their answers (Desai & Potter 2006, 144). In a semi-structured interview, exact question wording does not need to be used. When handled well, the situation can sound almost like an open conversation between people. This will help the researcher to gain more informative answers. In semi-structured interview the order of the questions could be changed and some of the questions might stay uncovered or the format of the questions might change. (Robson 2007, 74-75.)

The number of participants varied from village to village because controlling and restraining the number of interviewees was difficult. Most of the interviews were carried out in open space where anyone could enter and this kind of event evoked much attention in every village.

Also those people who were not interviewed wanted to hear what the conversation was about. When requesting two or three leaders to participate, there might have been eight or ten leaders present - nobody wanted to be left out. In these cases nobody was left outside and everyone could participate. This created a situation where some of them were there to talk, some of them only to listen. A welcoming and open atmosphere was intentionally created and this might have been one of the resources for the fruitful and open discussions.

2.3. Limitations of the study

If working in cross-cultural setting, especially with language barriers, carefully chosen interpreters could facilitate the situation greatly; conversely, inappropriate interpreter could even jeopardize the interview. There might be also some gendered interviewing norms; for example in Muslim communities, men are not generally allowed to interview women, especially in their homes. A male researcher would need a female assistant or colleague to accomplish the interview. There is also the question about local and non-local assistants and interpreters. For example, a local assistant could facilitate the access to the communities but he/she could decide to gravitate towards his/her own family and friends to get “better” answers. (Desai & Potter 2006, 165.)

The role of the interpreters was essential during the interviews. Official language of Ethiopia is Amharic but almost all of the interviewees spoke Oromo which is another main language of Ethiopia. Because of the financial restrictions, professional interpreters were not used. Almost all of the interpreters could speak English, Amharic and Oromo so translating went easily. If some problems arose, the translation help was received from the other villagers. When the questions were translated English-Amharic-Oromo and answers from Oromo-Amharic-English, the translating process was multidimensional. Even though the questions were planned to be easily understandable and approachable, some explanations were needed. Some of the words used in interview guide did not have straight counterparts in Amharic or Oromo.

This study is a combination of six small case studies. Six villages from Ethiopia, even from Hararghe zone, is a minimal number but it gives good examples about the situation in

concerned area. When generalizing the data, diversity of Ethiopia, geographical and ethnical, should be remembered. The data gathered in lowlands of Hararge zones could have been different indeed than, for example, in the highlands of Western Ethiopia.

The basic idea of a case study is to study one case (or a small number of cases) in detail, using the methods that seem appropriate. The general objective is to develop as full an understanding of the case as possible. In case studies, the aim is to understand the case in its own so that the complexities and context could be recognized. (Punch 1998, 150.) Case studies are commonly criticized because of their troublesome generalization; how can the results be generalized when the study is based on only one case? Punch (1998, 155-156) defends the positive side of properly conducted case studies. The case might be unique, unusual or not yet understood, so building an in-depth understanding is valuable. Also, only the in-depth case study can provide us an understanding of the important aspects of a new or problematic research setting.

There are many advantages to work with an non-governmental organization (NGO) when doing a research in a foreign country; especially it is a good way to do student research. NGOs are a good source of local knowledge, they are experts of the local field area, they can provide background information and usually they have staff which is able to speak local languages. NGOs can also help the researcher with logistics; mobility, safety issues and necessary equipment. Linking with an NGO might also facilitate the community's acceptance of you. Organizations can also provide documents, reports and statistics which might be helpful in the research. NGOs might also have staff that could help the researcher with interpretation issues. (Desai & Potter 2006, 98-100.)

There might be also negative sides when working with an NGO. Usually these issues concern the NGO's attempts to steer your research in a particular direction and therefore the researcher should remember to stay independent and realistic. A researcher, linked with an NGO, should remember that the community's view of the NGO will influence how interviewees interpret you, your motives and the questions asked. (Desai & Potter 2006, 99.)

2.4. Reliability and validity

Data collection is reliable if the data remains primarily the same when the measurement is repeated under the same conditions. However, when working with people it is almost impossible to gain exactly the same data. That is why researchers using flexible methods can consider the idea of reliability dubious. Providing some evidences from reliability might still be needed. This could be done by providing very thick descriptions which take also the context to consideration. The use of triangulation, the data collecting by different methods, might also help. (Robson 2007, 71-72.)

Validity indicates whether something measures what it claims to measure, or not. Data could be reliable without being valid but if it is not reliable, it cannot be valid. When using flexible and qualitative methods the researcher should consider if he/she is telling the 'truth'. Does the review fairly and accurately represent the phenomena and situation? Are the interpretations some way biased? (Robson 2007, 72.) Validity could be examined as an internal or external validity of the study. Internal validity refers to the consistency of the study, external validity refers to generalization. (Seale 2004, 511.)

2.5. Ethics of the study

When carrying out a research researcher should always take ethical issues into consideration because any form of a research could affect people in a wide variety of ways. Some qualitative research deal with sensitive, intimate and innermost issues in people's lives, and ethical issues accompany the collection of such information (Punch 1998, 281). The respondents' rights, autonomy and sensitivities should be respected and they should be given an informed consent. Their possible coming to be harmed as a result of their involvement should be also considered. Respondents should know where they are letting themselves into. People should not be treated unfairly, or with lack of consideration or respect. Their privacy and autonomy should also be guaranteed. The researcher should not exert any pressure on people in persuading them to

become involved in the research and people should be given full information about the research. (Robson 2007, 64-66.)

All of the 12 interviews were based on voluntariness, and the villagers were not obliged to take part in the interviews. They were given full information about the purpose of the study and they were treated equally, not depending on their education, age or religion.

2.6. Analyzing data

In this research, the data gained from the interviews was analyzed by coding. Coding means a procedure where data is split into units or segments which are relevant and meaningful for the study. A basic strategy in coding is to compare and contrast in order to find issues which seem to be similar and those that seem to be different. (Robson 2007, 131.) The data could be coded as they are collected, based on the respondents' answers to fixed-choice questions. The coding of qualitative data could also form a part of an interpretive, theory building approach. (Seale 2004, 506.) Punch (1998, 205) divides coding to basic and advanced coding procedures. Basic coding includes labeling the data which is a part of getting the data ready for following analysis. Advanced coding includes also labeling and categorization but in higher levels of abstraction with the data. In advanced coding the researcher use more interpretive codes which need some inference beyond the data.

3. CONTEXT

Ethiopia is one of the countries located in the Horn of Africa. It shares borders with Kenya, Sudan, Eritrea, Djibouti and Somalia. The estimated population in Ethiopia is 85 million people which makes it the second most populated country in Sub-Saharan Africa. Federal Democratic Republic of Ethiopia (FDRE) has been divided into nine administrative *states* and two chartered cities (Dire Dawa and Harar). These states have been subdivided into *zones*, which have been divided into smaller administrative units, *woredas*, and the *woredas* have been divided into neighbourhoods, *kebeles*.

The sub-chapters below will cover Ethiopia's history and the current situation, especially concerning poverty, agriculture and food insecurity.

3.1. Ethiopia's history in brief

Archeological findings, especially excavated in East-Africa, indicate that a mankind has a history of a million years. According to Kaikkonen et al. (1989, 28), cultivation and farming might have started in Ethiopia already 5000 BC. Cultural-geographically especially the highlands of Ethiopia are located between Northern Africa and North-West Africa. The highlands have been able to offer an early cultivation and opportunities for living. Because of the geography, the intercommunication across the Red Sea and North Sudan has been the most common. The deserts in the South and the Nile in the West have decreased communication to other directions. Ethiopia's characteristic culture has gained and still preserves clear influences both from the East across the Red Sea and from Europe and Egypt from the North.

During the 2nd century Axum, which was located in Northern highlands of Ethiopia, became one of the competitive cities in commerce (Kaikkonen et al. 1989, 34). People living in Axum created also one of the earliest centers of agriculture in Africa (July 1992, 37). Axum became an important commerce centre because of the influence from across the Red Sea, the kingdom

of Saba. The Sabians started to create commercial settlements across the Red Sea. (Kaikkonen et al. 1989, 34-36.) They came across the Red Sea with many important things, such as written language, systems of irrigation and agricultural skills. The capital city of Axum was wealthy, cosmopolitan centre where trade routes converged. (July 1992, 37-38.) The connection between Axum and Saba stayed strong until the kingdom of Saba was occupied by the Greeks. During that time a language called *Geez* was created, and Amharic, the current official language of Ethiopia, is based on Geez. Axum became a great power of Africa, and even Somalia paid taxes to Axum. Christianity came to Axum from the Eastern-Rome at the same time when Axum and Rome built cooperation against Persia. When Axum started to expand to South and to the highlands it started to develop as an Abyssinian culture which was mixed with original cultures but still the Christianity stayed. (Kaikkonen et al. 1989, 34-36.)

After the Arabs had conquered the Red Sea and Axum's economic base was collapsed, the relations of Axum and Arabs did not deteriorate. The birth of the Muslim communities was part of the general Arab expansion and reasons in the Horn of Africa were financial. Muslims were treated tolerantly in Ethiopia and they could use the same commercial routes as the Ethiopians. In the 10th century the kingdom collapsed because of its internal weakness and because of the southern neighbors' pressure. There is not much information about the following 200 years. (Kaikkonen et al. 1989, 59-60.)

In the 14th century, the dynasty which stemmed from Salomon came to power. The kingdom was expanded to South and the battles against Muslims were started to conquer the commercial routes. In the 16th century, the Turkish became to Red Sea and armed the religious Muslim brothers who were able to conquer the whole Ethiopia. Muslim power lasted 40 years before the Ethiopians, with help of the Portuguese, got the power back. The new era started in Ethiopia's history with Salomons in power. (Kaikkonen et al. 1989, 60-61.)

During the 16th century, Ethiopia faced many difficulties because of the natural conditions and the diversity of ethnicity. There were wars, failure of crops, famines and epidemics which caused many riots. There were also some arguments about doctrine between Christians. In the 17th century Gondar became the capital of Ethiopia. External trade showed some signs of

positive development in the 17th but during the 18th century the situation worsened again. Emperors lost their power in Gondar and in South and North. From 1780 to 1850, the era is called as “the era of emperors”. The empire was divided into small areas governed by the local emperors. (Kaikkonen et al. 1989, 102-103.)

In 1889 Ethiopia signed a companionship contract with Italy which had started a colonial occupation in Somaliland and Eritrea. Italy's expansion in Eritrea and other disagreements about the contract led to war. Italy's army faced complete loss against Ethiopia. Emperor Menelik II decided that Addis Ababa will be the new capital of the empire, and in 1910 there were 70,000 permanent citizens in Addis Ababa. Before Menelik II's era the empire was geographically divided, divided between principalities and suffered from religious disagreements. That is why the uniting of the empire had been impossible. With the help of the army, Menelik II could strengthen the power of the central administration. A train connection between Djibouti and Ethiopia was given to a French company in 1894 to strengthen the relations with France to counterbalance the fear of Italy. The competition between the great powers, Ethiopia's military power and the difficult geographic conditions kept the land safe from conquests. (Kaikkonen et al. 1989, 190.)

Haile Selassie I, originally called Tafari Makonnen, was crowned as an emperor in 1930. During his era westernization continued and a parliament and a ministry were created. Also the education expanded. In 1935 Mussolini decided to invade Ethiopia to expand his empire in Africa. War lasted until 1941. Ethiopia got help from the United Kingdom and stayed as their protection state until 1944. After the war reformation continued and Ethiopia was active in foreign policy. (Kaikkonen et al. 1989, 192.)

Problems in Eritrea started 1972 when its status was changed from autonomy into a Province County. There were also fights and disagreements about landowning in South-West Ethiopia which were worsened by severe drought and international oil crisis. (Kaikkonen et al. 1989, 192-193). In 1972 rains failed and by 1973 between 100,000 and 200,000 people had died from starvation and malnutrition. The mostly affected areas were Wollo and Tigre provinces where estimated 20 % of human population died, and in Wollo even 90 % of the animals

starved to death. (Keller 1988, 166.) These problems were causes for riots starting in 1974 in Addis Ababa and surroundings. The movement came political. Haile Selassie I was displaced in 1974 and a military committee came to power. (Kaikkonen et al. 1989, 192-193.) The new regime, Dergue (provisional military council), introduced social reforms, for example land redistribution. Fukui & Markakis (1994, 225) call this regime as a Pseudo-marxist military regime, Keller (1988) as a Soviet-style scientific socialism. Soon the disagreements even with radical groupings such as the EPRP (Ethiopian People's Revolutionary Party) emerged. (July 1992, 509.) The EPRP talked about people's democracy, Dergue about controlled democracy (Keller 1988, 197). The situation resembled almost a civil war but in 1978 colonel Mengistu Haile Mariam gained control over the army and therefore over the machinery of the state (July 1992, 509).

The 1983-1984 famine was the worst in the century. It was the result of environmental degradation, demographic growth, misguided agrarian economic policies, war and drought (Tareke 2009, 20). By early 1985, 7.7 million Ethiopians suffered from drought. As a recovery plan Dergue launched a massive resettlement of drought victims. The idea was to move people to areas where they have better conditions to live and cultivate. The meanings of this action have been questioned. Resettlement might have been just an intention to depopulate the areas characterized by the EPRP. (Keller 1988, 224-226.)

Dergue governed Ethiopia until 1991. It collapsed at the same time as European communism. Since 1991 the EPRDF (Ethiopian People Revolutionary Democratic Front) has been the leading party of the country. In 1993 Eritrea got full independence from Ethiopia. The first democratic election in Ethiopia was held in 1995 and Meles Zenawi was selected as the prime minister. The relationship with Eritrea was still deteriorating and disagreements about the borders led to open hostility. A full-scale military conflict started in February 1999 and lasted until peace agreement was signed in December 2000. (Briggs 2009, 28-31.)

Meles Zenawi has been re-elected as the prime minister in 2000 and in 2005. In Ethiopia prime minister has the executive power and he is also the commander-of-chief of the armed forces (Gemechu 209, 44). Zenawi's continuous and invincible electoral victories have caused

disagreements between supporters of different political parties. The election held in 2010 has been severely criticized by the EU and different Human Rights organizations because the EPRDF and the allied parties won 534 seats out of 536 (Reuters 2010).

3.2. Current situation in Ethiopia

According to World Bank (2009) Ethiopia is one of the poorest countries in the world; Ethiopia's GDP per capita is US\$340, and when comparing to Sub-Saharan average it is much lower than most other countries'. Despite the fact that Ethiopia has been one of the fastest growing non-oil economies in Africa, there has been an inflation problem as well as a difficult situation in the payment balance. Increased prices of fuel and food in the global market and failure of *belg* rains have made the situation even worse. The economical situation is expected to remain vulnerable because of possible aftermaths of the global financial crisis.

Statistics of World Food Programme (2009) show that in 2009 there were over ten million people who have been affected by drought in Ethiopia. Malnutrition and hunger threatened 4.6 million people, which caused a need for a high volume and urgent food assistance. Drought affected especially the south-west and south-eastern parts of Ethiopia but the situation was vulnerable also in other areas. According to WFP 46 % of the population was undernourished. Currently 5.2 million Ethiopians are affected by the food insecurity. Poor and erratic rainfall during 2008 and 2009, and high prices of food and fuel have made the situation very fragile. (WFP 2010.)

Ethiopia's economy is still dependent on agriculture. About 80 % of the Ethiopian population live in the rural areas, especially in the highlands, where about a half of the land is degraded. Almost a half of the rural population, 47.5 %, lives below the poverty line. (WFP 2008.) Because of the dependence on crop production, failures in crop harvesting lead easily to household food deficit (FDRE 2002, 7).

In Human Development Index Ethiopia's rank is 157th out of 169 countries with data. Life expectancy in Ethiopia is 56.1 years, adult literacy rate is 35.9 %, combined gross enrolment ratio is 49 % and purchasing power parity (PPP) is US\$990. These figures together combine a HDI-index, 0.328. (UNDP 2010.) Gemechu (2009, 43-44) reminds that in spite of the low enrolment ratio and literacy rate there has been impressive expansion in enrolment at all levels of education and number of students has almost tripled since 1994. Ethiopia has shown steady improvement especially in terms of access over the past decade.

3.3. Agriculture in Ethiopia

Ethiopia is dependent on its' agricultural sector. Almost a half of Ethiopia's Gross National Product (GNP) is contributed by agriculture. Agriculture employs almost 85 % of the people and contributes more than 80 % of the country's exports. Coffee is the main agricultural export but also hides and skins, oilseeds, pulses and *chat* (leaves which have psychotropic qualities when chewed) are exported. (U.S. Department of State 2009.)

Ethiopia is a country of mountains and plateaus but also dry semi-desert. Most of the mountains have an altitude between 2100 to 2500 metres. Even though the whole country is located in the tropics, only the lowlands have a hot climate. (UNEP 2009.) Seasonal rains, called *meher* and *belg* rains, determine the success of the crops. Usually the Belg rains last from February to May and Meher rains from June to September. It is also said that Ethiopia's livestock population is the largest in Africa. It plays a big role in the country's economy and forms a big part of the exports. Cattle population in Ethiopia is estimated to be over 49 million, sheep population is over 25 million and goat population is almost 22 million. (Ethiopia's Central Statistic Agency 2008.)

Small-scale farmers form the largest group of Ethiopian poor people. There are about 12 million smallholders in the country and they have one hectare or less land to cultivate. One third of these small-scale farmers cultivate less than 0.5 hectares of land which is too small to

produce adequate food even to the one average household. (IFAD 2009.) The productivity of the agricultural sector is weak. The fertility of the soil is poor, rainfall is erratic, erosion is a big challenge and the environment has been degraded. Because of the fast population growth, food production has left behind the demand. That is why Ethiopia is dependent on imports and food aid so strongly. (WFP 2006, 5.)

Pastoralists in Ethiopia are dependent on their livestock. A livestock is a base for consumption and trade. Most of the pastoralists live in the semi-arid or arid areas which receive erratic rainfall. During drought, the livestock dies and prices of cereals increase which means a must-to-sell-off more livestock to survive. The increasing population growth has caused problems also to the pastoral communities. Land erosion and deforestation increase the vulnerability of the communities. (FDRE 2002, 18.)

3.4. Food security in Ethiopia

Ethiopia suffered from a severe famine during 1972-1974 and it affected especially two areas: North-East, especially Wollo province in 1972-1973, and Southern provinces, especially Hararghe area in 1973-1974. Mortality during the famine was higher in the North-Eastern parts because relief came too late. In the North-East many of the famine victims were pastoralists but in absolute numbers most of the victims were from agricultural communities. In the Southern provinces especially agriculturalists suffered. In Ethiopia as a whole, food production did not decrease before or during the famine and consumption per head stayed quite the same than before. In Wollo food production decreased remarkably and there was no purchasing power in the area. A notable feature in the Wollo area was that the prices of food rose only a little but still people died of starvation. This issue could be understood with entitlement thinking; do the people have equal possibilities to cultivate, sell, purchase and store food? Do people have equal access to resources? Pastoralists, who were hit the hardest in most of the areas, were not affected only by the drought but also by expanding commercial agriculture. They had also lost their cattle because of the drought and that is why they could not meet their food requirements anymore. (Sen 1981, 112.)

Ethiopia is still one of the countries with an alarming number of malnourished people in the world. According to World Food Programme estimates (2006, 6) 44 % of the people are undernourished and 38 % of the children are underweight. Poor performance of seasonal rains during the year 2008 worsened the situation of the poor and the global financial crises lead the country to the most vulnerable situation in decades. Increased prices of food commodities have caused insuperable situation to the people who were poor before this but the situation has also lead new people to poorness. The situation in 2009 was not better. During the first six months of the year 2009 there were 4.9 million people who were in need of humanitarian assistance. (Joint Government and Humanitarian Partners 2009, 5.)

4. THEORETICAL ASPECTS

When researching food security or famines you almost always come across with thoughts of Amartya Sen. His entitlement theory is well-known among the scholars and it has been affecting also my research. Sen (1981, 1) states that "Starvation is a characteristic of some people not having enough food to eat. It is not the characteristic of there being not enough food to eat". A person starves because he/she does not have an ability to command enough food or because he/she does not use this ability to avoid starvation. The entitlement approach focuses on the first option, ignoring the second possibility. The entitlement approach concentrates on the ability of people to command food through the allowed norms in the society, including the production, trading and other methods of accessing food. (Ibid. , 45.)

Sen (1981, 154) examines why people who had to starve did not have enough food. He asks what causes the situation where other groups have better possibilities to get hold of the food. These questions lead to an entitlement approach. Entitlement relations, which govern possession and use in a society determine a person's ability to command food or any commodity he/she wants to obtain or preserve. Sen (Ibid., 162) states that in the entitlement approach famines are seen as economic disasters, not just as food crises.

In the next sub-chapters Sustainable Livelihood Approach, resilience theory and coping strategies will be investigated. Sustainable Livelihood Approach was the perspective which was used in this whole study, while the concept of resilience gives a theory basis for this study. Finally, coping strategies will disclose the practical core of this theory.

4.1. Sustainable livelihoods

4.1.1. Basis of Sustainable livelihood thinking

The mostly used definition of sustainable livelihoods is created by Chambers & Conway (1992, 7-8);

”A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term.”

The primary focus of sustainable livelihood thinking (SLT) is achieving adequate, secure and sustainable livelihoods. SLT emphasizes also the move from short and low survival to long and high sustainability. (Chambers 1987, 12.) A desire for a sustainable livelihood, which provides adequate, safe and decent living and provides social and physical well-being, is a universal priority. A sustainable livelihood is a security against sicknesses, early death and becoming poorer. (Ibid., 9). Reducing vulnerability and increasing the abilities to cope with stresses and shocks are essential to establishing secure, decent and adequate livelihoods (Ibid., 21.)

Chambers (1987, 6-9) states that the potential of Sustainable Livelihood Thinking (SLT) is underestimated. He claims that professional thinking concerning population, resources, environment and development has treated poor people as secondary even though they should be considered as the starting point. Chambers states that if the poor are not put first, environmental and developmental objectives would not be attained. By putting the poor people first not only their objectives could be achieved but also the policy objectives of ‘professionals’ and policy makers. Chambers & Conway (1992, 2) focus also on the rural poor because they conclude that the needs of rural poor will get even less attention in the future.

They also emphasize that more people who can live decent life in rural areas means less human pressure and misery to towns. Sustainable livelihood thinking tries to find answers to the question how a larger amount of people could gain a decent rural livelihoods and how these livelihoods could be sustained in environments which are fragile and marginal.

According to Chambers and Conway (1992, iii) the concept of sustainable livelihoods is based on ideas of capability, equity and sustainability. Chambers and Conway (1992, 5-6) added a subset of capabilities to Sen's use of term 'capability'. It includes a possibility to cope with shock and stresses and to being able to look for and make use of livelihood opportunities. Examples of this could be gaining access to use services and information, experiment and innovate, competing and doing cooperation with others, and finding new resources and conditions. Chambers and Conway (ibid.) define equity as an equal distribution of assets, capabilities and opportunities. Sustainability is a combination of ecological and social sustainability. With social sustainability they mean the ability to conserve and enhance livelihoods at the same time with maintaining and enhancing local and global assets and capabilities.

Sustainability of livelihood comprises environmental and social sustainability. Environmental sustainability concerns the external effects of livelihoods to other livelihoods, and social sustainability concerns livelihoods' internal capability to cope with pressures coming from outside. Environmental sustainability means the conservation and enhancement of the productive base of resources especially for the next generations. This could be divided into two dimensions; local and global. Local environmental sustainability indicates the ability of livelihood activities to maintain and enhance the local natural resource base. Global environmental sustainability indicates abilities of livelihoods to generate positive contributions to other livelihoods in long-term. Social sustainability indicates if individuals, households and families are able to gain and preserve satisfactory and decent livelihood. Social sustainability has two dimensions. Negative dimension means coping during stresses and shocks. Positive dimension means enhancing the capabilities to adapt and create change and also to guarantee the continuity. Livelihood should have an ability to avoid or resist and recover from stresses and shocks in order to be sustainable. (Chambers and Conway 1992, 12-14.)

Livelihood is also a combination of people, capabilities of these people, and their means of living; food, income and assets. Concrete assets are resources and stores, abstract assets include claims and access. To be environmentally sustainable livelihood should maintain or enhance both local and global assets of which livelihood is dependent on. It should also have net beneficial effects on other livelihoods. To be socially sustainable livelihood should be able to cope and recover from shocks and stresses and provide for next generations. (Chambers and Conway 1992, iii.)

SLT is a mixture of three former ways of thinking; environment, development and livelihood thinking. It takes sustainability from environment thinking by linking the need of long-term security for poor and their children. It takes productivity from development thinking by linking the needs for more income and food to the poor. From the livelihood thinking SLT takes the primacy of poor people's livelihoods. SLT tries to find the ways to enable poor people get to above the sustainable livelihood line which includes possibilities to save and accumulate, adapt to shocks and stresses, and enhance the long-term productivity. SLT expects that sustainable development is achievable if livelihoods are secured, use of environment is balanced, productivity is enhanced, and balance between population and resources is found. (Chambers 1987, 15-16.) SLT puts poor people and their priorities first and this way leads to searching for potential and opportunities (Ibid., 17).

Sustainable livelihood security combines population, resources, environment and development in four respects: balancing population, diminishing migration, avoiding core misuse, and supporting sustainable resource management in a long-term. If wanting to stabilize the population size, livelihood conditions should be secure. Poor and insecure people are more likely to have many children. Having many children is usually a survival strategy and life insurance for the parents. If we want to avoid migration, people should have safe control over their resources which can provide them an adequate living. This way poor people could manage better their lives at the habitual domicile and number of immigrants could be less. People are most vulnerable if they are legally, politically and physically weak. (Chambers 1987, 10-11.) Chambers (Ibid., 14) states that these four points indicate that poor people are

the solution, not the problem. If the conditions are right they could have smaller families, stay where they want, and think in a long-term.

‘Sustainable livelihoods’ is a concept which has evolved more from open-ended fieldwork than from the closed surveys and statistics. Because sustainable livelihoods include more than just income and consumption, it is very hard to measure. It includes for example the ability to adapt and cope with stresses, satisfying the basic needs and environmental sustainability. There are many dimensions in sustainable livelihood thinking which take different forms in different environments and that is why attempts to measure sustainability of livelihood in single scale or with one indicator is not possible. (Chambers and Conway 1992, 25.) Though, Chambers & Conway (Ibid., 28) suggest some indicators which locals, communities or projects could use if sustainability of livelihood is wanted to be indicated. These are status and trends in migration, normal employment, local non-farm income, and rights and access to resources and security of those rights.

Policy implications written by Chambers and Conway (1992, 31-33) are divided into three categories; enhancing capability, improving equity and increasing social sustainability. Enhancing capabilities could increase the adaptations skills when people face complicating and changing times. Capabilities could be enhanced by education, healthcare, increasing the variability in farming, supporting information and communication services, and by offering flexible credits for small enterprises. Improving equity emphasizes especially the status of the poorest, women and children. Practically equity could be improved by redistribution of land, securing the rights to resources and guaranteeing secure inheritance for children, supporting rights to education, health and credits, and removing the restrictions which weaken the poor. Increasing social sustainability requires reducing vulnerability by restricting external shocks, minimizing stresses, and providing safety nets. Practically this could be done with respect to peace and equitable law and order. There should be comprehensive disaster prevention plan and strategies to provide food, income and work for citizens during the times of stresses. Health services should be accessible also during bad seasons and possibilities for lower fertility should be promoted.

Also Chambers (1987, 23-24) mentions four common elements for policies which contribute to sustainable livelihood security. First, there should be peace and law and order. Secondly, assurance of food round the year should be guaranteed. Thirdly, people should be able to meet the needs without becoming indebted, and fourth element should be that there are no administrative restrictions. With these in mind he makes some policy recommendations which could enable livelihoods to be more secure. There should be redistribution of land to landless people, small-scale tenancy and diversification of livelihood strategies should be supported, and prices of crops and animals should be stable.

According to Chambers (1987, 25) researchers should gain a better understanding of the conditions in which the rural poor are able to save and invest, and how they use their investments and savings. Chambers also emphasizes that rural poor are the major actors, and 'professional' partners are always outsiders. The researchers should get closer to the poor people, learn which are their priorities and help them to achieve what they want and need. This way the poor people are the solution, not the problem. Putting the poor people first is the most reliable way to achieve sustainable rural development.

4.1.2. Current discussions

After the discussion papers of Chambers (1987) and Chambers and Conway (1992), a cross-thematic approach to poverty eradication was identified in 1994. The approach was powered by the poor people's talents and energies. The approach was named as sustainable livelihoods approach (SLA). It is an integrative framework - an opportunity to promote cross-sectoral and cross-thematic approach which should be used in development work. Despite, SLA is not a program. It is an approach which is based on the building blocks of development, for example, on education, healthcare, women's empowerment, good governance and income-generation. SLA tries to organize these building blocks in a way which could promote powerful synergy, and sustainable livelihoods as a result. The philosophy of sustainable livelihoods is built on ideas such adaptive strategies, participation, empowerment, governance and policy. (Helmore and Singh 2001, 2.)

Sustainable livelihood can be defined very accurately or alternatively it can be used as an approach or a framework. A precise definition is usually provided by Chambers and Conway (1992, 7-8). The framework signifies a system of related factors which actuate whether livelihood is sustainable or not. It does not necessarily give guidance to how sustainable livelihoods should be applied, but it can designate factors which should be taken into consideration and gives indications of how those are related. When talking about approach there are also many different definitions, and different organizations and institutions have their own approach to sustainable livelihood. (Knutsson, P. 2005, 23.)

The Sustainable Livelihoods Approach begins with an analysis of the *wealth* of the poor. Poor people might be wealthy through their different kind of assets, knowledge, resourcefulness, skills and adaptive strategies. Adaptive strategies, which mean changes and adjustments people make in their livelihoods in order to cope under difficult situations, is an entry point of the SLA. Poor people use strategies to overcome crises and hardships which they face and respond to emergencies with coping mechanisms. When using of these strategies has become a part of their everyday life, they are called as adaptive strategies in SLA. Many times these strategies are sustainable and economically efficient; adjusting to drought by planting drought-resistant seeds or moving the cattle for half a year to other area. These practices do not use the resources which are needed in the future and they do not disrupt other peoples' opportunities to make their own livelihoods. (Helmore and Singh 2001, 3.)

One of the key features of SLA is the idea that the core of all human development and economic growth is livelihoods, the various ways of activities which people use to make their living. In addition to activities, livelihoods include assets which can be identified as four different kind of capitals; human, physical, natural and social. Human capital includes knowledge, skills, creativity and adaptive strategies. Physical capital consists of buildings, roads, machinery, crops and livestock. Natural capital means land and soil, air, water, forestry and vegetation. Social capital includes governance structures, community groups, decision-making power and culture. Livelihoods do not depend only on activities and assets but also on entitlements. In developing countries it usually means such as support from the family and

community members during the emergency, in developed countries it means social security and government-funded safety-nets. (Helmore and Singh 2001, 4.)

Helmore & Singh (2001, 6-8) state that SLA was invented to promote four important characteristics: economic efficiency, social equity, ecological integrity and resilience. If we want our livelihoods to be sustainable, we need to promote the systems which use the resources in economically efficient way, not wastefully. There should be also social equity in the community; the way how one household or community makes its livelihood should not bother or disrupt others to make theirs. Ecological integrity has to be taken into consideration by not destroying the resource base and preserving the resources for the next generations. This could be promoted also with ecologically efficient technologies. Livelihoods should also be resilient in order to be sustainable. Livelihoods need to be able to cope and recover from stresses and shocks. Flexibility of livelihoods is a necessary condition to survive during the possible crises.

A different characterization and classification of sustainable livelihoods is provided by Knutsson and Ostwald (2005, 12, adopted from Boyd and Turton, 2000). They state that the general definition of sustainable livelihood divides livelihood capitals as follows: natural capital (land, water, vegetation, and biodiversity), social capital (networks, groups, trust, and social relations), human capital (skills, knowledge, good health, and the ability to labor), physical capital (infrastructure such as shelter, transport, communication, and energy) and financial capital (financial resources such as savings, access to credit, bank loan, and remittances).

According to Pelling (2003, 50), to understand the current concept of vulnerability we need to situate livelihoods or asset livelihood approach, also called the entitlement perspective, to the central place. This kind of asset-based approach has its roots in bottom-up perspective where the main principle is to understand how resources are mobilized and used in a local level rather than presume impacts of specific changes at a regional, national or global level (Knutsson and Ostwald 2005, 3).

Currently, Sustainable Livelihood Approach is influencing and guiding development policies in many international organizations focusing on development co-operation (Knutsson and Ostwald 2005, 4). Sustainable livelihoods approach involves what people already know. If sustainability and increased productivity are to be ensured, supporting the existing livelihood is essential. (Helmore and Singh 2001, 89.) We must also remember what ‘sustainable livelihoods’ does not mean. It does not mean only basic needs or subsistence living. Meeting the basic needs is the first step in SLA. SLA reminds us about the complexity of development but also about the differences between the situations at people’s level. (Ibid. , 9.)

To achieve the quality of life, the community should attain conditions of sustainable livelihood. According to Chambers & Conway (1992, 25), one of the most important factors in sustainability is to be able to adapt and cope with stresses. This idea leads us to resilience theory which could be seen as a condition to sustainable livelihoods.

4.2. Resilience

“Resilience is the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks—in other words, stay in the same basin of attraction.” (Walker et al. 2004, 6). According to Carpenter et al. (2001, 765) resilience refers to the immensity of disturbance which can be tolerated by socio-ecological system before it turns to different kind in state or space controlled by different actors and processes. Still, there is also another way of thinking resilience. Folke (2006, 254- 259) states that resilience is not only about the state of system which is strong and tenacious against disturbances but it is also about opportunities which shocks and stresses open up. To some systems it means ability to renew, re-organize and develop. Disturbances could initiate processes which lead to renewal of the system and the emergence of a new kind of progression. If the social-ecological system is resilient, the disturbances could create possibilities to do new things, innovate and develop.

Pelling (2003, 5) defines resilience as ”The capacity to adjust to threats and mitigate or avoid harm. Resilience can be found in hazard-resistant buildings or adaptive social systems.”

Resilience is a combination of planned preparation undertaken in case of potential hazard and of spontaneous or conscious acclimations made in response to occurred hazard, including relief and rescue (Ibid., 48). Resilient systems are capable of absorbing shocks and at the same time maintaining not only the desired lifestyle but also long-term development plans. Resilient systems have the potential to recover and re-organize when crises, such as drought or fire, occur. A contrast to resilient system is a vulnerable system. When a system loses its resilience, it becomes fragile and even small changes could have disastrous effects. (Pearson 2008, 16.)

According to Carpenter et al. (2001, 767-777), most of the resilience-studies have used resilience as a theoretical construct but only in few cases it has been used as a model of a system. Even resilience as a theoretical construct can inspire important analyses of socio-ecological systems, and more useful information could be achieved by making more empirical analyses which require measurable concept of resilience. In all cases it is essential to focus on which state of system is considered ('resilience *of* what') and which disturbances are of interest ('resilience *to* what').

According to Holling (1973, 14), the founding father of the ecological resilience, stability means a balance state to where the system returns after passed shock or stress. If the return is quick and if the system does not change much, it is stable. Resilience is a measure of persistence of systems and their ability to absorb to changes and shocks, and still maintain existing bonds between state actors and people. When stability view focuses on the maintenance of inevitable world, resilience emphasizes the need for persistence (Ibid., 21.)

Holling (1973, 17) states that the system could be very resilient and still fluctuate, i.e. have a low stability. The situation could also be contrary. The residents of those regions where climate varies less are much less able to absorb climate extremes despite that the populations tend to be more constant. This situation shows a high degree of stability but a low degree of resilience. The more homogenous the system is, the more likely it has low fluctuations and low resilience. (Ibid. , 18.)

Carpenter et al. (2001,766) state that resilience has three features: the quantity of change which system is able to adapt and still preserve same controls in functions and structures, the ability of system to self-organize, and readiness to build capacity to learn and adapt. Though, resilience could be also a negative thing. Sometimes a change might be advisable in larger scales but its' effective management must be guaranteed also in lower scales (Walker et al. 2004, 5). For example social resilience might not be a positive thing for everyone in the community. The nature of social resilience, the conditions how social structure is preserved and its consequences for individuals and families should be investigated. (Locke et al. 2000, 28.)

According to Adger (2007, 78), world needs to be resilient to change. To guarantee the sustainability of life, well-being and environment we need to be ready to adapt to new circumstances, unpredictable perturbations and possible challenges. Resilience is an asset of a system. In ecological sciences, resilience relates to assets of ecosystems, rather than populations. If we want to link resilience with sustainable development, we need to define resilience as an interaction between humans and nature. The resilience of social-ecological systems is the core objective of sustainability.

The main aspiration of sustainable development is to advocate the use of the environmental resources to meet the needs of the current society without harming the future. How does resilience contribute to the goal of sustainable development? First, resilient systems are able to absorb shocks and consequently maintain ecosystems and structures of governance maintaining options for future users. In other words, resilient systems could adapt, cope and reorganize without sacrificing the conditions of ecosystems. Second, a loss of resilience in social-ecological systems is associated with permanent change, the formation of vulnerabilities for marginalized parts of the society. Even strategies which seem to be rational in the short run could reduce resilience. These are the reasons why resilience and sustainable development are combined, and through resilience sustainable development could be analyzed multi-dimensionally. (Adger 2007, 79.)

A core component of the current resilience analysis in ecology is that ecosystems do not exist in the isolation from the human world. Many examples indicate that the human use of natural resources can reduce resilience in many scales. For example, dependency on using fossil fuels and an increasing consumption of them could deteriorate initially resilient systems. Nevertheless, human use has a potential to be sustainable and resilient. Promoting resilience is directly dependent on the community engagement in resource management; especially in the areas where communities rely on the health of ecosystem for their own well-being and livelihood. (Adger 2007, 83.) A link between the human world and nature has created a thought of a social resilience. Social-ecological resilience could be characterized by reorganization, developing and sustaining. It focuses on learning and innovations and it emphasizes cross-scale interactions. (Folke 2006, 259.)

4.2.1. Social resilience

Resilience approach focuses on non-linear processes, uncertainty and shocks and the kind of interaction systems have during rapid change. Currently there is an attempt to integrate social dimension to resilience thinking in a more effective way. (Folke 2006, 253.) Because the concept of resilience has initially described only ecological phenomenon, applying it to social sciences and systems has been controversial. It cannot be assumed that there are no differences in behaviour and structure between institutions and ecological systems (Adger 2000, 350). According to Adger (2000), the concept of resilience has not been examined before as the meaning of a community or a society as a whole. Therefore Adger (Ibid., 348) investigates the questions “Is resilience a relevant term for describing communities?” and “Is there a link between social and ecological resilience?”.

The dependence on ecosystems has an influence on the communities’ social resilience and ability to cope with hazards, especially in the context of food security and coping with shocks. Resilience could decrease if there is a high variability in the market or environmental system. Hence resilience depends on the institutional rules as well as the diversity of ecosystems. (Adger 2000, 354.)

Social resilience is institutionally defined because institutions pervade to all social systems and accordingly determine also the economic system, its structure and asset distribution. Hence, social resilience could be explored through indicators such as institutional changes, structure of economy or demographic change. One of the key elements of the economic aspects of resilience is the economic growth and the stability and income distribution among people. If the community is dependent on a narrow range of natural resources, it can increase the contentions on income and decrease the stability. (Adger 2000, 354.)

Adger (2000, 347-348) states that social resilience is one of the important components of the conditions of how social groups and individuals adapt to ecological changes. According to Adger, social and ecological resilience could be linked through the communities' dependence on ecosystems and their economic activities. Resilience enhances the communities' capacity to cope with shocks, and consequently it is an antonym for vulnerability.

Mobility and migration could be seen as important indicators of resilience. Still, resilience could not be interpreted from the presence of immigrants in any area because population movement could be as well an evidence of enhanced stability as decreased resilience. (Adger 2000, 355.) Usually, migration, circular and seasonal, has been considered as a sign of extreme vulnerability. But for example to nomadic groups it is an important factor of social stability. (Locke et al. 2000, 30.) Migration might also have positive effects on resilience of community. Circular migration could increase the amount of social resilience if it guarantees diversity of livelihoods and encourage investments in resources. Despite, frontier migration and the consequences might cause insecurity and decrease resilience. (Ibid. , 26.)

Social resilience is a multidimensional way of analyzing phenomenon. It has its social, economic and spatial dimensions and hence it needs to be understood as an interdisciplinary tool. Because of its institutional context, social resilience is most often defined at the community level, not concerning individual behavior. (Adger 2000, 349.)

Social and ecological aspects of resilience have many empirical indicators but neither one of these could capture the totality of resilience. Social resilience could be examined through

economic, demographic and institutional variables, in short or long time frame. (Adger 2000, 357.)

4.2.2. Panarchy and adaptive cycles

The panarchy framework created by Gunderson and Holling (2002) indicates that the ecosystems' cycle is based on three key characteristics: the resilience of the ecosystem, the connectedness of the individuals in the ecosystem, and the potential for change in the ecosystem. Gunderson and Holling (2002) state that wealth, which is available in an ecosystem, has a potential because wealth defines possibilities for future options. According to Holling (2001, 390) ecosystems and social-ecological systems are based on hierarchies and adaptive cycles. Together these two form a concept of panarchy. It describes how a wealthy system is able to innovate and experiment, benefit from the inventions in the same time when keeping safe from the events and issues which could destabilize the system. (Ibid., 390.) Panarchy helps us to understand how a social-ecological system can innovate, benefit from the inventions and create opportunities while at the same time keeping safe from the destabilizing stresses and shocks. Interactions between the layers of panarchy guarantee the continuity of learning. (Ibid., 402.)

Adaptive cycle theory presumes that dynamic systems such as societies, economies and ecosystems do not have a tendency towards a stable and balanced state. Rather they go through the following four phases; rapid growth and exploitation, conservation, collapse or release ("creative destruction"), and renewal or reorganization. (Carpenter et al. 2001, 766.) Adaptive cycle consist of three properties; wealth, connectedness and resilience. Wealth could be defined as the potential of the system to adapt to change. This determines also the future possibilities. Connectedness indicates internal controllability of the system. Resilience means adaptive capacity; is the system vulnerable in front of unexpected shocks. (Holling 2001, 393-394.) Potential, wealth, enhances when combined with efficiency but also when combined with increased stiffness. When potential enhances small changes start to reveal increasing vulnerability and decreasing resilience to such stresses as drought, fire or flood. This might

also cause a situation which economist Schumpeter called as “creative destruction”. When uncertainty is a wide phenomenon, innovations start to occur. Potential is high but controls are weak so there is a possibility to new combinations. This is a phase of reorganization and old innovations could get a new change. New innovations must be tested and surviving ones adapt to the situation of growth. (Holling 2001, 396.)

There are still a lot of issues worth studying concerning resilience. Circumstances which cause or enhance vulnerability and also the background variables which increase resilience should be studied more (Folke 2006, 263). There is also a strong will to design management and institutional regimes which could retain and expand the resilience of the systems and also support developmental opportunities. (Holling 1996, 41.) Pelling (2003, 48-49) suggests that the most effective policy option could be to enhance resilience with formal or informal insurance mechanisms. He states that insurance is a key tool to spread the economic costs caused by hazards across the society.

Practically, there are four different ways that policy and individuals could adopt resilience thinking: 1. We should understand the complexity of social-ecological systems and learn to live with uncertainty and change. 2. We should cherish adaptive capacity and diversity in all systems. 3. Flexible decision making processes should be enacted and institutions should act on opportunities. 4. Self-organization of complex systems should be enabled rather than being kept in thorough human control. (Pearson 2008, 16.)

As Pearson (2008, 16) mentions above we should cherish an adaptive capacity in all systems. Coping strategies form an essential part of adaptation processes. To be resilient, the community and individuals should adapt strategies which they could use in preventing, coping during the crises and recovering from the stresses.

4.3. Coping strategies

When a household faces a food insecurity, which might be caused by various reasons, it usually adopts coping strategies. Coping strategies are short-term ways to adapt and adjust to the stress or shock and they almost inevitably lead to a different state of vulnerability. (Locke et al. 2000, 29; Adger 2000, 357.)

According to Wisner et al. (2004, 113-115) coping is a way to act and manage the resources in unusual, abnormal and adverse situations. With resources Wisner et al. mean physical and social manners to gain livelihood and ability to access safety. Coping strategies are based on knowledge which passes from generation to generation. In rural settings knowledge might concern finding wild foods and water sources, using of timber, and knowing the soil and the capacity of moisture. This kind of knowledge could be used as coping strategies if the crisis event follows familiar pattern. If the people have faced the same crisis before their earlier actions could be used as a suitable guide. Also Rahmato (1991, 163) emphasizes that every farmer usually learns the survival techniques as part of their everyday experience.

Coping strategies could be divided into actions which take place before, during and after the event. Preventive strategies usually require political decisions making in the state level but it is also important in the community and individual level. Individuals could prevent the crisis for example, by avoiding concentrations of dangerous insects, like malaria mosquito and tsetse fly. Coping strategies during the event could include diversifying production and income possibilities, storing grains and other staple food during good years, and strengthening of social networks. Relatives, neighbors and other community members could help the neediest villagers. Using of wild foods, sales of important assets such as livestock and migration could also happen during the crisis event such famine. (Wisner et al. 2004, 115-119.)

According to Chambers & Conway (1992, 16), reducing vulnerability has two dimensions; external and internal. External reducing happens through public action for example through flood prevention and disaster preparedness. Internal reducing happens in private level;

households add some strategies to their repertoire against stresses so they can respond effectively and lose less.

Chambers & Conway (1992, 15) list usual coping strategies which are: stint, hoard, protect, deplete, diversify, claim and move. Stint indicates consumption reducing, shift to lower quality of food, and draw on the energy stored in the body. Hoard means accumulating and storing of food and other assets. People might also preserve and protect the base of assets for recovery. They could also deplete pledge or sell their assets. Diversifying the food, work activities and other sources of income might also be one of the coping strategies. Making claims for example to neighbors, community or NGOs is usual. One coping strategy is also migration of animals, people and their assets.

Taylor (1992, 257) states that the human potential, basic knowledge and wisdom of the people of Africa have been seriously underestimated. Some African states and international agencies have seen these strategies as a major barrier to their development aims which promote and guide what they see as being required for development to take place. These coping strategies have been seen as objects which must have been 'modernized', 'mobilized' or 'captured'. A basic objective of development from within is to allow local people to become subject, not the object, of development strategies. If the locals have been given a possibility they have shown themselves to be perfectly capable of making rational choices regarding their own destinies. Taylor states that too much attention has been given to the negative developmental aspects and not enough to the positive aspects of local community realities on which a more meaningful development can be built.

Japheth M.M. Ndaró's (1992, 170-196) case study from Dodoma district, Tanzania, examines the local and community level coping strategies which people have adopted to respond to economic crises and hostile ecological conditions. Ndaró divides strategies into three categories; economic, social and ecological coping strategies. Economic strategies try to deal with economic crises, social strategies try to answer to the needs where government has faced failures, and ecological strategies are intended to deal with hostile environmental conditions. Economic strategies included local craft making, exchange and barter trade, charcoal making,

selling animals, vegetable gardening, local beer making, opening up of kiosks and door-to-door salespeople. Social strategies of community were building dispensaries and clinics, building primary schools and vocational centres, building of small dams, transportation, savings and credit societies, burial societies and milling machinery. Afforestation, destocking and opening up new farmlands are defined as ecological strategies.

Peter O. Ondiege's study focused on Machakos district, Kenya. This area is suffering from land shortage, population pressure, physical base deteriorating and the vagaries of an erratic climate. Also Ondiege divides strategies into ecological, social and economic strategies. Ecological strategies included bench terracing, tree planting, dam construction, afforestation and water conservation. Economic strategies included farming, goat, poultry and bee keeping, ranching, dairy farming and fishing. People were also involved in income-generating activities such as constructing and operating shops and storehouses. There were also some savings and credit facilities and groups for example farmers' co-operative society. Social strategies included groups in which members contributed money to help each other. There were also groups to construct education and health facilities. In this district the amount of Self-Help Groups (SHGs) was also high; 96 SHGs in economic activities, 249 women's groups, 73 farmers' co-operative societies and 19 savings and credit societies. Most of these activities were identified by the local people but they have got some assistance and support from the government, churches, NGOs and foreign government agencies. (Ondiege 1992,125-147.)

George J.S. Dei's study concerning Ayirebi people in south-eastern Ghana aims to indicate individual and communal coping strategies of these people suffering from economic crises and changing seasonal food supply cycles. Dei states that Ayirebi people have a great diversity in their cropping patterns. They grow two seasons of maize but also cassava which is very drought and locust resistant. They also use cocoyam which keeps well either in the field or in the storage. Another coping strategy of the Ayirebi people is a pragmatic dependence on local market; households facing deficits will buy food from farmers who have been able to produce surplus for the market. The Ayirebi people also hunt and gather to respond to the seasonal fluctuations. They use a wide range of edible and non-edible wild products to meet their needs. The Ayirebi people were lucky to live in an area which could offer them raw materials

so they could do activities such as blacksmithing, basket weaving and woodcarving. As a community level coping strategy they had organized a Town Development Committee and they had also bought communally additional land into production. There were several farmers' co-operatives and there was a lot of grass-root level participation in village decision-making. (Dei 1992, 58-81.)

Knutsson (2005) studied households' livelihood strategies in Danangou watershed area in northern Shaanxi Province, China. He divides livelihood strategies following different dimensions of sustainable livelihood; natural, human, physical, social and financial capital. The natural capital includes for example agriculture as a general strategy, female based vegetable production, agricultural extensification and reforestation. Human capital is based on strategies which are built around specific individual resources such as skills and knowledge. In studied area people are trying to get education and use their skills, for example, in non-farm income generating activities. Physical capital includes roads, transport, shelter, energy and communication. Many of the villagers had started business related to transport. Strategies concerning social capital are migration and marriage strategies. In Danangou watershed marriage is one of the most important opportunities to build social capital. Financial capital is many times a requirement to achieve other capitals such as physical capital. In the area there are for example local loan-providers.

These studies from different districts and areas indicate good examples of coping strategies which usually embody livelihoods' resilience and sustainability. A wide range of possibilities to gain income usually guarantees better living possibilities especially during the possible shocks and stresses.

4.4. Conclusions

Table 1 below shows that definitions of sustainable livelihoods, resilience and coping strategies have many common characteristics. The connection between these three concepts is inevitable.

	Sustainable livelihoods	Resilience	Coping strategies
Definition	Sustainable livelihood can cope with and recover from stress and shocks , maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation. (Chambers & Conway, 1992, 7-8)	Resilience is the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks—in other words, stay in the same basin of attraction. (Walker et al. 2004, 6).	Coping strategies are short-term ways to adapt and adjust to the stress or shock and almost inevitably lead to different state of vulnerability. (Locke et al. 2000, 29; Adger 2000, 357).

Table 1. Definitions of sustainable livelihoods, resilience and coping strategies

To be sustainable livelihood must be able to cope with and recover from the crisis and shocking events whereas a resilient community is able to sustain the same functions, structures and identity which it had already before the event. Coping strategies ease adaptation and adjusting to stresses and shocks. Connections between these three concepts are showed in Figure 3 below. If there are coping strategies, a community is more likely to be resilient to stresses. If the community is resilient, it is also more likely to gain conditions of sustainable livelihood. People who have sustainable livelihood are most likely to have effective coping strategies.

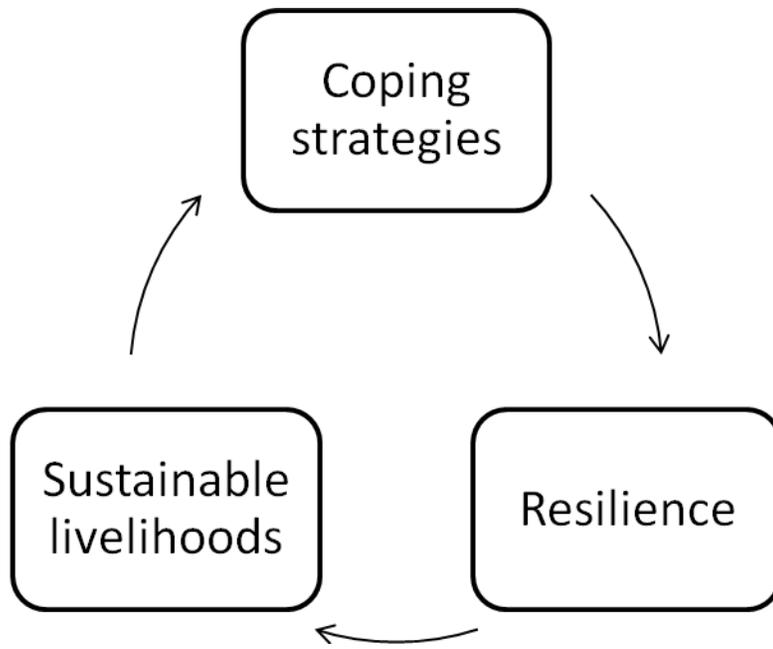


Figure 3. Connections between coping strategies, resilience and sustainable livelihoods

5. FOOD SECURITY IN HARARGHE-ZONE, EASTERN ETHIOPIA

In following two chapters, 5 and 6, the data gained from the interviews will be presented. The interview guide included six main themes which were; personal and communal data, concept of malnutrition and food insecurity, problems caused by food insecurity, preventing, coping and recovery. The first three themes were created to gain background information about the interviewees, their community and livelihoods. The results from these three themes are presented in chapter 5. The themes preventing, coping and recovery were created to gain information about the resilience and sustainability of the interviewees' community and livelihood, and to gain answers to research questions of this study. The research questions are 1) Are rural livelihoods resilient in Hararghe, East Eastern Ethiopia? 2) What kind of coping strategies do the local people and communities have? Results concerning these themes can be found in chapter 6. Appendix 1 includes more information about the interviewees. The whole interview guide is presented in Appendix 3.

5.1. Food security situation in the studied villages

The interviews were made in six *kebeles*, villages, in Hararghe zone in the Eastern Ethiopia. The villages were situated in *woredas*, administrative regions, called Babile, Golo Oda and Mieso. In Babile interviews were made in Erer Ibada and Efadin kebeles. In Mieso, Gulufa and Marfo were chosen and from Golo Oda, Jabel and Urgo/Karabachi villagers were interviewed.

5.1.1. Babile-woreda

Babile woreda was located in Eastern Hararghe zone, 80 kilometres to South-East from Dire Dawa city. Woreda had been divided to 22 kebeles and the total population of the woreda was 128,308.

Babile had suffered from moisture stress and that had been affecting to crop performance. The losses can be seen in Table 2.

Woreda	Crop	Area in hectares		Production in Quintal(100 kg)	
		Plan	Cultivated	Plan	Estimated
Babile	Maize	2850	2921	39,900	16,645
	Sorghum	9275	9110	129,850	52052
	Ground nut	8600	8600	120,400	61,149

Table 2. Pre-harvest assessment results (WFP Dire Dawa Sub-office: Weekly report nro.46, 2009)

Reports from World Food Programme's 10th round (2009) screening conducted in Babile indicates that there were 771 children under five years who suffered from moderate malnutrition, 77 children suffered from severe malnutrition and 29 children had oedema (disease caused by malnourishment, "fat stomach"). There were 315 pregnant or lactating women who suffered from severe malnutrition.

Erer Ibada-village

The leaders of the village told that Erer Ibada is a re-settlement area settled by German Organization called Menschen für Menschen. Village was established in 1981. Menschen für Menschen brought together people who were landless in their old villages. They brought together agriculturalists and pastoralists which caused some problems in the beginning.

According to the leaders there were 1100 households in the kebele and most of the inhabitants were children. Main way of living was agriculture, and unemployment was a big problem. The area was known for its milk which was transported even to restaurants in Harar city. There was an elementary school up to the 8th grade in the village but if you wanted to continue to high school, you would have to travel to Babile Town to get the education. The distance from Erer Ibada to Babile town was almost 30 kilometres. There was no hospital in the village but there was a health post. They had also a training centre for farmers. As Erer Ibada is situated in lowland areas, the biggest problem was a shortage of rain and water.

R: “How was the situation in the village two years ago?”

I: “Two years ago we were just waiting for the rain but now we have started to do water conservation and irrigation activities. Nowadays we even have some motors for water harvesting.”

R: “So are there any changes if you compare this year and situation two years ago?”

I: “This year has been the worst. During the summer the village was also affected by malaria.”(Erer Ibadu leaders)

The livelihoods of the villagers were totally dependent on the nature’s terms. Living in the area was continuous balancing between the terms of the wild nature and everyday life. The government had also made a law about tree cutting: if you cut the tree, you will get a penalty.

R: “What are the reasons behind the food insecurity?”

I: “Our village is situated in the lowlands so the biggest problem is the shortage of rain and water. This area is situated near the elephant sanctuary so also the wild animals cause problems to the villagers. Wild animals can damage the plants.” (Erer Ibadu leaders)

According to WFP 10th screening (2009) the total population of Erer Ibada was 4,155. 850 of them were children under five years. 809 children were at risk of malnutrition, 42 suffered from moderate malnutrition and three children suffered from severe malnutrition. One of the children had bilateral oedema. There were 210 pregnant or lactating mothers in Erer Ibada and 8 % of them suffered from severe malnutrition. This was the fourth biggest amount in the kebeles of Babile.

I: “There are a lot of malnutrition cases in this village and this area is also infected by malaria. People with weight loss are more vulnerable to the disease.”(Erer Ibadu leaders)

Efadin-village

Efadin kebele was situated about 25 kilometres from Babile town to the West, and the distance from the main road to Efadin was five kilometres. The population of kebele was 18,324. During the famines of 1984-85 Efadin was suffering a lot and there was also a serious leprosy outbreak in the kebele. During the famine Germans started their aid work in the kebele and built for example the hospital for the leprosy patients. The German organization, Deutsche lepra und Tuberkulose Hilfe, was continuing their job still in Efadin. Also The German Menschen für Menschen was working in the kebele. WFP offered TSF (targeted supplementary feeding), Relief and PSNP (productive safety-net programme) programmes in Efadin.

According to the kebele leaders, there were 90 villages in the kebele and 1,904 households. Average family size was five persons per household. There were lots of children in the village, because many houses had even eight to thirteen children. According to the leaders there were elementary, secondary and high schools in the village and even a preparatory school. They also had a hospital, build by Germans, and also a health post. The leaders told that they had malnutrition; even compared to other kebeles they could get the highest number. The villagers say that nowadays especially the children and mothers are affected by malnutrition but also the men.

R: “How do you define malnutrition?”

I: “You can see malnutrition from the condition of children’s hair and their skin; they come pale.”

R: “Is malnutrition affecting only children?”

I: “Mostly, malnutrition affects children and pregnant women but you can see it in every age class.”(Efadin leaders)

There were 2,673 children under five years in the village. 2,296 of them were at risk of malnutrition, 89 children suffered from moderate malnutrition, 13 suffered from severe malnutrition. One of the children had bilateral oedema. There were 506 pregnant or lactating

mothers in Efadin and 5.4 % of them were suffering from severe malnutrition. This was the 8th biggest amount in kebeles of Babile. (EOS 2009).

R: “How has the food insecurity affected your community?”

I: “We have many malnutrition cases even if you compare to other kebeles we have a highest number.”

R: “Has your own family been affected by the food insecurity?”

I: “Nowadays we do not get enough crops and that is why I have malnutrition also in my own family. Also many other households in this village suffer from malnutrition.”(Efadin leaders)

R: “Could you tell me how the food insecurity has affected this village as a community?”

I: “Nowadays most of our money goes to food and that is why we cannot afford to healthcare or education.”(Efadin villagers)

According to the kebele leaders, there were many unemployed people, and the main income was agriculture. About 85 % of the population was working for agriculture. The villagers told that Efadin is known for its mango plantations and the main crop of the village is sorghum. Five years ago crops of sorghum were good but during the last five years rainfall has been too small. They had also had seeds which had not been resistant enough, and that is why the productivity had been low. Also the leaders told that environmental problems were huge. Three main problems are shortage of land (because of the increasing population), shortage of rainfall, and the issue that they did not have enough land for pasture and livestock.

R: “Could you tell me something about the food security situation in this village during the last years.”

I: “The main crop in this village is sorghum. Five years ago sorghum crops were good but during last five years we have not received enough rainfall. We have had seeds which have not been resistant enough, and that is why the productivity has been low. Nowadays especially children and women, but also men, are affected by malnutrition.”

R: “Do you remember any other years which have affected your village critically?”

I: “There was a conflict in 1977. During that conflict we had good rains and we got good crops but otherwise situation difficult. During that time many people migrated to Harar and other areas. We also faced hard times during the drought in 1984.”(Efadin villagers)

5.1.2. Golo Oda-woreda

Golo Oda woreda was situated in Eastern Hararghe zone. Golo Oda had been just divided in to two woredas. Now there were 18 kebeles in Golo Oda woreda and 13 kebeles in Qumbi woreda. Government has just started to resettle people from other woredas, for example from Gursum, to Qumbi area because the soil was fertile and good for cultivating ground nut and cash crops. They had also started to construct a dwell system, but it was not working during the end of 2009.

During the autumn 2009 the woreda suffered from serious pasture and water problems, especially in the lowland areas (more information in table 3). This was caused by an early termination of the Meher rains. Crops were wilting and both, people and livestock, were suffering from the lack of drinking water. Poor life conditions caused migration to other areas. There have been also some security problems in Golo Oda as well as the poor condition of roads has affected the transportation.

Commodity	Land (Hectares)				Production (Quintal)		Production(%)
	Plan	Cultivated	Failed	Survived	Plan	Expected	
Sorghum	17,425	17,362	13,374	3,015	348,500	5,118	1.5%
Maize	6,771	6,833	5,087	1,746	236,985	8,730	3.7%
Groundnuts	7,404	7,585	6,674	911	74,040	2,745	3.7%
Sesame	605	415	336	79	6,050	68	1.1%
Total	32,205	32,195	25,471	5,751	666,575	16,661	2.5%

Table 3. The pre-harvest assessment results from Golo Oda. (Disaster Prevention and Preparedness Commission, Golo Oda, Autumn 2009).

The failure of crops might have been one reason which explains high amount of malnourished children. Results from the 10th screening round 2009 of EOS indicates that there were 531 children who suffered from moderate malnutrition, 76 children suffered from severe

malnutrition and 13 children with oedema. 340 pregnant or lactating women suffered from severe malnutrition.

Urgo/Karabachi-village

Two of the interviews were made in Hariro town which was the main town of two kebeles; Urgo and Karabachi. Both of the kebeles had been divided to ten villages. Hariro town was situated about 40 kilometers to South from main town of Golo Oda woreda, Burga. The area was pastoralists' area. Total population of Urgo and Karabachi kebeles was around 7,000.

The leaders told me that the total population of Urgo/Karabachi kebeles was around 7,000. There were four schools up to the 6th grade. After the 6th class those who were able to continue their studies have to travel 40 kilometres to Burga town in Golo Oda. There were no clinics in the kebele, only one health post and a couple of health extension agents.

The leaders said that even though the area is desert-like, the soil is still very fertile. The last two years had been very bad because they had not got the usual rains. The amount of the rains had been decreasing and the weather had been very dry.

R: "How was the food security situation in this village two years ago?"

I1: "During two years we have had a lot of problems with the water. The trees, which are essential to our livestock, have been dying."

I2: "Also the education level of the villagers is so slow that they do not know how to benefit from their livestock. They do not know how to use it wisely."

I3: "The rain situation has also changed. Now we can have two years with rains and two years without."(Urgo & Karabachi leaders)

The condition of livestock was not normal because of the weather, and they had lost the livestock because of the weather conditions.

R: “How the food insecure situation has been affecting your community?”

I1: “Because our children have been affected by food insecurity we have had to sell our livestock. We are totally dependent on our livestock and we have to move with it from area to area.”

I2: “Also the children have a big burden in their shoulders because they have to go long distances to get water and they also need to shepherd the livestock. In the towns children are doing better but in rural areas it is very difficult because we do not even have roads.” (Urigo & Karabachi leaders)

Jabel-village

Two other interviews were made in Jabel kebele which was located only a couple of kilometers from Hariro, main town of Golo Oda.

According to the leaders, the total population of the Jabel kebele was 4,443 and the main way of living was agriculture. They had two elementary schools up to the 4th grade. After that the children had to go to the main town of Golo Oda woreda, Burga. They would also have a health post after having finished building it.

According to the Jabel leader, the weather in the kebele was desert-like but the soil was good.

I: “Soil here is fertile but the climate is desert like. Because of the dry weather we lost almost everything this year. Because we do not have production we have so many malnutrition cases in the village. Many children are malnourished; you can go and see them in the school!” (Jabel leaders)

Because of the dry weather, they had lost almost everything this year. That was why they had had so many malnutrition cases in the village. During the November-December 2009, many of the pupils in the school were affected. Regular village women told me that the problems started seven or eight years ago but now the situation was the worst. They said that if there were problems in the house, also the children would suffer. During the year 2009 everybody had suffered.

R: “Could you tell me something about the food security situation now and in the past.”

I: “Last seven years have been really bad. During last month (November) we received some rains and that is why we managed to get some sorghum crops. Even though, we have had to increase the selling of firewood and charcoal. This is really the worst time I can remember.”(Jabel leaders)

I: “There is no rain water and that drives us out of our minds! Because there is a lack of water and food people are very busy in their fields and with collecting firewood and water.”

R: “Has the situation affected your own families?”

I: “I have sold everything I had and we do not have anything in our houses left. We cannot even plant anything because there is no rain.”(Jabel villagers)

5.1.3. Mieso-woreda

Mieso woreda was located in West Hararghe and the total population of the woreda was between 105,088 and 169,405. The first number was counted by the government, second one by the woreda officials during the 10th round screening in October 2009. Mieso was divided to 49 kebeles and 45 of those are rural.

Mieso suffered from water and pasture problems. During 2009 crops wilted because of the longed dry season. The estimation was that 95 % of maize and sorghum crops were destroyed. There was not enough drinking water to people or to cattle. The amount of malnutrition and migration cases also increased. (WFP: Dire Dawa Sub-Office & Mieso woreda officials.)

In Mieso woreda, based on the 10th round (2009) EOS screening, there were 2,577 children who suffered from moderate malnutrition, 299 suffered from severe malnutrition and 186 children had oedema. There were 1,112 pregnant or lactating women who suffered from severe malnutrition.

Gulufa/Marfo-village

Gulufa village was located about five kilometres from Mieso town to West. It was located next to the main road. Marfo village, which was part of Gulufa, was located about six kilometres from Mieso town to West and the distance from main road was about one kilometre. The total population of Gulufa was 3,217 and kebele has been divided to six villages. The number of household was 670.

According to the leaders, agriculture was the main way of living in the kebele. Almost all were farmers. Marfo villagers told that the main products of the village were sorghum and maize, sometimes also haricot bean, and there were no other ways of living than agriculture. The leaders told that now they had had a lack of rain for three years. In 2009 the situation was very severe in the village. Rains were not continuous; there might have been rain for one day and break of 20 to 30 days after that. Crops could be damaged during this period. They had moderate malnutrition cases in the village. Severe cases had been transferred to get treatment in hospitals of Asbe Teferi and Mieso town.

R: “How do you define malnutrition?”

I: “You can see it from different kind of body symptoms.”

R: “What kind of symptoms are these?”

I: “Colour of the skin could change and get grey and also the condition of hair gets worse. We can recognize oedema if we press the skin. It does not feel normal anymore.”

(Gulufa leaders)

R: “How do you define malnutrition?”

I: “We can see that one is malnourished from the way he looks.”

R: “Are there any symptoms they are suffering from?”

I: “Malnourished children do not have an appetite and they can seem to be fat even they are not. Also the growth of their hair is not normal.”(Marfo villagers)

Also the Marfo villagers stated that there was not enough rain in the village and they get their drinking water from the pond.

I: "We cannot get any production from our crops. Before we sold milk to buy grain but now we do not have any livestock anymore. We cannot afford to buy milk to our children. There is also a lack of water in this village."(Marfo villagers)

R: "Can you tell me something about the food security situation in this village during the last couple of years."

I: "Three years ago we had a lot of livestock and we could sell it but now we do not have anything to sell. Last year and this year have been the worst in several years."

R: "Do you remember any other time periods which have been especially hard?"

I: "In 1980s we faced one bad year and even during that bad year we had livestock which we could sell. Nowadays every year is bad and we do not have livestock like we had in the past."(Gulufa leaders)

R: "Can you please tell me about the food security in the village during last two years"

I1: "During the last two years the situation has got worse and this year has been the worst."

I2: "This year cannot be even compared to any other because now the situation is so severe. In the past we could trust that at least one of our two or three lots gives us some crops but now we did not get anything. All the fields are the same."

R: "How about the situation in 1980s during the drought?"

I: "During the 1980s the amount of livestock was high and price was low because of the high supply to the market but nowadays we do not have livestock anymore."(Marfo villagers)

R: "How has the food insecure times affected your community?"

I: "Many people have migrated to resettlement are in Western Oromiya region. Now all the farmers in this village are waiting and praying to get there because the situation is so much better in that area."(Marfo villagers)

They had an elementary school with grades from one to four. After that the children would have to go to Asebot town where they could accomplish grades from five to ten. They did not have a health clinic but they had two health extension agents who were responsible for telling

about sanitation, family planning, malnutrition, immunization, malaria and hygiene. Marfo villagers told that there were many malnutrition cases in the village.

R: “How has the food insecure times affected your community?”

I: “In my family children have suffered especially from diarrhea. Because there is not enough food they drink water and that causes vomiting. The body cannot stay strong after this and that is why we have had even some death occasions in this village.”(Marfo villagers)

There were 531 children between 6-59 months in the kebele (in wall of the health extension agent numbers were: under one year 120, under three years 360 and under five years 585). 464 of them were at risk of malnutrition. 56 children suffered from moderate malnutrition, one suffered from severe malnutrition. Four children suffered from oedema. From 113 pregnant and lactating women 11 suffered from severe malnutrition. (Kebele officials).

Husemandera-village

Husemandera was one of the rural kebeles in Mieso woreda. It was located near to the main road from Asbe Teferi to Mieso town. Distance to Mieso town was about five kilometres. There were seven villages in the kebele. Total household size of the kebele was 3,300 and in Husemandera village, where the interviews were made, there were 560 households with population of 4,079 (Mieso DPPC.)

The main way of living was agriculture. They also did some stone and sand carrying which was mined from the near mountains. There was a school from the 1st to the 8th grade in the village. There were no health clinics but there were two health extension agents.

The leaders told that they had had serious problems with water because there was lack of rain in the village.

R: “How the food security situation has been during the last years in this village?”

I: “Last year was better than this year. This year the situation has been deteriorating even more. Last year we got some crops from maize and sorghum fields but this year we did not get any crops.”

R: “Do you remember any other difficult years?”

*I: “Year 1985 and 2002 were really bad but this year has been even worse than those.”
(Husemandera leaders)*

R: “Could you tell me about the food security situation now and in the past.”

I1: “This year is very critical, the situation was better two years ago. Now more people are migrating to other areas than ever before. Migration has also cut down the social ties between the people.”

I2: “Situation was also really bad in 1985. But during that time we got relief and emergency food aid which was continuous and every family could get their part of that. Nowadays only 2/3 of the families are targeted and assistance comes only every second or every third month. Unequal targeting causes social problems because families who do not receive food might feel jealous and bad.”(Husemandera villagers)

The lack of rain has caused increased amount of malnutrition cases. Also the women villagers told that the amount of malnourished people had increased.

R: “Could you tell me how has the food insecurity affected your community?”

I: “We cannot offer balanced nutrition to our children because we do not have any production in the village. Because of the lack of water the amount of malnourished children is increasing.”

R: “Has it been affecting your own family?”

I: “Yes, I have had malnutrition cases in my family. My children have been also suffering from coughing.”(Husemandera leaders)

R: “What is your opinion; what are the reasons behind the food insecurity?”

I: “The reason is lack of rain, not that we are lazy! If mothers could get enough food also the children could be nourished. In the past we had livestock so we could feed our children with milk but nowadays we do not have so much livestock anymore.”(Husemandera villagers)

There were 1,435 children under five years old and 324 of them were screened. Out of them 45 suffered from moderate malnutrition, none of them suffered from severe malnutrition and one child had oedema. There were 152 pregnant or lactating women and 55 of them were screened. 12 of them suffered from severe malnutrition (10th round [2009] EOS screening, information from Mieso DPPC.)

Food insecurity had also affected the income generation. The villagers had had to diversify their income generating activities.

R: “Could you tell me how has the food insecurity affected your community?”

I: “Nowadays we have to spend more time on firewood selling. Some people have had to go to other areas to work and do trading. They are able to come back only during evenings or weekends. After that they are very tired.”(Husemandera leaders)

R: “Could you tell me how has the food insecurity affected your community?”

I: “Three years ago we had a possibility to move to the resettlement area in Western Oromiya area but we refused because the situation in the village was better. Now everyone would like to move to that area because the situation is so much better over there.”(Husemandera leaders)

The women of the village said that there were two major problems in the village. The first problem concerned the schooling fees and other expenses which the families cannot afford. Another problem was that the relief assistance did not reach all of the families.

R: “How the food insecurity has affected your community?”

I: “We cannot put our children to school because we do not have money to buy clothes and books for them. Children might be kicked out from school because of that.”(Husemandera villagers)

During the interviewing period (November-December 2009) the situation in the villages was severe and acute because of the prolonged dry season. Challenging weather conditions caused several problems to the villagers. The amount of malnutrition cases had increased because the crops had wilted and gaining income was difficult because the livestock had also suffered

from the drought. The villagers had to do extra work to gain income and survive in their living environment.

5.2. Conclusions

The questions about personal and communal data, the concept of malnutrition and food insecurity, and also the questions about problems caused by food insecurity gave a broad picture about the food security situation in the villages. Most of the interviewees defined malnutrition through the symptoms what malnutrition causes. Also an easier exposure to the diseases and condition of household emerged. In almost every community the interviewees mentioned that the year 2009 was the worst what they can remember.

Food insecurity had affected the communities in several ways. The answers could be divided into five groups. The first one was an increased amount of malnourished people. The second one was an increased amount of work and trading. The third group included the answers concerning migration. The fourth group included decreased possibilities to use money. The fifth group includes diseases.

The answers concerning the reasons behind the food insecurity could be divided into three classes. Firstly, the bad performance of rain caused water shortage for people and pasture. Secondly, there was a food shortage, no variety in food and decreased productivity. Thirdly, there were the effects caused by animals; both insects and wild animals were destroying the crops. Also the increase of the population was mentioned in Efadin village. In this study religious reasons did not emerge. In Legesse's (2006, 63) study, carried out in the Eastern Highlands of Ethiopia, the received answers emphasized religious dimensions behind the food insecurity. According to Legesse (Ibid.), the most important reason for drought mentioned by his interviewees was that it is a punishment from God. The youth groups he interviewed mentioned also that droughts occur because of the actions made by people. They were particularly familiar with consequences of deforestation and replanting the trees.

6. RESILIENCE AND SUSTAINABILITY OF STUDIED LIVELIHOODS

This chapter will cover the preventing, coping and recovery parts of the interview guide. Preventing, coping and recovery were selected as themes because the answers concerning these issues could help in achieving the objective of the study. The objective was to indicate that rural people have strengths which they could utilize during food insecure times.

6.1. Preventive systems

Wisner et al. (2004, 115) state that preventing systems are attempts to avoid the whole happening of disaster. Usually establishing nationwide preventing systems require big financial investments. That is why also the community and individual level preventive strategies are important. Often these kinds of strategies are based on knowledge inherited from older generations. Legesse (2006, 70-76) defines many strategies in livelihood diversification which he found out in his study in the Eastern highlands of Ethiopia. Farmers planted a range of crop varieties and species; they included even food and cash crops, early-maturing and late-maturing species at the same plot. Livestock production was also diversified, herds were splitted opportunistically and grazing was dispersed. Farmers have also done rain water harvesting during the rainy season, rotated crops and added work load for example by taking their herds to areas with more food.

R: *“Are there any preventive systems in case of food insecurity in this community?”*

I1: “We know that the food insecure times will come when there is no rainfall when we are planting the seeds or when the seeds are in flowering or seed setting stage. As a preventive system we have planted short variety seeds like sweet potato which takes only three months to grow.”

I2: “To prevent food insecurity we have also sold livestock and some people have moved to other areas. We also pray.”

R: *“have you done anything together in the community level?”*

I2: “We have tried to facilitate the formation of groups to get some money and credits, and we have also applied for the short seeds from the government.”(Efadin leaders)

R: “Are there any signs from where you can see that food insecure times are coming?”

I1: “Usually we plant in April but now rains started in May and June. That was a sign of a coming food insecurity.”

R: “Are there any preventive systems in case of food insecurity in this community?”

I1: This year we have tried to plant for five times because we had so many problems with the right timing of the rain. We have planted also vegetables and used areas around the rivers to guarantee better production.”

I2: “I think also the housewives who do not usually do anything should take part into the daily work in the fields. They should also take part in selling milk and firewood.”

I1: “Families should also educate their children and try to get them out of agriculture. We are too dependent on agriculture. We should also change from long variety seeds to short variety and drought resistance seeds.”

I2: “There should be also more credit facilities. The price of livestock has been increasing and with credits we could invest more on livestock.”(Erer Ibadu leaders)

R: “Are there any preventive systems in case of food insecurity in this community?”

I: “We and other 300 households in the village use contraceptives and we are involved in family planning activities...Female should also take part into the agricultural activities because everybody should work. It is good that nowadays everybody is sending their children to schools because the priority should be given to education.”(Erer Ibadu villagers)

R: “Are there any preventive systems in case of food insecurity in this community?”

I1: “The situation here is critical. What can be done if you go and sell the livestock in the market and come home with empty hands?”

R: “Well, are there any preventive systems in the family level?”

I1: “I cannot figure out anything. We have planted the crops but nothing grows because we do not have water. We have also dig holes which could be used in collecting water and now we are just waiting for the rains.”

I2: “We have also a custom of borrowing cattle from other villages. Now we have borrowed some cattle from the village, five hours away, which is located near the river. The situation is bad because even they do not have enough water in their river.”

I3: “Usually the food aid is also shared.”(Urgo & Karabachi leaders)

The interview guide included also a question about food insecurities in the past. The purpose of this question was to find out whether the villagers had learned something from the past food insecurities and have they been able to use this information as a preventive strategy.

R: “Have you learned something from the food insecure times in the past?”

I: “Because of the past we now know more about the malnutrition but we still do not have ways to handle the effects.” (Efadin leader)

I: “We have learned that it is not good to cut down the trees because it is bad for the environment. I also think that migration is not a solution to food security. Better way is to make unions and sell milk and plant vegetables.” (Erer Ibadu leader)

I: “I know that if the time of food insecurity is not long we can recover very fast. Now we have lost all of our property, children are affected by diseases and the situation is getting worse and worse.” (Marfo villager)

Today the villagers had more information about the diseases, environmental issues and their possibilities but they were still weak to take any actions to prevent insecurities. They also had faith and they related positively concerning the capabilities of their community.

Also the expectations towards the government and the state were studied. Many of the villagers had ideas how the food insecurities could be prevented but financially these ideas were impossible to introduce in the villages. The interviewees were also asked what kind of help they would like to receive. Usually local people know best what is needed in their own community.

R: “Do you expect some kind of help from the government and if yes, what kind of help would you like to receive?”

I: “We need especially wheat seeds which are more productive and we would also like to have more credit based programmes. The state should facilitate formation of different kind of unions.” (Efadin leader)

I: “There should be more credit facilities. State should also plan and integrate and work as a controller of NGOs and all kind of projects.” (Erer Ibadu leader)

I: “The government should assist and facilitate water diversions. We would need help with stream constructions and floods. Now we are drinking from the pond which causes diseases. 20 years ago

there was a dwell which was functional but now when water table has been decreasing the capacity of the pump is not enough.” (Gulufa leader)

I: “The only thing we need from the government is water. We need assistance to reach decreased ground water table and also to build some irrigation systems.” (Husemandera leader)

I: “Government must be exhausted to our problems! We would like to get food aid every month. And someone should help us to dig the water - even I do not know who is responsible for that!” (Husemandera villager)

I: “We have always expected much from the government but we have never received anything.” (Jabel villager)

The villagers had various opinions about the help from government. Some of the villagers had already desponded but most of the interviewees expected help concerning water scarcity. Also credit facilities were highly valued. The expectations towards organizations were studied as well. Expectations proved to be almost the same as concerning the government.

R: “Do you think this village needs some assistance from the organizations and if yes, what kind of help?”

I: “From the organizations we would like to receive improved seeds and better technology.” (Erer Ibadu villager)

I: “Some of us know how to make business and with credits we could start some kind of business.” (Marfo villager)

I: “In short run, before we get help with ground water from government, we need assistance from WFP and other organizations.” (Husemandera leader)

I: “Organizations should offer credit possibilities; otherwise it does not have impact!” (Efadin villager)

The individual’s responsibility was not a familiar concept to the interviewees. This question was difficult even for the interpreters to understand. The question might have been formed from a western point of view where individual’s role is more emphasized than in the

developing rural communities. From the answers, as presented above, we can see that there are many options for preventive systems in community level but none of the interviewees know what they could do by themselves. Presumption was to get answers concerning for example rational use of water and taking care of soil, for example, by rotating the crops.

R: “Are there any ways what an individual could do to prevent food insecure times?”

I: “I think an individual cannot do anything else than wait if there is no rain. “ (Husemandera leader)

I: “No, there is not anything what individual could do.” (Jabel villager)

Answers concerning individual and communal level preventive systems could be divided into eight groups. These preventing strategies have been gathered to the Figure 4 below.

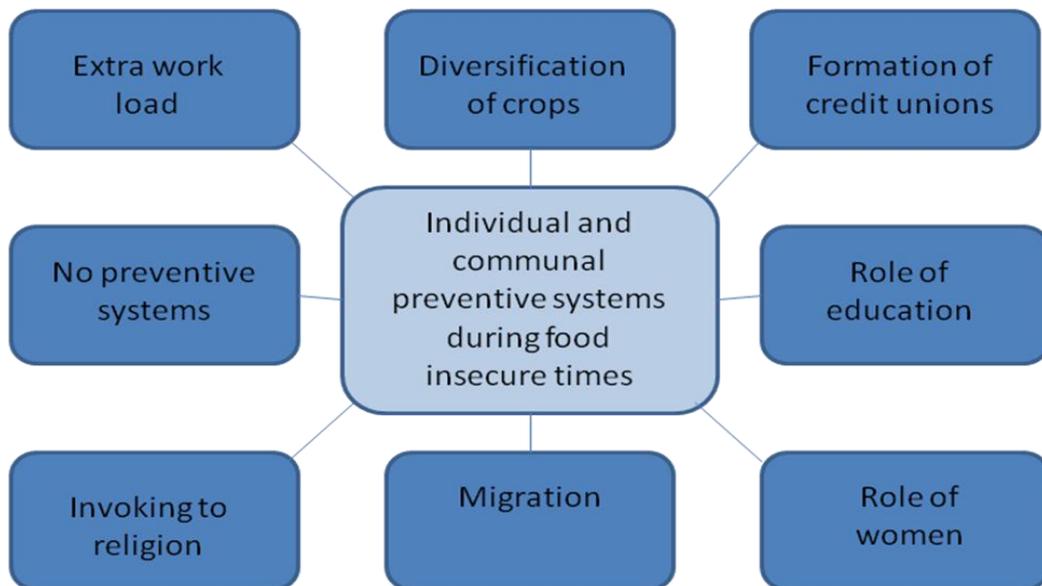


Figure 4. Preventive systems of the local villagers and communities

6.2. Coping

Wisner et al. (2004, 36) believe that too little attention has been given to the coping strategies and actions of the local people. At least outsiders might see even their normal life as a continual struggle and disaster. Wisner et al (Ibid., 120) also state that outside agencies should understand local individual and collective coping strategies, not undermine them with external humanitarian interventions. That is why the questions about the external aid and its effectiveness are studied also in this section; Do rural people think that external food aid is part of the development? Has the aid been effective?

R: “Do you have any coping strategies in a family level?”

I: “We have been selling firewood and ground nut which is the major crop in Erer Ibadu.”

R: “Ok. What about coping strategies in village level?”

I: “We are accustomed to help each other and share the work force. Sometimes we also give cash to the poor and even share the food aid.”(Erer Ibadu villager)

R: “Do you have any individual or communal coping mechanism in this village?”

I1: “Currently we do not have any public works in the village and we cannot do anything. Because we do not have any labour market in the village there are not many individual coping mechanisms. Some women bake injera and sell it and many people sell firewood.”

I2: “Some people have gone to Mieso town to sell their livestock. We have also had some problems with another tribe which has stolen for example our donkeys.” (Marfo villagers)

Also Rahmato (1991, 177) reminds that in Wollo, in the North-eastern part of Ethiopia, which was severely influenced by the famine in 1984-1985, the habitants had sold some or all of their livestock during the drought. Rahmato’s interviewees also mentioned that they had lost one or more livestock through death. Also the decreasing the amount of meals was used as a coping strategy in Wollo. Rahmato (Ibid., 169) states that when the food stock of the household was low, families tended to change their eating habits to monotonous diet which was based only on one or two simple and poorly processed food items. Usually people ate only once a day.

R: “Are there any coping mechanisms in this village?”

I1: “We have had to decrease the amount of meals and even farmers have started charcoal making and selling”

I2: “Before we tried to build some dwells but now we live from hand to mouth. What you earn you will spend on food during the same day.”(Husemandera leaders)

According to the answers people with livestock or some kind of business have survived the best. Also the ones who have moved to other areas have coped better than others. Migration could be seen as a survival strategy because remittances from the urban-based family members could be important income source for the rural-based members who in turn might look after migrant's children and property. (Dalal-Clayton et al. 2003, 26.) Farmers have coped worst because they are so dependent on water. Also the people without livestock have coped worst.

R: “Can you mention any people who have coped better than others and why.”

I: “The people who have livestock usually cope better than others because they can get money from selling it and they also get food from their livestock. People without livestock cope worst.”(Efadin leader)

I: “People who have some kind of business, for example, chat or own shop have survived the best. Farmers have survived the worst.”(Husemandera villager)

I: “People with more livestock cope better and also those people who have irrigation systems in their fields. Now some people have moved even to Somali region to find a labour work. Some ladies have worked there as washing or cleaning ladies and can now afford to education.” (Erer Ibadu villager)

Sometimes understanding the aid structure was difficult for the villagers. All of these villages received some external aid and they had many thoughts about its effectiveness.

R: “Do you receive any external aid and has the aid been effective?”

I: “We have received food aid starting from 1996. During that time the population was not so big and almost everyone got some food. Now not more than a half of the population gets food aid because population has increased so much and there is a scarcity in resources.”

R: “Which organizations have been working in this village?”

I: “Nowadays we receive food from Catholic Church which substitutes WFP. Also German Menschen für Menschen is working in the kebele.”

R: “Do you think aid has been effective?”

I: “I think food aid is effective only in saving lives but it does not have impact on other beneficiaries.”(Efadin leader)

R: “Do you receive some kind of external aid and if yes, do you think it has been effective?”

II: “I receive Relief-assistance.”

I2: “I receive assistance from WFP’s Safetynet-programme and I think the programme is really good.”

I3: “I also receive Safetynet-aid. With the cash I have received I have bought small ruminants and food.”(Efadin villagers)

De Waal (2005, 217) studied livelihoods in Darfur; Sudan, during the famine 1985-1987. According to De Waal, people became most vulnerable during the famine if they lose their livestock through death or sale. The most effective assistance should include helping people to retain their animals and provide fodder to keep the animals alive.

R: “Does this village receive any external aid and has the aid been effective?”

II: “Nowadays we receive assistance from WFP. We have Safetynet- and Relief-programmes in Erer Ibadu. 500 households get assistance from Safetynet-programme and Relief-programme have 100 households as beneficiaries. Menschen für Menschen still assist the clinic in the village but otherwise they do not assist so much than before.”

R: “But has the aid been effective?”

I2: “I think food aid does not have any impact unless you count the dying people. It has nothing to do with development. Credit facilities could bring the change and that is why I think those kind of programmes are the best for us.”(Erer Ibadu leaders)

R: “Does this village receive any external aid and has it been effective?”

II: “Yes, some of the villagers get Safetynet-help, some Relief and some Targeted Supplementary Feeding-aid. But because government is responsible for these programmes we are not always sure from who are getting the food.”

R: “Are there any organizations working in this village?”

II: “No.”

R: “What about the effectiveness of the aid?”

I2: “Sometimes the aid does not come on time and most of the villagers are not targeted. I am worried about the people who do not get any assistance at all.”

I3: “I think it would be more benefiting to have development programmes which could support us to support ourselves. We would like to get rid of the external aid!” (Gulufa leaders)

The main problems concerning food aid were related to the management of food aid in the field and targeting of the food. Reaching the right people at the right place and avoiding the miss-use by other people were the main challenges but also right timing of the deliveries and an appropriate quantity and quality should be guaranteed. (Barrett & Maxwell 2005, 174.) Effective targeting should be based on wide information; it should be clear where and when food insecurity is developing, who is affected and how severely and how long they will be affected. It should be taken into consideration that affected people might need other kind of assistance than food aid. (Ibid., 241.) Barrett and Maxwell (Ibid., 134) refer to the study which was based on a nationally representative sample of more than 3,200 households that even food-insecure rural Ethiopians prefer cash to food. Even if the people prefer cash to food, they have participated to Food for Work-activities.

Barrett and Maxwell (Ibid., 129-133) state that food aid is probably used too much as a tool for development although they remind about some roles in which food aid might be a useful resource to support developmental efforts. Supplemental feeding of young children and pregnant/lactating mothers, food for education-, food for work- and food for participation-initiatives receive wide support as instruments of development.

R: “Do you receive any assistance?”

I: “I and Alfia are beneficiaries of Safetynet-programme. Despite the received food is not enough and nowadays people even fight because of that.”

R: “Are there any other aid organizations in the village?”

I: “Government supports us by giving one bag of wheat in every six months. From WFP we get wheat and oil.”

R: “Do you think the aid has been effective?”

I: “I think we could not survive without food aid but now the situation is so bad that I have had to sell even part of the food aid to get some money. So now I have finished even all of my food aid.”(Jabel villager)

The answers concerning coping without food aid varies depending on whether the interviewee thought about the current situation or the future. The majority said that they could cope without food aid if the rains would start but currently the food aid was a necessary for them.

R: “Do you think that this village could cope without food aid?”

I1: “I think that those who are educated, have a job or do some kind of business could cope but because of the population pressure, poor cannot cope. There is also too little land for everyone.”

I2: “In the future situation might be different because now children are educated, there is family planning in the village, and people use contraceptives.”(Efadin villagers)

I: “I think the villagers could cope by themselves if the irrigation technology in the village goes further. Already now, when there is not aid for everyone, we have to cope by ourselves.”(Erer Ibadu leader)

I: “No. Without food aid it would be a catastrophe!”(Gulufa leader)

I: “Yes. We do not need any kind of assistance if the situation gets better.”(Husemandera villager)

The answers concerning individual and communal level coping strategies could be divided into seven groups. Coping strategies have been gathered to the Figure 5 below.

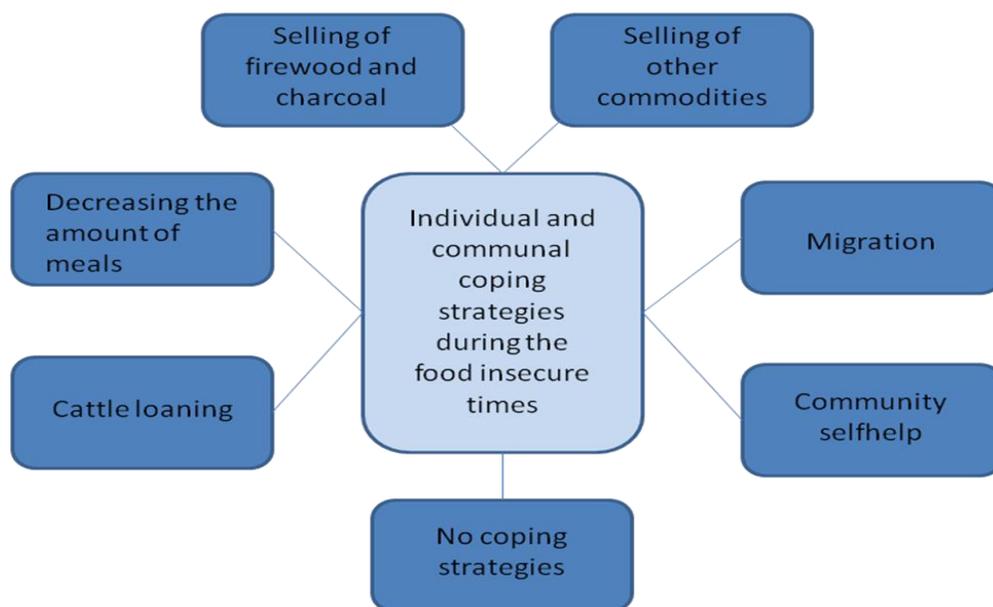


Figure 5. Coping strategies of the local villagers and communities

6.3. Recovery

Rahmato (1991, 193) identifies recovery, especially post-famine, as a period of household adjustments. After recovery, the household should be more resilient to the next appearing event. Recovery should consist of actions which mitigate the future extreme events. (Wisner et al. 2004, 359.) Rahmato (Ibid., 194) defines the obstacles for full recovery in Wollo province after famine in 1984-1985; there was a lack of draught animal power, seeds for planting and sufficient family labor. Also the personal health of people was poor because of the malnutrition. Also the livestock was in poor condition and the farm plots were spoiled.

The answers concerning who should take the responsibility of recovery vary. The government's and village officials' responsibilities were emphasized. Also the religious dimension was present in these answers. From the answers concerning the most sustainable way to recover two issues stood out; education and formation of credit unions.

R: "What do you think, who should take the responsibility of recovery?"

I: "I think households should take the responsibility if they have enough assets. Otherwise the responsibility of recovery should be taken by government or organizations." (Efadin leader)

II: "I think government should take the responsibility. Also the community, unions, schools and health organizations should be involved in taking responsibility."

I2: "I think that the community should take the biggest responsibility and government should come as second in the list." (Efadin villagers)

I: "I think families should take the responsibility." (Erer Ibadu leader)

I: "I think government is responsible. They should give us a chance to move to the resettlement areas." (Marfo villager)

I: "God is responsible because this is natural catastrophe." (Husemandera villager)

R: “What do you think is the most sustainable way to recover?”

I: “I think educating the community is the most important. At this point the family planning is poor even if we have had some trainings about the issue.(Efadin leader)

I1: “Most sustainable way to recover are the credit unions supported by government.”

I2: “I think there should be also some investments in this village, like factories could offer employment to villagers.”(Efadin villagers)

I1: “Education. Nowadays we have especially problems with going to high school. If we could have more credit facilities we could support education more.”

R: “Do you have any credit facilities in the village currently?”

I1: “Yes. We got some credits and bought goats and sheep and machines for milking the cattle. Now we can get more milk and income.”

R: “What about the men, are they interested about the credit facilities?”

I2: “Yes. Men have also got some credits and have been able to fatten their cattle and now they get even four times better price from it than before.”(Erer Ibadu leaders)

I1: “I think most sustainable would be building a dam like they have done in near village. Now they can get water to themselves and to their livestock.”

I2: “In the long run that is the best option but in the short run we still need support from the donors.”(Marfo villagers)

*I: “Only sustainable way to recover is to move to an area where they have good rains.”
(Husemandera villager)*

The answers to the question concerning the sense of community in the village were almost the same kind in every village. Cohesion of the villagers increases the possibilities to achieve sustainability and resilience because common goals and customs to process issues strengthen co-operation between villagers. In the rural areas resources are often communal and knowledge and experience are collective property (Rahmato 1991, 117).

R: “Do you think there is a sense of community in the village?”

I: “Could you explain me a bit more what you mean.”

R: “I mean for example that are people ready to work together to achieve some positive changes?”

I: *"Yes. I think there is a feeling of community because people help each other in cultivation and in harvesting. Villagers also borrow ox to those who do not have one."*(Erer Ibadu villager)

I1: *"Nowadays the situation is different because everybody is dealing with their own problems and that has affected to social cohesion of the village."*

I2: *"We have also had some conflicts with Somalis which have injured for example our livestock. But in case of a conflict, the community is very strong!"*(Gulufa leaders)

R: *"Is there a sense of community in this village, for example are you ready to work together?"*

I1: *"I think there is a feeling of community here."*

I2: *"Six-seven years ago road was constructed by Chinese company and we worked for them. We got some money to feed our families."*

I3: *"I think we are too much dependent on agriculture. If we could have some factories etc here, the situation could be different."*(Husemandera leaders)

The question concerning the situation after one year caused some deviation in the answers.

R: *"What do you think is the situation here after one year?"*

I1: *"This year has been worse than last year so maybe next year will be better if the rains come. The village is also suffering from diarrhea every year."*

I2: *"If the situation stays like this, next year there will be a food and water shortage and people might migrate to other areas."*

I3: *"We have built one tap to the village but it is not enough and now we are using the ponds. I still believe that education of children might bring the change."*

I4: *"Before we had drought in every seventh year but nowadays there is a good year only in every 12th year."*(Efadin villagers)

I1: *"I think it will be better because now I have a credit facility."*

I2: *"For me it is not the same."*(Erer Ibadu villagers)

I1: *"If there is no rain during next year, I do not expect any change."*

I2: *"During the next year we have to migrate to other area, we are not going to wait and die in this village!"*

I3: *"Either the government solves the issue and gives us permission to move, otherwise nothing can stop us to move."*(Marfo villagers)

I: "If the situation does not change, people will die." (Jabel leader)

In the end, free word was given to the interviewees. Some of them had something to add.

R: "Please, if you have anything to add or some questions your word is free."

I: "Ten years back we had a river in the village but now if you dig even ten meters, you cannot find water. We would like to have activities concerning irrigation systems and water conservation, all in all projects which are based on development. There should be also some employment opportunities." (Efadin villager)

I: "If the rains come we do not need any kind of assistance." (Urgo & Karabachi village elder)

6.4. Conclusions

Preventing, coping and recovering form the basis of resilience and sustainability of livelihood. In this study the resilience and sustainability were studied in framework of food security. During the study preventive and coping strategies were found as it was presumed in the hypothesis of this thesis. Preventive and coping strategies were quite similar which could be seen as a sign of continuous food insecurity in the studied area. The villagers had suffered from malnutrition continuously for several years and during the interviewing period (November-December 2009) the situation was acute. Local rural people try to cope and at the same time prevent the evolving of the worse time periods.

Finding strategies refers to the idea that villages could be resilient towards food insecurities and in this way, the sustainability of their livelihoods could be guaranteed. Though, the preventive strategies are not strong enough to prevent food insecure times because the area was at the mercy of the weather. The rain is most needed in these villages and also effective irrigation systems. With preventive and coping strategies found in this study they were able to survive but not to maintain or increase the sustainability and resilience of the villages.

The preventive strategies of these villages included extra work load, diversification of crops, formation of credit unions, role of education and role of women, migration and invoking to

religion. Some of the villagers did not have preventive systems at all. With extra work load the villagers meant, for example, planting the several varieties of seeds for several times. They had also tried to form credit unions so they could earn more income and survive better during the poor seasons. Both, men and women emphasized the role of women. The amount of work of housewives should be increased and they should earn extra-money for the family by selling for example milk and firewood. As a long term preventive strategy they mentioned the need of educating their children and guaranteeing better future for them by offering other income possibilities than agriculture. Villagers also described migration as a preventive strategy. People have moved to areas which are not so fragile and where the income was not so dependent on weather. Some of the interviewees try to prevent food insecurities by praying Allah, God.

The coping strategies included selling of firewood and charcoal, selling of other commodities, migration, and community self-help, cattle loaning and decreasing the amount of meals. Some villagers did not have coping strategies at all. During the food insecurity families tried to earn extra-income by selling the firewood and charcoal even if some of them understood the negative environmental impacts of these actions. They had also sold some of their livestock in the markets. If they have had to sell most of their livestock they have borrowed livestock from other communities. They use borrowed livestock as draught animals in the fields and in a long term they could increase the amount of the herds. Migration was used as a permanent and temporary coping strategy. Some people have moved to other areas to earn income and return back home but others have moved even to the Western Ethiopia. The rumors about the better living conditions in the West increased villagers' will to migrate. During the food insecurity the amount of food has decreased and that is why they did not have as much food as before. This led to situation where people could not eat sufficiently.

According to the villagers, families and communities should take the responsibility of recovery but they would also like to receive at least short-term aid from government and NGOs. They emphasize that they could recover more effectively if they could be more educated and have solutions to water shortage problems.

7. DISCUSSION

This final chapter is based on the theoretical aspects presented in chapter four. The discussion will combine the theory aspects with the gathered data. ‘The requirements’, which the researchers have set for the sustainable and resilient livelihoods are investigated concerning studied villages.

The first sub-chapter combines theories concerning sustainable livelihoods and data gained from the interviewees, whereas the second sub-chapter consists of the resilience theories and gained data.

Were the studied livelihoods sustainable?

According to Chambers (1987, 10-11) sustainability could be achieved by balancing population, diminishing migration, avoid core misuse and support sustainable resource management in a long term. In many of the studied villages almost a half of the population were children. Many of the interviewees had from five to ten children. Children are perceived to be the insurance for the future and free work force. There were projects concerning contraceptives and especially many women understood the benefits of having a smaller amount of children. Usually the reason of not having the contraceptives was the culture. The men wanted big families and if the woman was not ready and able to have many children, the man could take another wife. In the Muslim communities men can have four wives.

Migration from the villages to other areas, where gaining income was easier, was common phenomena. After the famines of 1980s, during the re-settlement program by government, many families migrated to Western Ethiopia. Now there were rumours about the better living conditions in West and that causes a strong will of some of the villagers to move. There was also short-term migration from the villages. Some of the women have moved even to other regions, for example to Somali region, to earn extra income by working for example as a cleaning or washing lady.

Almost in every village people had increased selling firewood and charcoal as a coping strategy. In Erer Ibada, they had a programme which had promoted the benefits of trees and now people do understand why it is important to save trees. Though, when facing a severe lack of income it is difficult to think in a long term. Also the ground water tables had been decreasing for many decades. The villagers did not have technologies to pump water from the 15 metres in the ground. Sustainable ground water use and sustainable irrigation systems should be promoted.

Chambers and Conway (1992, 7-8) state that sustainable livelihood consist of capabilities, assets and activities. Examples of capabilities could be gaining access to use services and information, experiment and innovate, competing and doing cooperation with others, and finding new resources and conditions. The capabilities of studied communities to use services and information were very limited. The only services in the villages were schools and health posts. There were no possibilities for gaining information through newspapers or the Internet. For example, agricultural experiments and innovation possibilities were not supported by the government. The villagers have ideas how to cope better during the food insecurities by building dams or more effective systems to pump ground water. However, they do not have capabilities to execute these ideas because of the lack of financing.

Chambers and Conway (1992, 28) also propose that sustainability of livelihood could be indicated by investigating trends in migration, employment, local non-farm income, rights and access to resources and security of those rights. Many villagers from studied villages have moved to other areas to gain better life and income. There have been resettlement programmes which have been organized by the government but people moved also as a coping strategy to the areas which could offer them more possibilities to have a job and earn more income. The villagers also mentioned that if the government does not give them a chance to move to the resettlement areas, they will still move because they did not want just wait and starve.

Employment in the villages was based on agriculture and nomadic lifestyle. Some villagers did trading and work temporarily in the mines; few had the possibility to work in the village hospital or health post. One interviewee explained that best way to guarantee sustainable

future was to get their children out of the agriculture and educate them to get better future. Those villagers who got their income from the agriculture or livestock suffered the most during the food insecure times.

Helmore and Singh (2001, 4) define sustainability as four capitals: human, physical, natural and social capital. Accumulation of the human capital in the villages is difficult because of the lack of inclusive education possibilities. There were possibilities in every village especially for the young children but problems occurred when talking about the education of older kids. Secondary schools and especially high schools are far away and that might be an obstacle for school enrolment. Parents understand the benefits of the education and are ready to send their children to school but sometimes they face problems because of the poverty - they could not afford to buy school uniforms and books which might cause a drop out to their children. Poverty caused also challenges for education of girls: school enrolment ratios of girls were high in the first classes but every year the amount decreased. Girls had to take care of their smaller siblings and help in the daily routines. That was why many of the girls got only one or two years of education.

Physical capital of the villages was very poor. Some of the villages, especially Urgo and Karabachi were very remote. Roads to the village were in bad condition and even the food aid could not reach those villages in time, especially during the rainy season. The villages which were nearer to the main roads and bigger cities do benefited from the short distances because they could sell, for example, milk and other commodities in the markets.

The most alarming thing in the area is the lack of rain. The decrease of the rain affected everything; ground water tables decreased, there was no water for irrigation and livestock, people could not get safe drinking water and crops were affected negatively because seasonal rains did not come in the right time. Natural capital could be increased by promoting drought resistant seeds and introducing irrigation systems.

There is social capital in the villages. The villagers engaged to the studied livelihoods were ready to work together and in every village they had formed cooperatives to gain better

income from their products. They also helped each other during the food insecurities; they shared even the food aid and borrowed cattle from other villages. In Husemandera village people mentioned though that currently people were busy with their own surviving and that might have had some negative impacts to the social cohesion of the village.

To guarantee sustainability of livelihood there should be economic efficiency, social equity, ecological integrity and resilience in the community (Helmore & Singh 2001, 6-8). People should promote systems which use their resources in economically efficient way, not wastefully. Most of the people lived from hand to mouth. In this kind of situation thinking in long-term might be impossible. For example, char coal making increased during food insecure times even it has far-reaching negative effects to the environment. Also the livestock could be used in a more efficient way. One leader of Urgo & Karabachi told that the local people did not know how to use their livestock efficiently.

Social equity had not been reached in the villages, especially concerning sexual equality. There was still a wide gap between men and women despite that the status of women in Ethiopia is more recognized than in some other East-African countries. When asking the leaders of the village to take part to the interview, in most cases only men attend. Women are used to taking care about the housework and children whereas men did most of the herding and field work. This kind of division of labour could still be questioned; many girl children were seen herding the livestock, especially goats, and many women told about the tough work in the fields. Many interviewees still call for bigger contribution of women during the food insecure times.

To guarantee ecological integrity resources should be used in a sustainable way. As mentioned above, during food insecurities it is difficult to think in a long-term. Satisfying the basic needs was the priority of people and negative impacts of selling the firewood and charcoal are not necessarily thought. Also sustainable use of livestock and ground water could be impossible if the other option was to face hunger and severe thirst.

As a conclusion, livelihoods of studied villages in Babile, Golo Oda and Mieso woredas were not sustainable. Especially the shortages in ecological sustainability destabilize the balance of livelihood. Regular seasonal rains were needed to gain any extra income from the crops and livestock. Now most of the villagers lived from hand to mouth which caused a situation where long-term thinking was not practicable option. The government and NGOs should promote effective solutions in the villages so that water harvesting could be possible and sustainable. Pumping the ground water should be also done in sustainable way. New variety of seeds and cultivating methods should be brought and taught in the villages. Crop rotation and drought resistant seeds could enhance the fertility of soil and quantity of crops. Economic sustainability is connected to ecological sustainability. Because the villages lacked other income generating activities than agriculture, their economic sustainability was strongly depending on weather. The villagers hoped that some agent or actor could make investments and establish, for example, factory in a village. The villagers also hoped for more credit based programmes and projects which were based on idea of development, not only to the idea of contemporary aid. After all, the cohesion of the villages was good and their belief in surviving by themselves if the rains come was a sign of social sustainability. The villages which were not yet in collapsing stage can still see their strengths as a community.

Were the studied communities resilient?

Folke (2006, 254- 259) claims that there are three dimensions of resilience; renew, reorganize and develop. The studied villages lacked the ability to develop new strategies to face drought and food insecurity. They mentioned, for example, education as a preventive strategy but it was hard to see its long term results. It was also difficult for people to understand the responsibility of an individual. The connection of actions of an individual to drought or food insecurity was almost impossible to understand. This was a cause from the thought that food insecurity was a consequence from the lack of rain. They did not mention that drought and food insecurity could also be a consequence of the population pressure or climate change.

Walker et al. (2004, 6) describes resilience as a capacity to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure and

identity. In these particular villages to change functions, structures and also a part of the identity could be more resilient than staying in the same situation than before. The situation had been severe now almost for ten years so functions, structures and also part of their identity is based on food insecurity. All the functions, for example, income generating, were defined by the ecological failures.

According to Adger (2007, 79), the resilient systems could adapt, cope and reorganize without sacrificing the conditions of ecosystems. The studied villages were slightly able to adapt and cope when they faced food insecure times but they sacrificed a lot, not only the ecosystem but also their own well-being. Malnourished people and decreased amount of meals were examples how people sacrificed their health in front of the food insecurity. If there was no rain, no crops and no income, also human capital decreases. Families could not afford education and children did not have other possibilities than to continue their parents work.

Fraser et al. (2005, 465) reminds about the important questions which could clarify the livelihood's resilience. Is wealth available in the system? Is the system connected? How much diversity there is in the system? Also Holling (2001, 393-394) states that adaptive cycle consist of wealth, connectedness and resilience. Wealth could be defined as a potential of system to adapt to change. This determines also the future possibilities. Connectedness indicates internal controllability of the system. Resilience means adaptive capacity; is the system vulnerable in front of unexpected shocks. The villages lacked the diversity in every case. They lacked diversity of agricultural methods and seeds; they lacked diversity of education possibilities and income possibilities, and also diversity of future options. Though, the villages are connected internally because of the strong cohesion in the villages. Strong will to cooperate with the other villagers emerged in interviewees' answers concerning formation of credit unions and sense of community in the villages.

Carpenter et al. (2001, 766) suggest that an adaptive cycle consist of four phases; rapid growth and exploitation, conservation, collapse or release ("creative destruction"), and renewal or reorganization. The studied villages were currently between conservation and collapse. Some of the villages, especially Marfo, might have been empty already during year 2010. They had

been waiting for the help from the government but now they would migrate even without the permission of the government.

As a conclusion, the studied villages were slightly resilient to change. Shock and stress, in this case drought and food insecurity, had affected the villages severely but still most of the people are living in the same villages than during the safer time periods. Coping strategies were based on knowledge inherited from the older generations and because of these strategies living in drought affected areas had been possible. Though, renewal and reorganization were also essential parts of resilience. The villagers were not able to innovate and introduce new technologies because of the lack of financial support. In this area most of the external aid, from government and NGOs, was based on food aid. The villagers would rather benefit from credit based programmes and development oriented projects which could give them a possibility to earn extra income.

People are most vulnerable in the areas in which climatic conditions have changed notably. The interviewees told that year 2009 has been the worst in decades. Though, the situation especially in low lands of Hararghe zone had been alarming for almost ten years. Because of the prolonged drought, the preventing and coping strategies of the villagers had formed a common reserve of survival strategies. Because the situation had stayed the same for a long time, preventing and coping strategies were used at the same time.

The endurance of the villagers might have been seen as a sign of resilience but at the same time endurance caused them several negative impacts; malnutrition, increased infant mortality, break-ups of the families and serious illnesses. In this case even the people would be resilient even though their livelihoods were not. The weather conditions had caused severe shocks and stresses and recovery takes time if it is even possible. In a situation where agriculture was the only option to gain living, livelihood was totally at mercy of weather.

To be resilient, livelihood should be sustainable. To be sustainable, livelihood should be resilient. The studied livelihoods had some features of both but still the fragility of livelihoods was palpable. To gain sustainability, major changes in weather conditions should happen, and

sustainable use of natural sources should be promoted. To be resilient, more investments should be done in field of early warning systems. The government and NGOs should give a voice to the villagers when forms of aid are in discussion.

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Appendix 1: Information about the interviewees

Erer Ibada:

Nujuma was a member of the kebele cabinet who worked especially as a representative for women. She was educated up to the 9th grade and now she was married and a mother of three children. She has lived in Erer Ibada for more than 20 years and she had worked in kebele administration since 1991. Another interviewee was Ahmed Abdi who worked as a kebele chair person. He was married and father of five children. He has lived more than 28 years in Erer Ibada and had worked as a chair person for seven years.

In Erer Ibada I also interviewed two regular villagers. Mariama Ibro was 30 years old. She was married and had five children. She was illiterate. Alfea Abdi was 25 years old. She was also married and had three children. She was also illiterate.

Efadin:

In Efadin I interviewed a kebele leader Yusuf Hussein Asam and a kebele deputy head Asha. Yusuf had lived all his life in Efadin and he had been working as kebele leader for ten years. He was married and had ten children. Asha had also lived all her life in Efadin and had worked as a deputy head for 15 years. She was a widow and had four children, two of them had already graduated and had jobs.

I also interviewed four common villagers. Belainesh Abebe was 41 years old and a mother of five children. Together there were six people in her household. She was a house wife. Abdi Umar was 23 years old and he was married. He had one child. He was unemployed. Umar Ahmed was 45 years old and he was a farmer. He was married and had seven children. Tizita Bagale was 19 years old and she was married but did not have children yet. She worked as a health extension agent in the village.

Urigo& Karabachi:

Abdel was 25 years old and he works as a kebele manager. He had lived in the kebele for three years and had no children. Ahmed was 28, a father of six. He worked as a vice chairman of the kebele. Oda was working as a kebele chairman. He was 34 years old and did not have children. Jemanur had two wives and six children. He was 24 years old and worked in kebele administration. Muni was one of the eldest in the town. He was 38 years old and a father of five children. Fati was a father of four and worked in kebele registration. All five, except Abdel, had lived in this area for whole of their lives. They were all pastoralists.

I also interviewed women villagers. Alfia was 23 years old and a mother of four. Deweyo was 18 years old and had one child. They both were house wives. There was also present Alima, mother of six, Lima Khamal, a mother of five and Umbria, a mother of two but these three ladies just listened. They all had lived their whole lives in this area and they were housewives.

Jabel:

I interviewed four leaders of the Jabel kebele. Jafar was 39 years old and father of six. Ahmadin was 40, a father of ten children. Abdulla was 50 and a father of ten. Khalif was 30 and he had six children. They all had lived all of their lives in the kebele. They all were farmers and the leaders of the kebele.

Another interview was conducted with three women villagers. Fatuma was 22 years old and a mother of one child. Alfia was 23 years and a mother of six. Kalima was 20 and a mother of three children. They had lived all of their lives in this kebele and they were housewives.

Gulufa/Marfo:

In Gulufa village I interviewed first the leaders of the kebele. Abdella was 25 years old and had three children. He had worked as a deputy head now for two years. Mohammed was 35

years and he was a father of seven children. He was married. He had been working as chair of kebele for two years. Tahiv had worked as a head of village for three years. He was married and had nine children. Asha was a mother of six children and she was married. She had been working as representative of women's affairs for two years. They all had lived all of their lives in this kebele.

Another interview was made in Marfo village with the regular villagers. Maka was 40 years old and a mother of six children. She had lived in the village for ten years. Sadama was 30 and a mother of four children. Sartu was 38 years old and a mother of five children. Fatuma was 22 and a mother of three children. Amina was 30 and a mother of six children. Deinam was 40 and a mother of seven children. Alemayusu was 25 years old and a mother of five children. These six ladies had lived all their lives in this village. All seven were housewives. Abdi was 35 and a father of six children. Ahmed was also 35 and a father of eight children. They both worked as farmers. (Ages might not be correct because many of them did not know when they were born. During the interview at least six more ladies and two men came to take a part to the interview. There were also young girls and many children who were listening. Mostly Abdi, Ahmed, Maka and Sadama answered to questions)

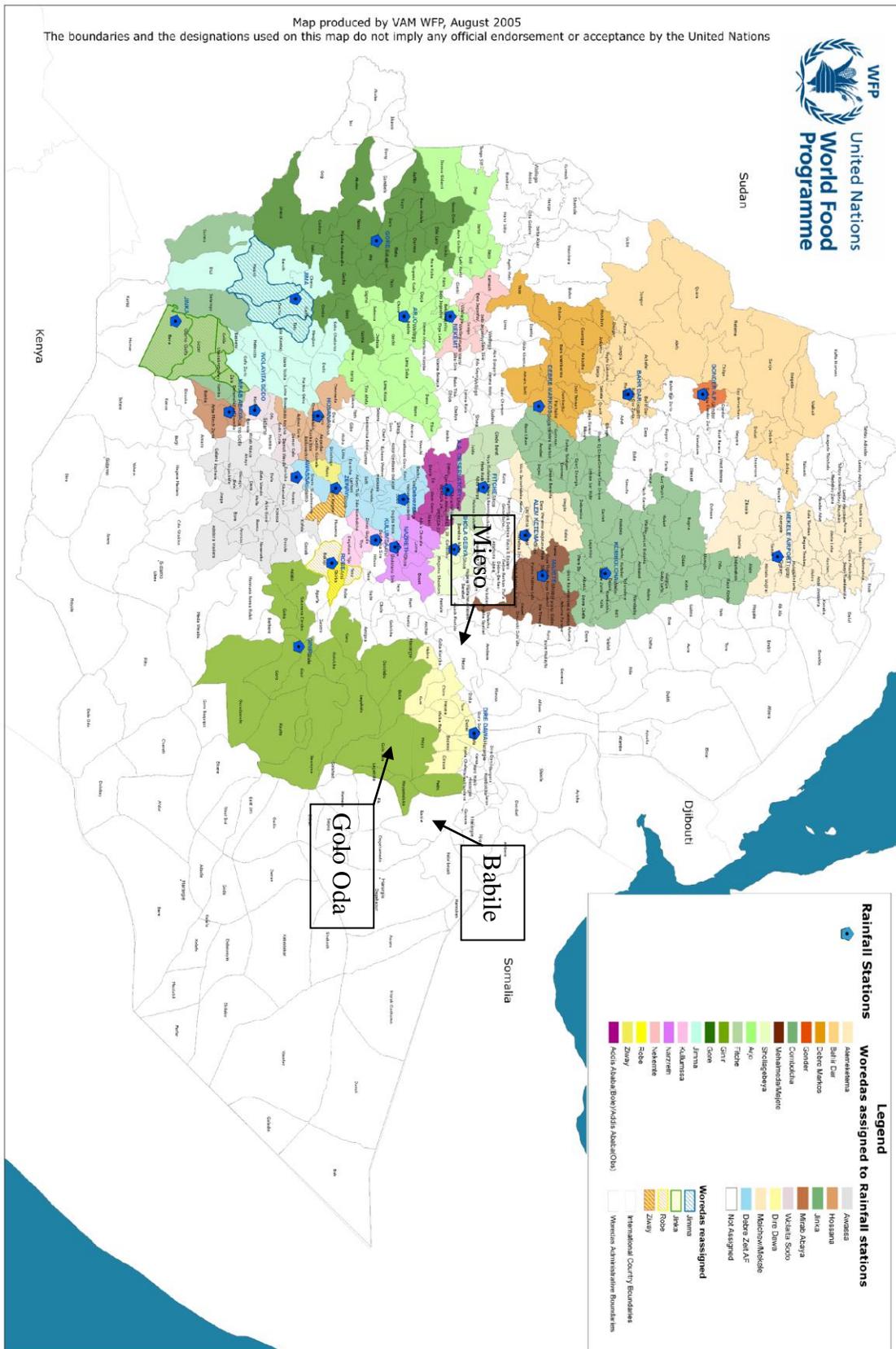
Husemandera:

In Husemandera first interview was conducted with leaders. Abdella was 22 and he is not married. He is the manager of the kebele. Ali was 48 years old, a father of eight children and he was manager of the village. Bushra was 37 years old, a father of eight children and his occupation was the village police. Another police, Kasim, was 30 years old and a father of four children. Ali Ibrahim was 25 years old, a father of four children and he worked as a youth affair manager. Hamid was 30 years old, a father of five and he was also a police. They all have lived all of their lives in this village.

To the second interview attended the women of the village. Hindi was 35 years old and a mother of six children. Fatuma was 33 years old and a mother of five children. Alima was 55 years old and a mother of eleven children. Sada was 25 years old and a mother of one child.

Muna was 26 years old and also a mother of one child. All of them were housewives and they had lived in Husemandera for all of their lives.

Addendum 2. Map of Ethiopia and studied woreda



Appendix 3. Interview guides

INTERVIEW GUIDE FOR THE COMMON VILLAGERS

Individual / Communal data

- Please tell me about yourself (occupation, education, family size, how long have you lived in this kebele)
- Please tell me about the community (social, economic, environmental situation) and also about the history of the kebele
- Is there malnutrition in your kebele?

1. Concept of malnutrition/food security

- How do you define malnutrition?
- What do you think are the reasons behind the food insecurity?

2. Problems caused by food insecurity

- Food security during the past couple of years
- Have there been food insecure times in the past which have affected more than others?
- Please tell me how the food insecurity has affected the community?

3. Preventing

- Are there any preventive systems in the community?
- Has your community learned something about the food insecurities in the past?
- Please tell me what do you think should be done that food insecurity could cause less problems?
 - What should individuals do?
 - What do you think the community could do?
 - What do you think the state should do?

- What kind of aid is needed the most?

4. Coping

- Do you (or your family) have some kind of coping strategies in case of food insecurity?
 - What are those coping strategies?
 - How have those coping strategies worked?
 - Have you get any kind of assistance? If yes, from who, when and how?
- How the community has coped with problems caused by malnutrition? What are the coping strategies in the community level?
- Are there some groups which have coped better than others? Why? How?
- Are there some groups which have coped worse than others? Why? How?
- What is the role of food aid in your community? Could you cope without it?

5. Recovery

- Who should take the responsibility of recovery?
- How should they take the responsibility? When?
- What is the most sustainable way to recover?
- Do you think your community could have recovered without food aid?
- Do you think there is a sense of community in this village?

6. Free word

- If there is anything you would like to ask, comment or say, the word is free!

INTERVIEW GUIDE FOR THE VILLAGE LEADERS

Individual / Communal data

- Please tell me about yourself and your family
- How long have you lived in this kebele?
- What is the number of people in your household?
- What is your occupation?
- Tell about the community
- About the number of population, age distribution, employment rate, ways of living, education possibilities
- About the social services (state based, community based...)
- About the possible problems
- About the environmental situation
- Is there malnutrition in this kebele?

1. Concept of malnutrition/food security

- How do you define malnutrition?
- What do you think are the reasons behind the food insecurity?

2. Problems caused by food insecurity

- Food security during the past couple of years
- Have there been food insecure times in the past which have affected more than others?
- Has your family been affected by the food insecurity? If yes, what kind of problems has it cause to your family?
- Has your community suffered because of the food insecurity? How?
- Has there been assistance before the food insecurity? By whom? How?

- How about the assistance during and after the food insecurity? By whom? How?
 - o Has the assistance been effective?

3. Preventing

- Are there any warning “signs” before the food insecure times?
- Are there any preventive systems in your community?
- Do you think there are any ways what people should do so we could prevent food insecurity?
- What do you think should be done so that food insecurity could cause fewer problems?
 - o What your family could do?
 - o What the community could do?
 - o What kind of help from the organizations is needed most?
 - o What the state should do?
- Have your community learned something from the insecure times?

4. Coping

- Do you think your community has coping strategies in case of the food insecurity?
 - o What are those coping strategies?
 - o How have those coping strategies worked?
 - o Has the community got some kind of assistance? From who, when and how?
- Are there some people who have coped better than others? Why? How?
- Are there some people who have coped worse than others? Why? How?
- Have your community benefitted from the food aid? Could you cope without the food aid?

5. Recovery

- What do you think who should take the responsibility of recovery?
- What do you think is the most sustainable way to recover?
- Do you think that community could have recovered without food aid?
- Is there a sense of community here in the kebele?

6. Free word

- If there is anything you would like to say or ask the word is free.
- Thank you for the interview!