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Dreams of development

A contribution to the understanding of livelihood strategies in the drought-prone Alaba Woreda of Ethiopia

A boy fetching water amidst a herd in a community pond. What would be his dream for the future?

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Abbreviations and glossary

ETB	Ethiopian Birr (conversion rate: €1≈22ETB)
EC	Ethiopian Calendar
FHE	Food for the Hungry Ethiopia
FTC	Farmer Training Center
HH	Household
HHH	Head of Household
IPMS	Improving Productivity and Market Success
MLREP	Market-Let Livelihood Recovery and Enhancement Program
NGO	Non Governmental Organisation
PIN	People In Need
PSNP	Productive Safety Net Program
RWH	Rainwater Harvesting
SAA	Sasakawa Africa Association
SNNP	Southern Nations, Nationalities and Peoples (region)
UNDP	United Nations Development Program

Edir	Local institution governing social relations
Kebele	Administrative unit smaller than Woreda
Quintal	Local weight unit, equivalent to 100 kg
Sera	Conflict resolution process
Tefo-Tuka	Study area consisting of the Kebeles: Tefo Chofo and First Tuka
Woreda	Administrative unit under Region

1 Introduction

The title of this report holds a beautiful alliteration. Throughout this thesis I hope to show that it also offers a very insightful perspective on what people find valuable, that it reveals what goals people pursue and how it relates with goals pursued by institutions, and that it increases understanding of livelihood strategies. The following section introduces something of the necessary theoretical context of this thesis. First we zoom in from the normative theoretical foundation (capabilities) to the analytical framework (livelihoods), to something that is argued to be a necessary link between the two (dreams of development). Something about the national context of Ethiopia is introduced in the next section, after which the objectives and research questions are given. The introduction concludes with explaining the structure of the report.

1.1 Theoretical approaches to development

In 1979, Amartya Sen held his famous Tanner lectures. He exposed the difficulty of assessing issues of poverty or well-being in only material terms on the one hand, or only in terms of utility on the other hand. Command over the same material resources does not necessarily result in a just distribution between people, and utility is a problematic indicator in both practical and theoretical sense. In his work which eventually became known as the capability approach, he argues that evaluation of poverty should take place at the level of what a person is actually *capable* to do and be, at the level of capabilities.

When considering how theoretical approaches to development have changed over the past decades, one could say that there has been a shift from a focus on *economic development* to something that is generally called *human development*. Amartya Sen stands on the cradle of the idea of human development for which the capability approach is the conceptual basis. Where economic development stands for an approach that uses the income metric, where GDP is used as an indicator of development and poverty is defined in financial terms, human development is more concerned with what a person is actually able to be and do, and it defines 'human needs' in a more subjective way.

Taking these rather abstract notions into everyday practicalities, the livelihoods approach is a very useful analytical tool, that focuses on what assets people can actually access rather than what they do not have. These assets are combined in strategies and a combination of strategies results in livelihood outcomes. It became mainstream development policy framework in the 1990's, but it has had it fair share of criticism. Some argue that livelihoods are a technical way of looking at things, that it becomes an isolated arena that is disconnected from governance and politics, incapable of capturing long-term agrarian change.

This is where the idea of *dreams of development* could connect. The concept of *dreams* intrinsically has a time dimension, and it could capture the dynamics between livelihood strategies, assets and outcomes that go beyond a linear perception. *Dreams* can be applied to both agrarian livelihoods and policy, and by doing so, it can increase the understanding of the process of policy intervention. The theoretical background will deeper explored in section 3.

1.2 Ethiopia and Rainwater Harvesting

Agriculture is the backbone of Ethiopian economy, in which smallholder farmers play the main role. Smallholders produce more than 90% of the total agricultural output and cultivate close to 95% of the total cropped land (Devereux, 2000). The agricultural census for the Southern Nations, Nationalities and Peoples (SNNP) region (2003) notes two trends that are having a negative impact on the agricultural sector of Ethiopia: the number of people is increasing at a high rate, and the area of new land suitable for cultivation is rapidly diminishing. This asks for intensification of agricultural production to meet the increasing food demands, but at the same time for sustainable use of available resources to avoid depletion.

For the rural population, these trends are resulting in a decrease of their resources. The transformation from communal range lands to crop land, caused a big decrease in the number of cattle that people have (Biazin, 2012). The decrease of land and cattle makes smallholder farmers especially vulnerable to external shocks, because they have little coping capacity in their economic activities. Moreover, their livelihood and food security are highly dependent on climatic conditions that are becoming more variable.

Drought is one of the main problems that the Ethiopian smallholders face. The nature of the water scarcity lies in the erratic distribution over the year, even while the annual rainfall is relatively high (Awulachew, 2005). Farmers need the rain to meet a precise set of criteria for crop cultivation, like proper on-set and the absence of a certain number of consecutive dry days. It is the erratic distribution of rain that causes most problems for dryland agriculture, especially because the buffering capacity has decreased and fertilizer prices have increased over the year (Barron, 2003).

In this context Rainwater Harvesting (RWH) is an important technology that captures water when it is abundant to make it available when in dry spells. It is defined as “any practice that collects runoff for productive purposes” that is stored in a basin (Rockström et al., 2010). Especially when groundwater use is limited in terms of groundwater levels and toxic elements (Hengsdijk & Jansen, 2006), and surface water is too far away, the option to obtain water is Rainwater Harvesting.

Where all this is true for Ethiopia as a whole, it certainly applies to Alaba Woreda. The groundwater level is at more than 200 m deep, and there is only one perennial river. Rainwater harvesting community ponds and deep wells are the most important sources of water for drinking, domestic use for rural livelihoods. Rainwater harvesting household ponds also have the potential to contribute to small scale irrigation. This is the context in which this thesis is done, as further introduced in section 2.1.

1.3 Objectives and research questions

The objective of this study is to join both the conceptual and practical debates within the livelihood approach from an anthropological perspective, based on the concrete issue of surface water ponds in the Alaba Woreda of Ethiopia. In conceptual terms I seek to increase understanding of the relation between dreams of development, livelihoods and capabilities, being a driving force for achieving well-being. At the practical level I seek to understand how understanding both dreams of development of people and those of policy makers can contribute to fruitful future policy making.

The main question is the following: How do livelihood strategies and dreams of development of the people living in the drought-prone rural area of Alaba Woreda, Ethiopia, relate to dreams of development of policy makers of the Ethiopian government and NGO's?

The first research question was included to get an introduction in the basic subject of this study: the people. The characterization of the people of Alaba Woreda corresponds with the structure offered by the capital pentagon of the livelihoods approach that includes human, social, natural, physical and financial capital. Furthermore it is put in an institutional context, and the context of shocks and livelihood stresses:

1. **Who are the people living in the drought-prone rural area of Alaba Woreda, Ethiopia?**

Secondly it is important to understand the situation concerning rainwater harvesting in the region from two perspective. First it I want to know who has put what effort in increase rainwater harvesting and why. This can be linked with the institutional context within the livelihoods framework. Second I want to know the importance of surface water from the perspective of the actual users. It was asked who are the users and for what purpose they are using the ponds, referring to community ponds and household ponds. The question is formulated as follows:

2. **What is the context and practice of rainwater harvesting ponds construction and use in Alaba Woreda?**

It is impossible to apply the whole livelihoods framework with the same intensity. With respect to dreams of development it is most interesting to put a relative focus on livelihood strategies. Therefore the third sub question aims at understanding the different livelihood strategies that people in Alaba Woreda pursue, and also how they have developed over time. It was formulated like this:

3. **What are the livelihood strategy trajectories of people in Alaba Woreda?**

This final question is added in the hope that it increase the understanding of the aspirations that people have, the future situations they find valuable and have an influence on everyday life. Dreams are also present in the form of policy formulations, that are in turn put into practice by people with their own ideas and dreams. This question aims at revealing the dynamics of dreams in development:

4. **What are dreams of development of people living in rural Alaba Woreda, and those of policy makers in the region?**

1.4 Structure of the report

The report starts with describing the materials and methods used for the collection and analysis of data (2). It continues with going deeper into the theoretical background (3).

The results follow the structure offered by the livelihoods framework, starting with describing people and their assets (4), which includes a institutional and vulnerability context. Results continue with describing the situation of Rainwater Harvesting in Alaba Woreda (5), because this is key to understand the livelihood strategies. The livelihood strategies (6) include coping strategies with drought, and livelihood strategy trajectories. Results continue with the description of dreams of development (7) at the level of both people and policy. The most important results are combined and are the basis for some conclusions (8).

In the text references are made to figures, pictures, tables and annexes. The pictures were made by the author, and were included as illustration. They are described in the text and only referred to with a number, while annexes are referred to with a letter. Some pictures don't have a number, they are mere decoration. The figures are derived from own research data and have a descriptive caption, just like the tables. I hope this report will somehow inspire the reader!

2 Materials and Methods

2.1 Study area

Alaba Woreda

The Alaba Woreda is located 310 km south of Addis Ababa and about 85 km northwest of the Southern Nations Nationalities and Peoples (SNNP) regional state capital of Hawasa. The Woreda is geographically located 7°17' N latitude and 38 ° 06' E longitude. As shown in Figure 2 (adapted from Davis et al., 2010) Woreda is the second smallest administrative unit in Ethiopia. The difference between a Woreda and a Special Woreda is that the latter falls directly under the regional governments, while normal Woreda's are first represented in zones. It is because of the uniform culture in Alaba that it is a Special Woreda. Before this happened a few years ago, it was part of the KAT zone: Kembata, Alaba and Tembaro. There are 79 peasant associations (PA's). Alaba Kulito, the capital of the Woreda, is believed to have been founded towards the end of the 20th century.

Figure 2 shows a map of the Woreda, in which there is one asphalt road from east to west, passing through the study area Guba and the Woreda capital Alaba Kulito. The other study area is accessible via a secondary road. Both study areas are roughly at the same distance from the river, but Guba is closer to Alaba Kulito. The topography of Ethiopia is dominated by a high plateau, intersected by the East African Rift Valley that is home to Africa's great lakes. One of them is lake shala, that is bordering the North-East of Alaba Woreda. Alaba is located in the *weina dega* or temperate zone of Ethiopia. This zone forms the lower part of the central plateau, with elevation ranging between 1500 m and 2400 m. Average daily high temperatures lie between 16 and 30 °C (Cheung, 2008).

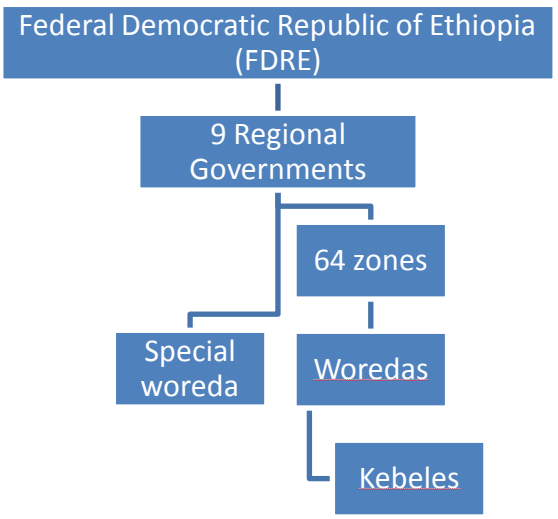

Figure 2 Administrative levels of Ethiopia.

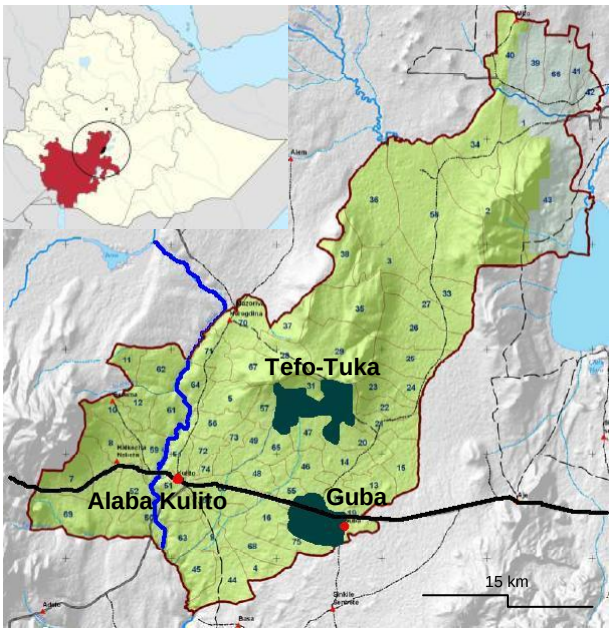

Figure 1 Location of study areas (IPMS, 2005).

In general, Ethiopia knows three seasons (Seleshi & Zanke, 2004):

- The *Kiremt* season: the main rainy season, from June to September. It covers most of the country, except the south and southeast (south of Alaba woreda).
- The *Bega* season: the dry season, from October to December/January/February. Warm and cool northeasterly winds bring dry air, but are very occasionally interrupted when low-pressure systems from the Mediterrean interact with the equatorial/tropical systems, resulting in rainfall over parts of central Ethiopia.
- The *Belg* season: light rainy season, from February/March to May. The rains are produced by moist, easterly and southeasterly winds.

However, when talking to the farmers it seems that they rather distinguish two seasons: the dry season that lasts from October until March, and the rainy season that lasts from April until September (own interviews).

2.2 Sampling

Selecting two study areas

Alaba special Woreda has 79 Kebeles. For selecting a study area in this Woreda, several things were taken into account so that the selected study area would reflect the variation that is present in the whole area. One aspect is the different types of ponds. Still functioning concrete household ponds can be found mainly in Guba so this Kebele was selected. But a focus on these concrete ponds would be not very relevant for the rest of the Woreda, where people are generally use community ponds. Therefore another study area had to be found with only community ponds, while taking into account a second consideration: different institutions responsible for Rain Water Harvesting. In order to compare government and different NGO's for the dynamics around their policy and dreams, two neighbouring Kebeles were selected as the second study area: First Tuka and Tefo Chofo, together referred to as Tefo-Tuka. First Tuka is a working area of the NGO Food for the Hungry Ethiopia (FHE), while Tefo Chofo was a previous working area of People in Need (PIN). Tefo-Tuka is working area of the Productive Safety Net Program, while Guba is not. The two study areas "Guba" and "Tefo-Tuka" cover the most important variation in Alaba Woreda concerning Rain Water Harvesting.

Selecting 60 households for questionnaires

In these study areas a sample of 60 households was selected for the questionnaires of which 30 households were in Guba and 30 households were in Tefo-Tuka. This number of households was selected because it allows to get a good overview of each area, and although no statistical analysis is performed this number provides a solid basis for descriptive statistics. The sampling method was representative sampling, taking into consideration the variation in land size, gender of HHH and a geographical variation. This is done in order to allocate the research focus according to the diversity in the area, so that both the perspective of men and women can be considered, the perspective of small land holders or big land holders, and the perspective of different geographic areas where people can have access other resources than in another area.

Geographical variation within the Kebele is found in the so-called clusters, each home to around 100 people. Three clusters were randomly selected in every study area, and on the basis of information from the Kebele chairmen, households were selected. Classification of what is small, medium or big land size was asked to the Kebele chairmen and resulted in Table 1. It was also asked how many households there were, and how many were Female Headed Households, in order to include the same percentage Female Headed Households, in the questionnaire sample (Table 2).

Selecting 5 households for repeated visits

Out of the sample of 60 households, five households were selected for repeated visits that allow for observations, open interviews and life histories. Considering that within a household different individuals may pursue different goals, it is important to focus on the individual concerning both livelihood strategies and dreams. And yet, the household is often the most important social group, necessary to understand if one wants to understand the individual aspirations. Five households is feasible within the time available but also providing a diverse view. One household was selected in Tefo Chofo, one in First Tuka, and three in Guba. Furthermore it was tried to have a divers sample in terms of land size, age and gender of HHH. The table below summarizes some of the characteristics of the five households that have been selected.

Selecting Key Informants

Valuable information is often accumulated in key persons that have years of experience in their working field. These are included as key informant and it was tried to interview key informants in different fields, that approach issues from a different angle. Key informants at the community level included Kebele Chairmen, Development Agents and also my translator Semeru who is very familiar with the study areas. At the policy level, several officers from the Woreda and Regional agricultural offices that deal with RWH were interviewed that could explain the considerations around policy decisions. From the NGO Food for the Hungry Ethiopia, the manager was interviewed as key informant, and as the person to shed light on the organisational dreams. From the NGO People in Need, an officer called Antana with many years of working experience in the area was interviewed several times for his insight in cultural issues.

Table 1 Land size classes according to Kebele chairmen.

Land size	Tefo Chufo	First Tuka	Guba
Small	0-1.5 ha	0-1 ha	0-1.5 ha
Medium	1.5-3 ha	1-3 ha	1.5-3 ha
Big	3-10 ha	3-10 ha	3-10 ha

Table 2 Percentage of female headed Households, reflected in the survey population.

	Tefo Chufo	First Tuka	Guba
Number of HH	398	448	642
Female HHH	68	68	236
Percentage	17	15	37

2.3 Techniques and analysis

Semi-structured questionnaire

A semi-structured questionnaire was developed (Annex A). The goal was to collect some of the general information in the structured part, concerning demographics, education, sources of income, and sources of water. But it was also meant to collect perceptions on water quality and quantity and narratives of dreams for the future in the form of more open questions.

The questionnaire was held with 60 people, preferably the head of household but if this person was absent for any reason the questions would be asked to the husband or wife. It took about 1,5 to 2 hours. Because most people only speak the Alabic language, it was necessary to translate the questions. Three translators were found and they were explained the logic of the questionnaire, enabling them to ask the questions independently as enumerator.

The analysis of this questionnaire data was not done with complicated statistical programs, but only in terms of descriptive statistics. By describing numbers, averages and percentages for both study areas, the results could be described enough for the purpose at hand.

Observation life histories and strategy trajectories

Five households (Table 3) were repeatedly visited in order to understand their activities, values and motivations. No particular planning or strategy was followed in the visits, except that all households were visited at least 3 times. Besides the observations that could be done, people were asked to tell their life history and the most important things that have changed in the past decades. This helped to identify livelihood strategy trajectories, allowing to give a contextualized account of what changes farmers have undergone in their actual strategies. Time dynamics were also grasped in the other direction by asking about the plans and dreams for the future.

Policy review

For understanding the institutional context it was important to become familiar with all kinds of policy, especially related to Rainwater Harvesting. Another reason is that policy often

Table 3 Features of the five households that were selected for repeated visits.

Name	Kebele	Gender HHH	Age HHH	Education HHH	HH size	Total land (ha)	Household pond?
Medina	Tefo Chufo	F	55	Illiterate	6	4	No
Bergena	First Tuka	M	28	Grade 3	4	0,5	Earthen Household pond
Rajuna	Guba	F	40	Illiterate	6	2	No
Dubala	Guba	M	60	Illiterate	11	3	Concrete Household pond
Aguda	Guba	M	38	Illiterate	8	6	Earthen Household pond

hides dreams for the future in the vision and mission, and between the lines. Therefore policy papers, especially those related with Rainwater Harvesting were collected. Because most institutions do not attach great value to documentation, neither in hard copy or soft copy, it was difficult to find much policy documents.

Information on policy could more successfully be gathered from interviews with officers responsible for the development and execution of policy plans. At NGO's, the Woreda and Regional agricultural offices, people could be interviewed to get an idea of the dreams behind contemporary and past policy routes. These were open interviews of which fragments are quoted in the report.

3 Theoretical background

This chapter introduces the theoretical background necessary for exploring the relation between what will be called 'dreams of development' and livelihood strategies within a livelihoods approach. In the first section we will explore how development has evolved from focusing mainly on 'economic development' to focusing on 'human development'. Following Gough and McGregor (2007) I call it a shift from a focus on money poverty to a focus well-being, consisting of three related but distinguished types.

The fist type relates to capabilities, the second to subjective quality of life and the third to livelihoods. Within the capability approach, which can be seen as a main source of inspiration for the livelihoods approach, the importance of choice and personality is one of the important aspects. It is in this context that the livelihoods approach will be introduced, as well as the main critiques that have emerged. The theoretical background concludes by linking these main ideas of a livelihood to the concept of 'dreams of development'.

Dreams of development refer to peoples ideal type prospect of their future life, and it is the hypothesis that such prospects influence choice for particular livelihood strategies. Dreams of development also refer to prospects of NGO workers and governmental officers, whose policy is a formulation of an ideal type world. This perspective may be a good contribution to the conventional livelihoods approach as it gives explicit attention to values and feelings. By doing so, it may also be a fruitful contribution in responding to some of criticisms of livelihoods approaches that emerged in the last decade.

3.1 Developing development

From money poverty to well-being

The first Human Development Report appeared in 1990 from the hands of the Pakistani economist Mahbub ul Haq and the Indian economist and Nobel prize laureate Amartya Sen, commissioned by the United Nations Development Program (UNDP). Their main contribution to international debates on poverty and development was to put people at the centre of development, as becomes clear in the following citation.

"People are the real wealth of a nation. … The basic objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives. This may appear to be a simple truth. But it is often forgotten in the immediate concern with the accumulation of commodities and financial wealth." (UNDP, 1990).

For some economists (e.g. Srinivasan, 1994) this 'new direction' was indeed perceived as a simple truth, and an attempt to reinvent the wheel. He refers to early post World War II economists like N. S. Buchanan and H. S. Ellis (1955) and Arthur Lewis (1955) who were clearly concerned with some idea of freedom and well-being in which income and economic growth is of mere instrumental value.

However, many authors argue that development theories were often characterized by a focus on quantitative income measures, such as available commodities, economic growth and income per capita (Gough and McGregor, 2007). An example of such an approach is the basic needs approach, of which the establishment of the international poverty line of $1 a day in 2005 by the World Bank (Sachs, 2005:20) is a characteristic result. The assumption is

that this amount of income is the necessary minimum to fulfil the basic needs, such as food, shelter and clothing. In this way, development theories largely defined poor people by their poverty, and were little attentive for agency of poor people.

Gough and McGregor (2007) argue that the Human Development Report was indeed a sign of a new paradigm. They call it a shift from a development focus on money poverty to a focus on well-being. They note a remarkable incongruity in speaking of well-being. For developed countries this is quite a normal term, but for developing countries we tend to speak of poverty or basic needs. The suggestion is that well-being is some kind of luxury that is pursued once the basic needs are fulfilled. Gough and McGregor argue that well-being is a richer and more holistic framework to capture development because it encompasses both the countering of ill-being, and broader socially defined notions of values, freedoms, choice and dreams of development.

Three responses to 'money poverty'

Within the umbrella-concept 'well-being', Gough *et al.* (2007) describe three kinds of responses to narrow economism in thinking about development: a focus on human needs and capabilities, a focus on resources and livelihoods, and a focus on subjective quality of life. It is a clarifying distinction as it helps to understand different tendencies in contemporary development approaches, but the three approaches are also very much related and partly overlapping. There is not only a conceptual overlap, but also in terms of most important authors. As will be demonstrated, the concept of capabilities can be recognized in a livelihood approach. For example, Martha Nussbaum has contributed to the capability approach and human development, associated with the first response, but she is also an important driver of rethinking the concept of subjective quality of life, the third response.

Human needs and capabilities

The first response to a one-sided focus on money-poverty comes in terms of human needs and capabilities. The emphasize of human needs is often associated with the basic needs approach. This immediately reminds of the establishment of the World Bank's poverty line, being a singular economic indicator of an income that was supposed to satisfy basic needs. This has become quite controversial, and difficult questions never lost tail of users of a basic needs metric: What is to be considered basic and is it really basic if people sometimes choose not to fulfil them? Moreover, the term 'needs' has plural definitions, that lead to confusion if they are mixed up and are not recognised.

Despite, or maybe thanks to, these difficulties the understanding of human needs has evolved. Gasper (2004) distinguishes between three types of needs: a) need as evaluative neutral description, simply being a factor that motivates ('need' as noun); b) need as a requisite for achieving an objective ('need' as verb) and c) need as normative claim, a necessary requisite (again 'need' as verb). Moreover, a basic needs approach has contributed to some important debates, for example on the distinction between needs and satisfiers, between attainment and being able to attain, and between orders of priority. And in this more plural and complex form it has extended the explanatory repertoire beyond the 'economic man' and can be seen as a response to a focus on 'money poverty'. However, the negative association with the poverty line thinking remains, and Amartya Sen, recognizing both the importance and the problems of the notion of human needs, introduced the capability approach. By doing that, he took development thinking to another conceptual level.

His work and ideas about capabilities started roughly with his famous Tanner lectures in 1979. Sen disputed the claim that command over commodities or income on the one hand, or utility on the other hand, could provide an adequate space in which to assess wellbeing or poverty. To no longer confuse the means and ends of development, he argued that another interpretative framework of development was needed. Sen proposed and defended the metric of capabilities to conceptually capture the ends of development in the so-called capability approach. As already noted, Sen was also involved in the Human Development Report and the development of the Human Development Index. The conceptual basis of this work can be found in this capability approach.

Central to the capability approach, also firmly elaborated by the philosopher Martha Nussbaum, is the focus on what people are effectively able to do and to be, often called doings and beings. The combination of doings and beings is called functioning, and it is this functioning that makes a life valuable. The possible functionings are called capabilities and this is what defines the freedom to achieve. It is from this capability set that individuals compose their achieved functioning. In order to have this capability, one needs an enabling environment and some means. Figure 3 illustrates how the means to achieve (e.g. income) delineate a certain capability set (e.g. freedom to have a good health) that by choice can be effectuated in the achieved functionings (e.g. being healthy). The distinction between capabilities and functionings draws back on Aristotle who distinguished between *Dunamis* and *Energeia*. Both Sen and Nussbaum argue that development should be concerned with equality at the capability level, not at the income or at the actual functioning level (Nussbaum, 2000; Sen 1999; Robeyns, 2005).

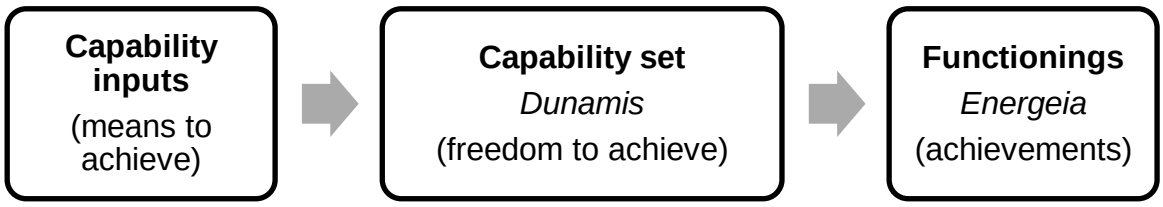

Figure 3 Basic representation of means to achieve, freedom to achieve and achievements

Sen has strongly argued to not consider wellbeing in isolation of human agency (1981), thereby taking the notion of basic needs to a more subjective level. This notion of subjectivity is the focus in the next section, but is already present in the capability approach. The step from a certain capability set towards actual functionings is a step that is made by individual choice. This choice is influenced by social norms and values, psychological characteristics, personal history but also personal dreams of future developments. How this works, even concerning issues of caloric hunger, can be illustrated powerfully with examples from Banerjee and Duflo's book 'Poor economics' (2011). Where researchers often assume that poor people would buy food if they had the opportunity (capability), Banerjee and Duflo describe how people choose to be hungry for some time to be able to give a nice and socially accepted wedding, or to save for a DVD player or a TV.

Subjective quality of life

The second response to a one-sided focus on money-poverty in development, according to Gough *et al.* (2007) is to be found in quality of life and subjective well-being. While all three mentioned responses fall under the umbrella category of a focus on well-being, this particular response emphasizes the subjective nature of well-being in terms of satisfaction, happiness and quality. Hence the study of this subjective experience involves some psychological methodologies. Gough *et al.* argue that its study has been mainly limited to developed countries, but they see a connection with a phenomenon in development: participation. Development professionals in the 80's and 90's often deployed the so-called Rapid Rural Appraisal, aiming at assessing people's material conditions but also at empowering the disadvantaged people. The recognition that people had a better understanding of the issues facing them than outside 'experts', lead to the Participatory Rural Appraisals. This comprised an experience-near approach acknowledging the importance of people's knowledge and worldview, rather than imposing formal and abstract scientific approaches. This approach recognizes and concretizes subjective aspects of well-being.

Nussbaum has also elaborated on resetting the focus on quality of life, especially in her 1993 book that she wrote together with Amartya Sen called 'The Quality of Life'. In this book they argue that the value of capabilities is that it accommodates for achieving actual valuable doings and beings, which together constitute ones quality of life. In this book they combine it strongly with the metric of capability. This, however, is not a necessity. Rojas (2007) argues for a focus on subjective well-being. This implies different notions, first of all that the inherently subjectivity of well-being means that it is the person itself who is to say what level of well-being is actually perceived. The role of the researcher is then to understand within the circumstances of the individual, not to assess. It is also an inferential rather than a normative approach, measured in life-satisfaction or happiness.

It is certainly a response to a focus on money-poverty, but it is one that brings conceptual and practical difficulties. In practice, it is very difficult to compare different levels of life-satisfaction, something that is relevant when considering deprivation or poverty. Conceptually it is very close to utilitarianism, which tends to value things only for the sake of utility. Still it reminds us of the importance of subjective notions, also present in the capability and the livelihoods approach. It is to this livelihoods approach that we turn in the next section.

Resources and livelihoods

The third response to a one-sided focus on money poverty can be found in a focus on command over resources within a livelihood perspective. Central to livelihoods is the notion that people draw on a diversity of assets, combining them in different ways in order to pursue their aspirations. Put like this, the close link with the work of Sen on entitlements (Sen, 1981) and capabilities becomes clear. Where the focus in the latter remains largely in the moral and conceptual level and much of the discussion on capabilities tends to become detached from the empirical study of development, the focus of livelihoods is on how people actually command over assets and select strategies. We will get deeper into the relation between capabilities and livelihoods in a later section.

The livelihood framework gained popularity in the 1990's, especially after the Chambers and Conway paper (1991) that is often characterized as its initiation. They mention three types of

conventional professional and scientific thinking in social disciplines that have proven to be outdated and reductionist: production thinking, employment thinking and poverty-line thinking. The first defines hunger as a production issue, while it is rather a matter of entitlement. The second assumes that no poverty can persist when full employment is achieved, an assumptions that mismatches rural reality. The third defines deprivation and well-being in a single continuum, while it contains many dimensions that do not correspond to this measure.

Instead, Chambers and Conway (1991) propose three other concepts to take the stage: capability, equity and sustainability. As already mentioned, capabilities include valuable beings and doings. Equity refers to relative income distribution, addressing discriminations. Sustainability in a livelihoods context refers to the ability to maintain and improve livelihoods.

Bebbington *et al.* (2007) distinguish between two types of approaches that, although often overlapping in practice, emphasize either what people *think and do* and what people *have and control*. Both approaches are actor oriented in their focus on the concern of the people or the households. But the first approach places emphasis on the actors' intentions and perceptions, and on ethnographic details of their practices and strategies. The second approach focuses more on the ways in which people access, control and combine different asset types within the rural economy. It is important to notice that livelihoods approaches have been and are used in two ways, that is as a policy tool or as an analytical tool. Because the framework focuses on issues of access and the relation of people with institutions, it has become an appreciated tool for policy makers. However, the current paper uses the livelihoods perspective as an analytical tool, with a main focus on what people *think and do*.

3.2 Livelihood approach

Introducing the livelihood approach

An achievement of the livelihoods approach is that it has shifted the focus in development away from weaknesses, helplessness and poverty of people, to the strategies and creative choices of people making a living (Long, 1990). It means a shift from what poor people lack, to analyzing how they manage to survive and thus emphasizing the strengths. In their influential paper, Chambers and Conway (1991) define livelihoods as follows:

"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."

Scoones (2009) notes that 'livelihood' is a flexible term that can be attached to locales (rural or urban), occupations (e.g. farming), social difference (e.g. gender), directions (e.g. strategies), dynamic patterns (e.g. resilience) and many more.

All these aspects come back in most livelihoods frameworks, in which there is a given *context* of policy, history, agroecology and socio-economy, a combination of livelihood *resources* such as human, social, natural, economic capital, which result in the ability to follow a combination of livelihood *strategies* such as agricultural intensification, diversification or migration, with different livelihood *outcomes* such as an improved well-being. This is often represented in a framework such as Figure 4, derived from Scoones (1998).

As already mentioned, the livelihoods approach can perform both as an analytical tool or an interventional policy tool. Scoones (1998) notes that a holistic conceptual framework like this, doesn't necessarily provide a good guide for practical intervention. But for the livelihoods approach it was certainly the case. Especially after the Department for International Development of the United Kingdom started to promote it, sustainable livelihoods became popular in development practice. The emphasize on livelihood resources and outcomes as well as institutional processes gives multiple entry points for intervention, that do not belong to a particular discipline. Wartena (2006) notes that this is a strong point as it allows rural development policies and intellectual scrutiny to cross conventional boundaries and stimulate a multi-level analysis. Intervention type livelihood approaches have contributed to the analytical type livelihood approaches, but there has also been quite some academic critique on the application of livelihoods. Before entering some of this critiques, let us explore some of the main elements of the livelihood framework.

Starting with the role of resources in the framework, it is noted that resources are at the centre of livelihood construction (Ontita, 2007). Resources within the livelihoods framework are not only of material but also of immaterial nature. These multifaceted aspects of resources are often represented in the 'asset pentagon' consisting of mostly five elements, see Figure 4. With physical capital is meant any kind of basic infrastructure, such as roads, water and sanitation, schools, ICT, tools and equipment. Human capital refers to skills, knowledge, health and the ability to work. Social capital is perhaps the most complicated, as it refers to social resources, informal networks, relationships of trust, membership of formalized groups. Natural capital refers to natural resources such as land, water, forests

and fisheries. Financial capital refers to savings, credit and income of trade, employment or remittances (Eldis, n.d.).

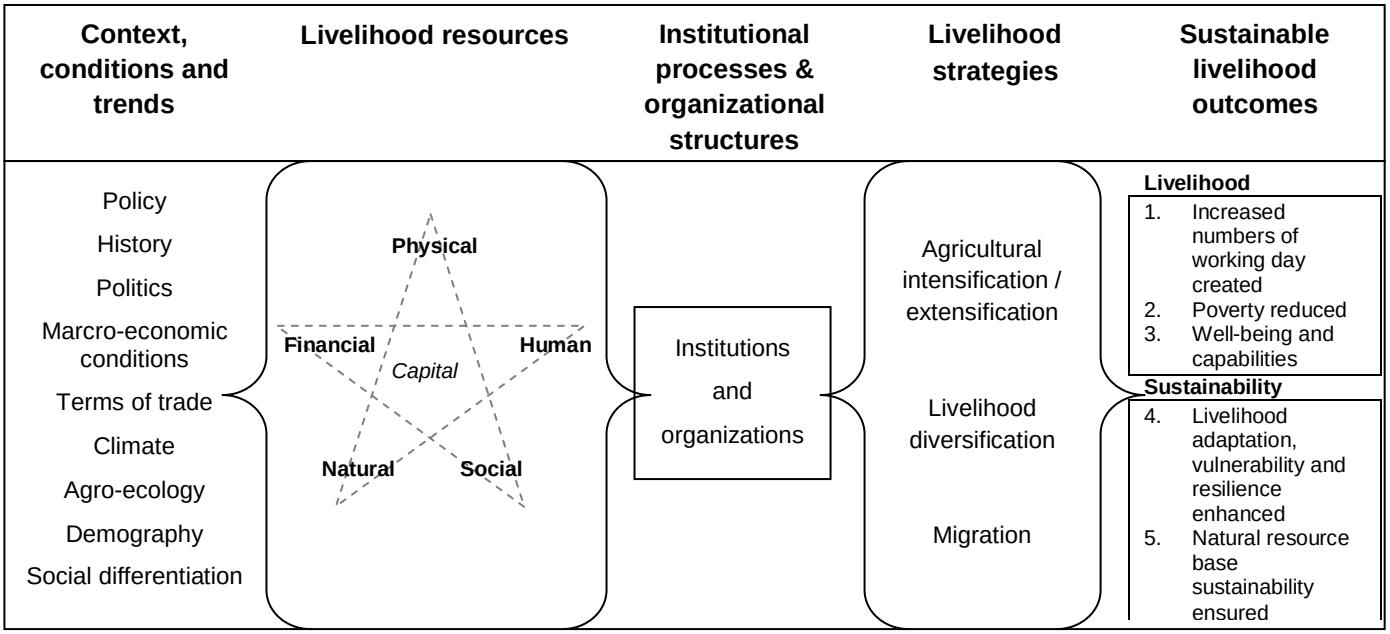

Figure 4 Adapted framework of a livelihoods approach (Source: Scoones, 1998)

It is difficult to grasp what the assets or capitals really entail. These capitals have often been defined in a narrow material way, in which there seems to be a simplistic assumption that on balance, people should pursue economic and environmental goals (Arce, 2003). Bebbington saw assets as 'vehicles for instrumental action (making a living), hermeneutic action (making living meaningful) and emancipatory action (challenging the structures under which one makes a living).

The theoretical exploration of resources of Ontita (2007) widens the interpretation and understanding of what resources mean for rural development. He notes that 'resource' is defined by the Hyper Dictionary as a source of aid that may be drawn upon when needed, or the ability to deal with usual problems. Meeting a need implies overcoming a problem, and in that sense resources are related to security. Another possibility is defining resource as the available source of wealth, expanding its scope to affluence or prosperity. The idea that resources are not only about needs or problems, but also about affluence, or eventually well-being, makes it particularly relevant to consider in this study. It illustrates the complexity of the meaning and significance of resources, which is also a characteristic element in the capability approach. The capability approach highlights individual characteristics that make resources only valuable in the context of personal needs, preferences and goals. This also means that the notion of resources, being fundamentally an economic concept, must be lifted above the economic realm to capture the realities that surround livelihood construction in everyday life.

Especially the intervention type livelihoods frameworks, for example Department for International Development, seemed to assume that access to the capitals shrinks or expands in a somehow deterministic way in relation to the institutional context (Wartena, 2006). Long

(1990) advanced and emphasized the argument that actors' agency is of importance for understanding rural reality. The livelihoods approach, which ideally can be seen as an actor-oriented approach, recognizes that people, including poor people, have agency and the capabilities to act meaningfully and strategically in relation to different physical, socio-cultural and economic environments. Long (1990) furthermore argues that it is through creative processes of negotiation, that people construct their social worlds. These processes are not preordained, linear or static, but are fundamentally dynamic and socially embedded. This also applies to the use of resources. Depending on the diversity of actor preferences and choices, resources are used in different ways. Ontita (2007) emphasizes that the idea of choice and preference arises from the view that actors can explain their actions and have some room for manoeuvre, which provides a basis on which choices and alternatives may be pursued. This notion leads to the acknowledgement that livelihoods are also about identity, as it is this actor identity that highly influence values and choices in a social context.

This brings us to another important element of the livelihoods approach: the livelihood strategies. Scoones (1998) defines three broad clusters of livelihood strategies, which are intensification/extensification, livelihood diversification and migration. This migration can be either permanent, or temporarily during some months of the year. Usually livelihood strategies comprise of a combination of these. This is a dynamic process as different seasons or years present different options. Therefore, according to Scoones (1998), a historical approach to livelihoods is important. De Haan and Zoomers (2005) also argue that for examining individual strategic behavior, historical embedding is necessary. They propose to use the concept of livelihood trajectories in order to highlight why people have chosen particular strategies in particular circumstances in the past. Methodologically this means the use of life histories to grasp beliefs, needs, aspirations and limitations in relation to power and institutions. A large part of the motivators in such situation are also about implicit conventions like social norms, institutions or power relations that the actor is not even aware of. Others will relate to more conscious and intentional thought and motivation. Both will be relevant for understanding particular decisions and selected strategies within livelihood trajectories (De Haan and Zoomers, 2005).

Important critiques

Several points of critique have emerged. Scoones (2009) recognizes four recurrent failings of livelihoods perspectives that have contributed to the declining interest for it. The first (related to scale) relates to the lack of macro-economic and global-scale perspectives were not prominent enough in the model. They were there, in the box 'context', but sometimes this is the most important factor. This corresponds with a point of attention mentioned by Brass (1996), who argued that the strong point of this livelihoods approach is the restoration of agency, but it also risks the overvaluation of agency. This is obviously a balance. It can be recognized in the well-known discussion within social sciences between structure and agency.

Moreover, Unsworth (2001), in Scoones (2009) argues: *Poverty reduction requires a longer term, more strategic understanding of the social and political realities of power, and confronts us with ethical choices and trade-offs which are much more complex … A more historical, less technical way of looking at things can provide a sense of perspective.*

Therefore he argues to enrich the livelihoods framework with concern for class, gender and capitalist relations, connecting to theories of political economy for understanding processes of marginalization, dispossession, accumulation and differentiation at another level.

Secondly, (related to isolation from other bodies of knowledge) a critique is the failure to connect to politics and governance, as livelihoods became an isolated arena. Third, (related to scale and time) although using the word 'sustainable livelihoods approach', it could not deal with the emerging importance of climate change. Sustainability was rather used referring to the ability to overcome short-term shocks and stresses. There are examples of historical analyses of livelihood change, but it is also necessary to extend the notion of sustainability to long-term trends. This would include demography, regional economic shifts, urbanization, migration, land-use and climate.

Fourth, (related to time) it was questioned whether the livelihoods perspective was adequate to capture long-term agrarian changes.

De Haan and Zoomers (2005) argue that not the capitals, but *access to* capitals should be at the centre of a livelihoods perspective. They question whether a focus on trade-off of capitals can capture complex dynamic rural livelihoods processes. A similar plea is made for giving attention to power, power relations and struggles for power.

3.3 Dreams of development

The agency aspects of livelihood strategies are not only addressed in relation to needs, but also in relation to personal aspirations and dreams. In order to explore this dimension, the concept of dreams of development will be used. It also may be a fruitful response to some of the criticisms because dreams have a time dimension. With this term it is highlighted that ideal type prospects of the future, composed of what people find valuable, somehow determines present day decisions and thus have an influence on selected livelihood strategies. Within the capability approach this notion appears in the conversion from the pool of capabilities into actual achievements. It is by choice that people materialize particular capabilities in functionings, while others choose a different capability materialization (Nussbaum, 2011).

The (Dutch) management guru Ben Tiggelaar argues that behaviour can be seen as 'the weak link between plans and results'. Behaviour consists of some tangible and easily observable things such as movements and words, but also of thoughts and feelings. In his book 'Dreaming, daring, doing' he describes dreams as a way of determining direction. This can be distinguished in what a person does not want (the no-area) and what a person does want (the yes-area) (Tiggelaar 2005).These notions may be relevant in the mapping of dreams of development in the current thesis.

Now that dreams have been characterized as 'ideal type' prospects, this does not mean that there is no link between these prospects and what is actually possible in particular situations. Nussbaum (2011) notes that peoples preferences and experiences of utility are influenced by actual circumstances or capabilities. This is called the phenomenon of 'adaptive preferences', a term introduced by Sen and described very clear by Elster (1983) in his book 'sour grapes'. The title of this book refers to the fable of the fox that starts calling the grapes sour after he finds that he can't reach them. Nussbaum makes the analogy with poor people who learn not to want some goods because they are simply out of reach for people of their

gender, class or race. Sen (1999) argued that this analogy also applies for the other side, as utility of affluent people tends to decrease after materializing the same amount of capabilities. For achieving the same amount of utility, they will need much more input. Although this argument was advanced to highlight a particular difficulty of a utilitarian approach, it may also be of importance when looking at dreams. It urges to be sensitive to the relation between deprivation of capability and something that could be called *deprivation of dreams*. This also implies that dreaming itself is a fundamental entitlement, and thus a central capability.

Dreams are not restricted to individuals or households, but can also be recognized in policy. Van Gastel (2011) uses the concept in a policy context of the Dutch ministry of Foreign Affairs. Policy reflects some kind of ideal type prospect, or in her definition it refers to the imaginary, alternative order of an ideal world in which life is good. She continues that dreams of development imagine a world without hunger, suffering, war, loneliness, and fear, or in other words, that imaginary world is a total order that is pure, coherent, and whole. These dreams of development are utopias in the sense that they are images of an alternative organization that might instigate plans to remedy the perceived shortcomings of a particular present age (Parker 2002: 2). These dreams are often expressed with symbolic texts and metaphors. Policy papers are often highly abstract, as they have the function to combine different dreams (van Gastel, 2011)

In relation to livelihoods, dreams of development are regarded to be related with the livelihood strategies. For this study, I will use the idea of dreams in relation to ideal type situations in the future related to the applied and envisaged composition of the three types of livelihood strategies intensification/extensification, livelihood diversification and migration. Special attention is given to Rainwater harvesting being a high potential intervention in the drought prone area of Alaba Woreda. This does not only account for the people living in the area, but also for government officials and NGO officers who have both personal ideals and policy formulations to keep to. These could be interesting fields of analysis to complement a livelihood strategies analysis.

4 People and their assets

This chapter is relevant to get an introduction in understanding the basic subject of this study: the people and their capabilities. This characterization of the people of Alaba Woreda and therefore the structure of this chapter corresponds with a description of the capital pentagon of the livelihoods approach, consisting of human, social, financial, natural and physical capital (Figure 4). This gives an introdcuction to what people are able to do and be. This chapter also includes an overview of the shocks and stresses that people perceive in their livelihoods. Rainwater Harvesting ponds are shortly treated in the section on physical capital, but the different types of ponds and their use will be described more extensively in the next chapter.

4.1 Institutional context

Woreda and Kebele government

At the Woreda level, the most important institution for rural livelihoods is the Office of Agriculture and Natural Resource Development (OoANRD, in this report called 'agricultural office'). The agricultural office is organized in three desks: Natural resources conservation and development, Animal and fishery resource development, Crop development and technology dissemination. Furthermore there are extension supervisors and over 45 Development Agents, according to a baseline study that was carried out for the project "Improving productivity and market success" (IPMS, 2005). Rain Water Harvesting is part of the responsibility of the Natural resources conservation and development desk.

There are six Farmer Training Centers in Alaba Woreda. They cover the farming systems of livestock, teff, pepper and haricot bean. While the government is responsible for these training centres, they are supported by the EU, UNDP and several NGO's (IPMS, 2005).

At the Kebele level, power relations are more divided in formal and informal power, according to key informant Antana. Formally, there is a hierarchical system in which from each cluster (the unit smaller than a Kebele) a leader is elected, who becomes part of the central Kebele management. These leaders are elected for a period of 5 years, but it happens that this time is shortened in case of corruption or other reasons to stop the term. The Kebele has one chairman, a function for which he does not get money, but a good compensation in terms of workforce for his land and favours of any kind. For the secretary of the Kebele it is different, he has a full-time job and gets paid accordingly. They get instructions from officer at Woreda level.

Informally, there are other people with a lot of power. Such people are usually the elder people that enjoy respect in the community and therefore have more power than the Kebele chairman. This also functions among different Kebeles. The division between the Kebeles is mainly formal, as the people are of the same ethnic group, having the same religion, and the same culture. A clear example of such informal power is Sera, the traditional way of conflict resolution that is described in section 4.3 on social capital.

Productive Safety Net program

Following the success of Productive Safety Net Programs (PSNP) in other parts of the country, Alaba Woreda also has its PSNP centre. Since 2005 this institution is involved in the support of food insecure households in 45 out of the 79 Kebeles. The objectives are to

provide households with enough income in terms of cash or food to meet their food gap and thereby protect their household assets from depletion. From January to June many households face a food gap, because there is not production in this time. Therefore they need other sources of income, otherwise they will sell their assets to survive. Rather than depleting assets, the PSNP contributes to new community assets.

There are basically two types of programs for the food insecure households: direct support and public work. For the vulnerable, that is the elderly, disabled or extremely resource-poor individuals and households, there is the direct support. Other food-insecure households can participate in the Public Work branch in cash for work projects. The nature of the work is determined in participatory decision making processes where people together with Woreda experts choose priority working areas like soil and water conservation, water and irrigation development (of which RWH is a part), road construction or forest development.

From the 79 Kebeles, only 45 food in-secure Kebeles are targeted for PSNP activities. The criteria to be included in PSN Program were set in 2005 by the Disaster Prevention Preparedness Commission. In the last 7 years, this selection has not changed. The criteria were that the Kebele should have received 3-5 years of food aid by an NGO, like the World Food Program, World Vision etcetera, and there should be natural resource degradation and erosion problems. Within these Kebeles, only food in-secure households are targeted for inclusion in PSNP activities. A criterion for food in-security is to have a food gap for a six months period. The production of people is in almost all cases enough to overcome six months, but they get in problems for the other six months. Another criteria is that households have low assets, that means having few land (0,5 ha or less) and few cows and oxen.

Non Governmental Organisations

A lot of NGO's are active in Alaba Woreda, who work in close collaboration with the government. An example is The People in Need foundation, an NGO from the Czech Republic (People in Need, n.d.). One of their projects in Alaba Woreda is providing capacity building and equipment to improve the management of the groundwater boreholes. This is combined with hygiene campaigning among the citizens. In the past, the organization has also constructed boreholes and started a 'model school' in 2004. People in Need also provided humanitarian aid in 2008, when Alaba was struck by severe long-lasting drought. In the aftermath of this, the organization worked on improving water provision by boreholes and started two new medical centres. People in Need is one of the NGO's that supports the development of and supply tools for the Farmer Training Centers. Another activity, that is for instance carried out by the American organisation WaterAid, is the construction of fluoride treatment plants in addition to the development of water distribution points (WaterAid, 2010).

Food for the Hungry Ethiopia (FHE) is also active in Alaba Woreda. They are currently active in two projects, that is the Market-led livelihood recovery and enhancement program (MLREP), and an emergency seed project. The latter is a response to the drought in May 2012, that caused many seeds to be lost. To prevent people from using cheap and low quality seeds, FHE provides improved seeds. The MLREP is a 5 year project aiming at increasing and diversifying assets. This is done by the promotion of marketable agricultural production and by introducing profitable varieties through a nursery.

Sasakawa Africa Association (SAA, n.d.) is an agricultural NGO that is carrying out the program 'Sasakawa Global 2000' in several countries, among which Ethiopia. In Alaba, this

program has been installing concrete household RWH ponds around 2009. The website of the organisation does not mention this activity but tells about crop production enhancement, extension and marketing support. Throughout the year, people can get improved seeds and fertilizer from the United Nations in Guba or from other NGO's.

4.2 Human capital

This paragraph will introduce the most important aspects of the people in Alaba Woreda that can be associated with human capital. It represents attitudes, knowledge, labour skills, and health status that together allow farmers to exercise different livelihood strategies and achieve objectives, but we also include general characteristics like family composition, marriage, gender, religion and ethnicity as these can potentially influence access to or exclusion from resources and assets. Much of these characteristics were found to be very similar for the two study areas, so unless stated otherwise the information refers to both study areas. But first the life history of Medina is presented. The story of this woman from Tefo Chofo illustrates and helps to understand some of the livelihood dynamics especially related to human capital.

Box 1

Life history of Medina, Tefo Chofo

I was born 45 years ago in another area called Hosanna-Dimbitcho. I speak 3 languages from the Kushitic Language group: Siltina, Hadiyina later also Alabina. I lived there until I reached the age of 15. I remember this time as a very good time. My parents had 30 cows and oxen and many donkeys. I helped my mother with milking and herding the cattle in the area. There was no school, so I did not go to school. If there would have been one, my parents could have easily afforded the school fee, as we were a rich family.

Within a one hour walk there was a river and a natural spring. My best memory of this time is the life of wealth with plenty of milk, honey and meat. When I reached the age of 15, my parents thought it was time for me to get married. At that time, I was not interested at all in marriage, which lead to conflict with my parents. I married a 40 year old man from Tefo Chufo, a region known in that time for the high number of cattle, and the good and plenty lands.

So this is where we started living. We built a house and lived from the cattle and land. The amount of land, from my husband, was 4 hectare, and there was a lot of grazing land in the area, providing enough forage buffers for cattle for the dry times. We had 20 cows and oxen. During the last 30 years, land has become more fragmented as populations have increased a lot. Fields that used to be vast pieces of grazing land, are currently being cultivated. Now I only have 3 cows. My husband worked the land with the oxen, and also did most of the weeding and harvesting, while I worked the fields close to the house, and did the cooking, washing and other tasks in the house. **Continue →**

Religion and ethnicity

The Alaba *special* Woreda is special because of its very uniform population. Most people are Muslim and share themselves under the Alaba ethnic group. The IPMS baseline study (2005) claims that, ethnically, there are about 6 major groups in the Woreda, of which the Alaba and Grarage ethnic groups are the dominant groups constituting about 81 and 10 % of the total population, respectively. This includes Alaba Kulito, the Woreda capital city that is believed to have been founded in the end of the 19th century. In my study sample, however, all people share themselves under the Alaba ethnic group. This is more representative for the country side. In practice it means that people speak the unwritten Alaba language that is only spoken in this Woreda. Moreover, key informant suggest that this ethnic identity is not a static status. The life history of Medina (Box 1 and 2) narrates how she was born in a family of a neighbouring Woreda. Although the area was not very different, she did belong to another ethnic group, where they also spoke a different language. This was not an obstacle for a marriage, and after her marriage she learned the Alaba language and moved to Tefo Chofo. Now she considers herself to be of the Alaba ethnic group. This is the only place in the country of Ethiopia where the 'Alaba culture' is present and the Alaba language is spoken, although the language has some similarities with other ethnic languages.

All people from my sample are Muslim. Again, this is different from Alaba Kulito where only about 50% is Muslim and the other half are orthodox or protestant Christians. Kebede, a man in First Tuka, explains what it means for him to be a Muslim. "I pray four times per day. I am lucky to live close to the mosque, so it is easy to go there to pray. I like to go there to pray, read the holy Quran and to have only Allah in my mind. This is very good to relax, to get away from the distractions from everyday. But there are also many days that I have to work in the field, then it is impossible to go to the Mosque. In that case I pray in the field, or in my house where I have a poster of the holy Ka'ba in Mekka." It is indeed common to see people praying on a carpet in a shop or in front of their houses.

Box 2

→ life history Medina

We got three daughters that are all married now. They could go to school until grade 10, and got married at the age of 18. All three live in other areas, one in Alaba Kulito, one in Hawassa and one in Gobo. I am very happy for them, because here is no running water, no electricity, no shops. They have a better future than me. Two children still live with me, my son of 10 who goes to school (grade 7) and my daughter of 7 who will go to school next year.

Six years ago, my husband died. He was old, and died of a disease. Because of our culture, I am automatically married to his brother. However, in practice he lives in another area with his family and we do not often meet. For the future I don't have important plans. It is very difficult to start new things, as it all depends on money. In the best situation, I would start cultivating cabbage, chat and enset. If it goes well I could start a shop, because there is no shop in the region.

Besides this daily and personal prayers, there are special occasions where they meet in the mosque. Sometimes this is for a practical reason, for example when they help in the construction of a new mosque or to maintain the garden. Sometimes it is for a special reason like Ramadan. Ramadan time is very important for the community. In that time they fast during the day time and eat together in the evening. It is also a time where they have many sessions in the Mosque. A persistent dry period has a very high impact on the lives of these people, and this is reflected in special gatherings at the mosque, where they pray Allah to change the situation and to send rain. More in general, the mosque is also a place where people meet and keep in contact.

Family composition

The following information is based on the people that were included in my sample of 60 households in both study area's in Alaba Woreda, amounting to a total of 445 persons. The average household size is just above 7, mostly consisting of nuclear family living together in one or two houses. In 7 cases, also friends or relatives were part of the household. Other relatives were often living close, most often in the surrounding group of houses. Figure 5 shows the age pyramid that was made on the basis of the study sample. It reveals a pyramid shape that is characteristic for a high birth rate in combination with high mortality rates and a low life expectancy. The figure shows a remarkable decrease in the number of children of 0-4 years old compared to the group of 5-9 years old. No other information could be found to confirm this as a general trend of decreasing birth rate, or an increase of infant mortality rates. Average age of all household members is 19 years, and 283 people (65%) were 20 years old or younger.

According to the 2004/2005 Woreda population reports, the total population is 210 243, of which 104 517 (49,7%) are male and 105 726 (50,3%) are female. The total number of rural households in the Woreda is 35 719. Out of these, 26 698 (75%) are male headed and 9 021 (25%) are female headed households. The economically active population of the Woreda (15-55 years of age) are 102 176 people out of which 55 668 are male and 46 508 are female (IPMS, 2005). So the overall number of men and women is the same, but the economically active proportion is bigger for men. The information from Woreda reports corresponds well with the information gathered in the questionnaires.

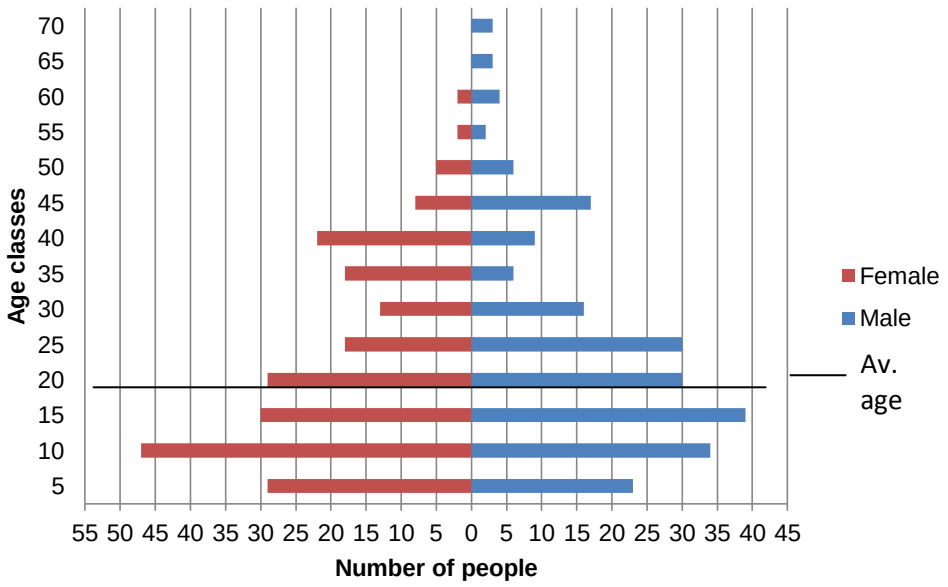

Figure 5 Population pyramid derived from survey data.

Marriage and gender

In this area where the absolute majority is Muslim it is normal for a man to marry several women. In the sample of 60 households, 41 heads of household (68%) were married to 1 partner, 5 heads of household (8%) were married to 2 partners and 5 heads of household (8%) were married to 3 partners. A total of 9 heads of household were living without a partner because they were divorced previously or the partner had died. Men will only get married when they can support the livelihood of a family, and try to find a young and preferably rich girl. The girls are so young that they have to stop school when they get married, in this way becoming dependant from the husband's income (IPMS, 2005).

The life history of Medina (see Box 1) reveals how she got married to a man of 40 years old, at the age of 15. This was an arranged marriage by her parents, which she tried to resist without success. Her husband died 6 years ago, after which she was automatically 'allocated' to be his younger brothers wife. This marriage inheritance is one of the problems for women in this area (IPMS, 2005), although it is meant to be a safety net for the widow. Like this she can fall back on her new husband in difficult times and benefit from her husband's social capital. Her life history makes clear that in practice it does not mean much for her because her new husband lives with his own family.

Marriage can be a way to increase the access to assets by both men and women. In most cases the girl that gets married will get a piece of land from her parents that can be combined with the land of her husband. The Kebele chairman in First Tuka for example has 6 hectares of land. When I ask how it is possible that he has this much land, he answers that he has married 3 wives. The other way around is also possible. The life history of Rajuna (Box 3 and 4) reveals how she was eager to get married at the age of 17 and found a man that gave her 2 ha of land and some cattle. For the man she was the 4th wife, adding to his status. For Rajuna it was a way of getting her own house, land and animals. Her story also explains how her husband's marriage to other women influences her wealth through the reduced access to labour and a decreased amount of animals.

The practices of partner inheritance, a big age difference between marriage partners and one man having multiple wives, are leading more and more to conflict. One day when I arrive at

Box 3

Life history Rajuna from Guba Kebele

My name is Rajuna, I was born in Kobo Kebele, 45 years ago. My family had about 30 cows and oxen, and they produced crops, especially maize. They had two personal storage facilities to store the maize. As a child, I helped my mother with herding the animals and milking, and preparing food. There was no school in that time. My sister lived in this Guba area, and when I visited her, I met the man who would become my husband. At that time, my husband had already 3 wives, so I was the fourth. But he was very rich and I was eager to get married. I was 17 years old.

He bought me the 2 hectares of land on which I still live, but also 15 cattle. After some years he got married again two times, and now things have changed. When I got married my husband was rich. This has gradually decreased and in this time my husbandman is poor and I have to bear most expenses on my own which is difficult. This year, I could no longer send my children to school because there was not enough money for school books, pencils and the fee. My children are angry because they want to have new clothes but there is no money. I think that the reason is that before he had only three wives, but in this time he has six wives. He has to divide his economy, this means his cattle, income and workforce, among them all, including all their children. Now I depend mostly on what my own land brings up. → **Continue**

the selected household in First Tuka, the farmer explains that this night he did not sleep very well. There was a conflict with a neighbouring cluster within his Kebele. The issue was a marriage between a man from their cluster and a girl from another cluster. They got married 3 days ago, she is only 15 years old, and went to school in grade 8. Until three days ago. Since she got married, her husband does not let her go to school. Her family wants her to finish her school, so this night two of her brothers came with some sticks to the family of the man and started to rebel, claiming that he should let her finish school. This does not pass unnoticed and in a short time the two clusters are opposed to each other. Fortunately they were able to solve the conflict in a diplomatic way, resulting in that she is allowed to finish her school until grade 10.

This is an example of what my translator calls 'bad culture'. He explains that previously it was normal to quit school after marriage like this example, but it is changing. In Alaba Kulito, this practice has already stopped: the number of girls at school has increased to about the same number as boys. But if you move only a few kilometres into the country side, it is common practice that young girls quit school after marriage. But what you can see is that it is leading to more conflicts. This shift is also highly related with education. Rather than quitting school, and thus becoming dependent from her husband's income, educated girls see more examples of how they can have chances for themselves.

Education and extension

Education is an important factor in peoples livelihoods. It increases the value of the person, because it will open more possibilities to find work in the city, but also for becoming a successful farmer. In this time, most of the children in the two study areas in Alaba Woreda are able to go to primary school. There are primary schools in every Kebele and primary education is widely available at least for grade one to four. For the grades above grade four it changes per Kebele whether it is possible to follow education, and also the quality varies a lot. In the questionnaire people indicated that children have to walk considerable distances to access schools that have good education for grade 9-10.

The life history of Jadisso, see Box 5, gives more understanding of how it is to go to school. It shows that for the children, going to school is always combined with being responsible for

Box 4

→ life history Rajuna

The biggest difference between now and 20 years ago is in terms of economy. In this time it is much more difficult to make ends meet, which you can see by the amount of cattle that has decreased from 15 to five. This is due to three reasons. First I think that the number of cattle in the region is not enough for the work that needs to be done on the fields: there is a shortage of draft animals. Secondly, soil fertility has decreased. In that time with a lot of cattle, there was compost to be used as natural fertilizer, with supplementation of cheep chemical fertilizer. Now there is only chemical fertilizer, which is very expensive. Thirdly, the rain has decreased over the past years. At this time, there is only a 6 month period of suitable rain for agriculture, which makes it very difficult to live.

tasks in the household. Because the school is only in the morning there is plenty of time to help at home and it does not necessarily conflict with each other, but Jadisso explained that because of the water shortage in the dry time he had to skip school sometimes. Jadisso is now active as a teacher and supervisor of five schools in the area, and when he compares present day education with his memory of his own school time, he says that the quality is much higher than before. Where school used to be very easy, it has become more demanding.

The level of education of the family members included in the questionnaire sample varied a lot. From age 6-7 they start in grade 1, so people were only considered illiterate if they were 7 years or older and have not followed any education, formal or informal. In this definition, 33% of the household members in the sample were illiterate, excluding the infants. When considering only the household members of 20 years or younger (284 persons), 14% had not yet reached the age to go to school, more than 80% was literate, and only 6% was illiterate.

The older people come from a time where schools were a rare phenomenon. Three quarters of the people older than 20 years (123 out of 162) are illiterate. The questionnaire reveals that 47 heads of households (78%) are illiterate, and 6 heads of household (10%) have had some kind of informal education. Only 7 heads of household (12%) went to school to a maximum of grade 9. Apparently people find education important for the future,

The transfer of knowledge continues amongst others in the form of extension for the farmers. Agricultural extension is the responsibility of the Woreda Agricultural office. As part of the extension efforts made by the Ethiopian government, every Kebele should have several so-called development agents, they are the ones who are the primary contact of the farmers. In each study area there was a Farmer Training Centre (FTC), places where fertilizer and improved seeds are distributed, and where all kinds of information is available. Development agents were also present in the study area, each responsible for a thematic area of either Natural Resources, Crop production or Marketing.

Box 5

Life history Jadisso, oldest son of Dubala, living in Guba

My name is Jadisso, I am the oldest son of my fathers' first wife. I was born 24 years ago. When I was small I went to school in Kofe Kebele that was at a 30 minutes walk distance. In the morning I went to school most days, but in the afternoon I helped with tasks around the house, like grazing animals, cutting grasses etc. Sometimes I had to skip school to take the animals to the river. This was a really relaxed time, and going to school was easy. At this time education is much more demanding and has a higher quality.

I continued school until grade 10 and at the age of 16 I started a three year program at the Teacher Training School of Alaba Kulito, which is a three year program. I specialized in mathematics and after graduating in 2007 I started teaching mathematics, still combining it with working on the farm. But since 2011 I work as a supervisor of five schools in the country side of Halaba Woreda, this is full time, but in the weekend I spend time with my family in Guba and help with the work. What I like about this work is the process of making better education. There are many possibilities to negotiate the cause of education in Alaba Kulito, or at the Kebele level.

For the future, I am thinking about getting married after 3 years. Contrary to my father I want only one wife. I really likes this job so I want to stay coordinator of these schools in the coming time. After 10 years I hope to have built a nice house in Alaba Kulito, which is close to his work and his family.

In the studied sample, a total of 56 heads of household indicated to have been included in an extension program. For 32 persons, the source institution of extension was only the government while 11 persons were included in an extension program from an NGO. Another 13 people have experience with extension from both sources. The themes range from livestock development to natural resources management, from improved agricultural practices (technology, crop production, fertilization, irrigation) to post harvest technology. The other six people indicated that extension is not available for them. Sometimes because the development agents seem to miss them, or because the training is for selected farmers and they are always excluded. One respondent said not to be interested in extension.

Labour and gender

Most farmers that were included in the questionnaire indicated that there was enough work force available. In Guba there are on average between three and four unpaid workers, which is more than the average of two in Tefo-Tuka. Moreover, these workers are hired for twice the period as they are hired for in Tefo-Tuka, three months against 1,5 months. The same accounts for the unpaid workers: Guba counts more workers that work for more months.

Figure 6 shows the division of tasks in the household. For both study areas, this was very similar. It clearly demonstrates how tilling and sowing is mainly done by men, while milking, marketing and getting water is mainly done by women. Women face a life lasting responsibility to get water and to cook. Weeding, harvesting, feeding and herding are tasks that men and women are both engaged in. Women and men equally take part in road and pond construction. There are not many other working opportunities.

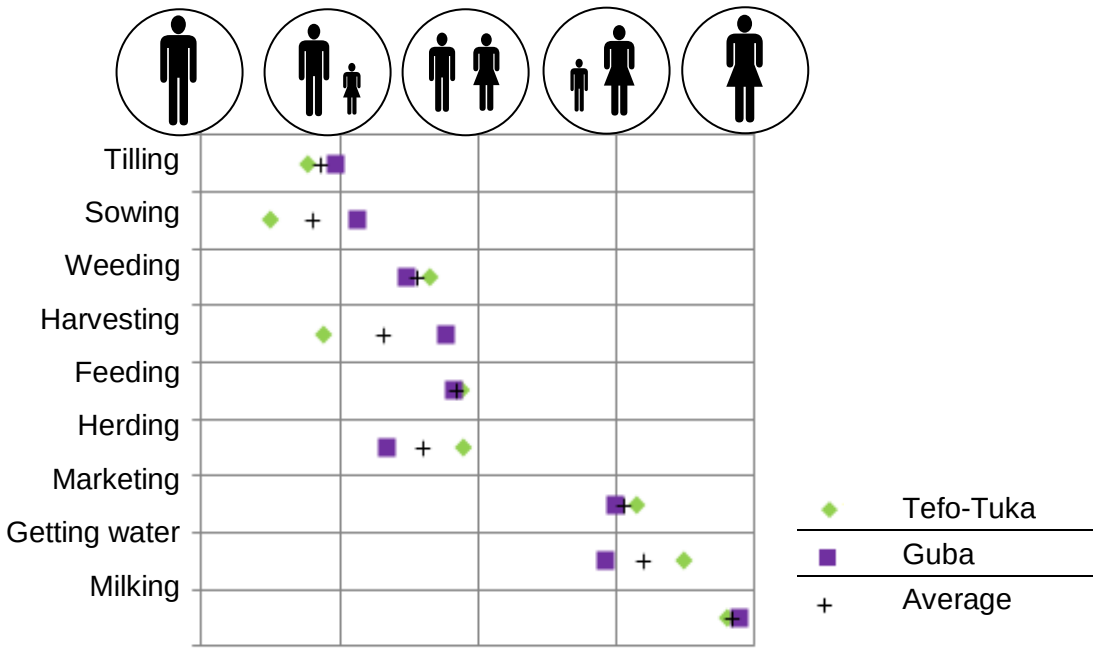

Figure 6

Labour division per activity.

Health

An important factor influencing the productivity of available labour is peoples' health. In a rural area this is more important as much of the work is physical, and there are more factors that increase the risk of falling ill. The health of people is highly related to their access to clean water, sanitation, food and health care, influencing the risk of getting a disease and the impact when being ill. The climate of Alaba allows the occurrence of malaria. Especially in the rainy time there are plenty of breeding spots for the mosquito vectors. A key informant who works in the recently constructed Alaba hospital, explains that the Woreda knows two types of malaria. One is relatively harmless and will in most cases go away after a few days. The other type needs immediate medical attention, or it will lead to meningitis and eventually death. This is happening a lot, so oddly enough it is a part of everyday life and one of the causes of the low life expectancy.

In the last years some health centres have been built in the Kebeles by NGO's or by the Woreda government. These health centres can deal with all the basic health problems, but for the more difficult situations people need to go to Alaba Kulito. There are private health centres and clinics sponsored by international NGO's like USAID. There is also a brand new hospital that has good facilities. So with respect to health care there are many developments going on. But still not all people have access to these facilities in terms of distance and affordability, and according to key informants the quality and occupation differs a lot from place to place.

Clean drinking water, another factor influencing the health situation, is not available in all places at all times in the study area. Especially in the dry season, there is little access to clean water as the ground water level becomes too deep for the boreholes to pump. Some of the pumps are dysfunctional for different reasons, making the other ground water pumps responsible for the supply of too many people. If people have a donkey, they can travel for up to several hours to get pure water, but especially people who do not have (access to) a donkey will be forced to drink surface water from community ponds. This water is shared with all animals and to use it for cooking or drinking is to take a huge health risk.

Rajuna, from Guba, suffers from a disease. The first time we visited her it was dry and she appeared healthy, but the second time it has rained and she has pain in her stomach and is coughing a lot. She explains how it started 7 years ago after a period when she did not have enough to eat. It was very difficult to get through this period. When it is cold and rainy weather, the pain comes back and it becomes difficult to work. This experience illustrates how the recurrent drought and crop failures and the related food shortage, have their impact on the health situation of people. This can reinforce each other and become a vicious cycle.

4.3 Social capital and local institutions

Social capital refers to the connections that enable people to access resources to strengthen their livelihoods, increase the livelihood options and allow them to deal with shocks. Perhaps the most direct form of social capital is simply formed by close friends and family. But the description of social capital in this section in Alaba Woreda includes some of the local institution like the so-called *Edir*, where people where people share weddings and funerals. Also the way how small conflicts are resolved gives an example of how the informal social relationships govern much of daily life.

The strongest social relations among people are those with family members and close friends. In both study areas, these are most often living in the close neighbourhood and share many aspects of life with each other. Rajuna, from Guba, is one of the six wives of her husband. She only has 1 cow and a calf, but no oxen. For working the land with the oxen, she depends on her husband and his sons from another wife to come to her house to do the work. Because he has to do the same for all his wives, she complains that the land preparation is not optimal. For smaller tasks like weeding, she often gets help from neighbouring children, who get a meal in return.

The coffee ceremony is also important in this respect. Every morning at about 8.30 am, they gather with some people in one of the houses to share coffee. This is the start of every day, and it confirms the relationship that people have. Similarly, the men gather in the afternoon to chew chat. They invite the people that are important for them and in this way they confirm their relationship. Also small favours are part of the social capital that exists among family members and neighbours. During the interviews we are occasionally interrupted by children who ask for salt or tap water. If it is there, he will get it and if it is finished, the child proceeds to the next house. “It is like this”, she explains, “on the country side we share things when we need something”. Another example is found in Medina, from Tefo Chofo, who only has two children still living in her house. But she explains that she often prepares food for some neighbouring children, sometimes seven. The families have difficulty to prepare enough food for them, so she helps them out by sharing breakfast with them.

A good part of the social capital of people is arranged and institutionalised in the so-called *Edir.* This is a collection of people that are most often family and live close to each other, but not necessarily. Membership is optional but very usual. In Tefo-Toko all people were member of an *Edir*, and in Guba this was more than 94%. There is a management, so people contribute a little amount of money to be part of the *Edir*. The most important function of this local institution is to organize the community support when celebrating weddings or taking part in funerals. In such cases, everybody contributes a little bit of food or money. My translator, who lives in Alaba Kulito, is also member of an *Edir*, and he explains that all *Edir* make their own agreements about the price or the amount of food that needs to be contributed.

Bergena from First Tuka explains that he belongs to a young *Edir*, which they started only 3 years ago and has 60 members. His main benefit is to have community support in case of a funeral. People from the *Edir* will help to dig the grave, help with the housekeeping, and supply the visiting family of the deceased with Keta, flat round maize bread. In times when maize is scarce, they will bring the Teff-based injerra for an agreed price of 15 ETB (≈ €0,70).

Key informant Antana explains that the *Edir* is also important for the exchange of labour, small goods and money. When somebody needs some workforce on his fields, people from his *Edir* can help him out for two or three days. In exchange, he can give some money or material, or help constructing a house. This is an important element of people's social capital.

In the past years the government has made some efforts to stimulate small scale vegetable production around the house. This got shape, amongst others, in the establishment of irrigation associations. Table 4 shows how no more than 8% of the people appear to be member of an irrigation association. Conversations with farmers indicated that they are no longer really active or functional.

An average of 16% of the interviewed heads of household indicated that their children are member of a youth association, and 34% indicated that the women were member of a woman association. A woman in Guba explains that members have to pay a small amount of money for the organization, and they gather generally once a month with a group of 30 women. The main benefit she gains from it is that they can discuss actualities in the area and they can give each other advice and support when needed. They discuss themes varying from marriage issues to water scarcity. Power over resources is mainly in hands of men, but the association allows women to combine their voices and increase their influence. Most of these associations gather only once every month.

Of all respondents, 37% (22 households) are member of a farmer association. The main benefit, according to several selected household members, is to be close to the action. As agriculture constitutes the biggest part of their daily work, they want to have access to the latest crop prices, sowing dates and other important information. It is also a place where they

Table 4 Membership of most important organized association per study area.

	Membership per Study area		
Associations	Tefo-Tuka	Guba	Average
Edir	100%	94%	97%
Irrigation	6%	9%	8%
Youth	8%	23%	16%
Women	28%	39%	34%
Farmer	31%	42%	37%
Production	14%	23%	19%
School	16%	23%	19%
Religious	26%	13%	19%

1.

occasionally exchange techniques or farming tools. Besides these more general farming association, 19% of the households is also member of at least one production association. Such organizations are especially useful in the harvest time to negotiate a better price. Sometimes they stock the harvest and sell it after a few months when the prices have increased.

Table 4 shows that almost 20% of the households is active in a school committee. These are parents who have a child at the school and can participate several times per year in meetings at the school. They can give their opinion on the school and talk to the teachers.

Also about 20% of the households is active in a religious committee for the mosque, which can mean that they help to clean the mosque, prepare lamb on special occasions, or to assist the leader on every Friday.

If we compare the study areas, we notice that most membership rates are higher in Guba than they are in Tefo-Tuka. It seems that the advantaged position of Guba, being a Kebele with a market, city and asphalt road, is also reflected in the higher membership rates of divers associations. We could say that the organisational capacity is higher for the case of Guba. Much of this depends on personal initiatives. The only exception are the *Edir* and religious associations, which could be seen as the more traditional forms of association, while e.g. market oriented production association and emancipatory women associations are less traditional.

One day in the field we hear some men shouting at each other. Within no time, there is a group of 8 men gathered around them. They are talking emotionally and point repeatedly at the land. Somebody explains that they have a conflict over the land border after one farmer sees the other ploughing on the disputed area. The neighbouring farmer had contracted the land for a 13 year period from the owner, and this year the contract has finished. But all this time, he had worked the land as if it was one piece, erasing the borders. Now they are arguing about the exact borders. After having shouted a while, they sit down in a circle and everybody gets the opportunity to talk (Picture 1.).

After two hours they stand up laughing and shaking hands; the conflict has been solved. It is a traditional way of conflict resolution, which is called *Sera*. Depending on the strength of the problem, two or three or more people who have a good name and practice in the particular subject, gather to settle the conflict. But before you ask such a person, you have to know him well and be in a good relationship. If you have many friends it will be easier to find mediation in conflicts. First they will talk to the one person, than to the other, and finally with the two parties together, on neutral grounds, e.g. under a tree. It is interesting that this happens without any official Kebele involvement.

Land conflicts do not always have such a happy ending. We talk to a farmer in Guba who said he was in a similar conflict last year. The other person was so upset that one night he put poison on the crop residues, on which his cattle feeds. The next day his animals were dead: 11 cows and oxen, and 7 sheep. This is the worst thing that can happen to any farmer; the destruction of his fortune that took him many years to built up. Now he is only left with one sheep, and a burdened mind.

4.4 Financial capital

Financial capital refers to the financial resources that people can access to achieve livelihood objectives. Besides the regular income from crops and cattle it includes off-farm income. Off-farm income refers in this thesis to all sources of income besides primary crop- or animal production on own or on rented land, without a distinction between non-farm and off-farm activities. Financial capital also includes access to credit systems and the liquid assets such as cattle.

In both study areas, the main source of income is from crop production and to a lesser account from the animals. Almost everybody has a mixed cropping system of which some crops are used for home consumption and other crops are sold at the market. Alaba Woreda is known for its high quality pepper production and this is therefore a popular cash crop that is cultivated by 83% of the respondents. Other well marketable and popular crops are teff and haricot bean that are produced by 93% and 14% respectively. Teff is a popular staple food, but because it gives a good yield per hectare that can be sold for a good price it counts as a cash crop for this area. The real staple foods are maize, sorghum and millet, which are cultivated by respectively 100%, 42% and 35% of the respondents.

Annex B shows an overview of how much people have harvested of the most important crops. It shows that, on average, the biggest part of the harvest is sold, for all crops. A difference between the two study areas is the average production of onion, potato and haricot bean. For onion and potato, the farmers in Guba have much higher production. The reason is probably related to the soil type. The loamy sand soils in Tefo-Tuka are relatively loamy, while the loamy sands in Guba are relatively sandy which favours potato and onion production. The lower haricot bean production in Tefo-Tuka as indicated in Annex B is probably due to more extreme weather conditions. The low surface cover of haricot bean makes it very susceptible to erosion. This is an example of how natural capital is related with the possibilities to grow certain crops that can generate income.

People were asked to give an estimation of the yearly income, this is averagely 51 500 ETB (≈ €2300). Of course this is a difficult question because it is sensitive information. People are hesitant to give the number of cattle they have, also because they have to pay taxes for their animals. But even when they want to give the real amount, it is a difficult calculation because some of the produced crops are used for household consumption. What is more reliable is the proportion of income from cattle, crops and other sources. In Tefo-Tuka 63% of the income came from crops, while in Guba more than 74% came from crops. Only few of the respondents are involved in off-farm activities. Some farmers had a small shop in front of their house. I encountered a man selling pillows made of old sugar bags stuffed with grasses. Some farmers are seasonal labourers, working on the land or on roads, but the respondents from the questionnaire were the mostly the farmers that hire other people for labour or that work on their own lands.

In the combined crop and livestock systems, animals are important not only for income, but for many other things. Table 5 shows the average number of animals that people have in both study areas and Table 6 shows the number of people that keep these animals. The tables show that slightly more people in Guba keep cows and oxen and the ones that do have cattle, have more than in Tefo-Tuka. The biggest difference between the study areas in terms of the number of people that have a certain animal and the average number of animals is found for sheep, and to a lesser extent for horses. More people in Tefo-Tuka keep horses

and sheep, and when they keep these animals they also keep more. In both study areas a similar number of people keep goats, but in Tefo-Tuka people averagely keep one goat more than in Guba. The beehives produce an average of 28 kg per beehive per year.

In First Tuka, when I ask Bergena what is the main importance of his cattle (he has one ox and 2 cows) he says that firstly his cattle make him happy. They are grazing under a nearby tree and he looks indeed with a satisfied face to his animals. In terms of his livelihood, the main importance is in natural fertilizer and ploughing (he works together with his neighbours' ox to have a proper ploughing couple). In good years, his cattle can have one or two calves which he can sell, but this is mostly not the case. Finally, he uses them as a food buffer, buying or selling depending on crop abundance or scarcity. Both cattle and small ruminants function, amongst their other uses, as a bank for the farmers. One time when driving through Guba on a market day, I see a young farmer preparing a cow to go to the market. When I ask where he needs the money for, he explains that he will sell the cow to be able to pay his tuition fee for his study. He is a part-time student marketing in Shashemene, and if he does not pay within the coming week, he will be expelled from the school. He expects that his cow will bring up more than 4500 ETB (≈ €205).

The other way around this is just as common. In harvest time people will sell their crops and buy animals to convert their income into a relatively safe storage. This explains why the staple food maize is sold more than it is used for household consumption. People sell the maize after harvest and buy (small) animals. These animals can be fed with the crop residues, and when the maize stock is finished they will sell the (big) animals. Even though most farmers buy or sell their animals in the same time, creating very high or very low prices, this is the easiest and safest way for farmers in both study areas to deal with fluctuating income.

Table 5 Average number of animals that people own.

	Tefo-Tuka	Guba	Average
Cows + oxen	4,6	6,3	5,5
Sheep	4,8	2,4	3,9
Goats	4,2	3,3	3,8
Poultry	2,8	3,5	3,2
Mule/asses	1,8	1,5	1,7
Horses	2,0	1,7	1,9

In the questionnaire a question was included about access to versus actual use of credit. After some time I found out that my translators interpreted credit as an official service from the government, which is in most cases absent. It was meant to include access to credit from local money lenders and friends/relatives. This leads to a somewhat misleading combination of results showing that people mostly have access to credit, do not actually use credit, and would like to have more access to credit.

In Guba, 58% of the farmers indicated to have access to credit service, for Tefo-Tuka this is only 24%. But only one person in Guba actually used money from a friend to contract land and to buy crops. In Tefo-Tuka, no person used credit. From other, open questions in the interview, I got the impression that it was very difficult to access credit from the government or from NGO's. Officials from the Woreda office confirm that the credit supply has decreased a lot in the last years, because they were not getting the loans back. A big part of the people was unable to return the money; enough reason to stop the provision of loans.

When taken into account the translation issue, less people have access to official credit service, and more people in both study areas can rely on friends or family to loan some amounts of money. A selected head of household in First Tuka explains how he sometimes depends on money that he gets or loans from his father. He only has 0,5 ha of land, making him an easy victim of failing harvest. If the maize harvest fails he has no other option than to go to his father for financial help. The key informant from PIN explains that there is also a traditional credit system, called *Eqob*. *Eqob* is an agreement between a number of people who will collect money from their members and give the total sum to one of them. Every time a different person will be able to make an investment. The Eqob system is a local institution that is also part of the social capital. It is through networks of appropriate relations that people can access this kind of credit, and in that sense these two capitals are overlapping.

Table 6 Number of people that keep animals.

	Tefo-Tuka N=29	Guba N=31	Total
Cows + oxen	25	29	54
Goats	21	21	42
Sheep	24	14	38
Horses	14	3	17
Mules+asses	6	6	12
Poultry	4	6	10
Beehives	10	10	20

4.5 Natural capital

This chapter will introduce some aspects related to natural capital. This natural capital refers to the natural resources like land, water and forests that can be addressed by people to include in the selection of livelihood strategies.

Land, land use and tenure

In a context where grazing land has become scarce and only few farmers are engaged in off-farm activities, land is the most important asset to people's livelihood. Table 8 shows the total land holding and the land use in the sample, which show no significant difference between the two study areas. On average every household has 2,6 ha of land of which 2 ha is under cultivation and 0,5 ha is left fallow. Only one person in Tefo-Tuka indicated to have rented out his land. The same accounts for having a piece of grazing land, but most people rely on road sides, crop residues and small communal grazing lands to feed their animals. Averagely, people have 0,5 ha in sharecropping. This means that farmers from two households make common investments in labour, seed and fertilizer and share the harvest accordingly. The land can be owned by one of the two farmers, or be under contract. That is why in Table 8, the sum of 'own production' (1,7 ha) and 'sharecropping' (0,5 ha) is more than their land in cultivation (2,0 ha).

Farm land is property of the farmers, both men and women. At the agricultural office it was explained that a farmer who wants to pursue agricultural-based activities can receive land through land distribution from the Kebele administration, inheritance, temporarily contracting land, and temporary sharecropping. Most female heads of household holding land were found to be divorced or widowed, and it is unclear whether they can get land directly from Kebele administration. Table 7 shows how inheritance is the most important source of land in both study areas, on average 82% of the respondents mentioned this as the source of their land. Moreover, 7% of the respondents got their land from a combination of inheritance and contracting. When people get married, the wife generally contributes a piece of land from her parents when they get married. Another 10% got their land from the Kebele administration, that registers who owns which lands.

Table 8 Total land and its use per study area.

	Amount of land (ha)		
	Tefo-Tuka	Guba	Average
Total land	2,6	2,5	2,6
Cultivated	2,0	2,1	2,0
Fallow	0,4	0,6	0,5
Grazing	0,1	0,0	0,0
Rented out	0,1	0,0	0,1
Own production	1,8	1,5	1,7
Share-cropping	0,4	0,6	0,5

Table 7 Sources of land and their owners' perception of whether the land is enough.

		Number of farmers		
		Tefo-Tuka (n=29)	Guba (n=31)	Average (n=60)
Obtained	Inherited	23	26	49 (82%)
	Kebele admin.	4	2	6 (10%)
	Inherited + Contracted	2	2	4 (7%)
Enough?	Not enough	21	22	43 (77%)
	Barely enough	7	6	13 (23%)
	More than enough	0	0	0

Compared to other areas of Ethiopia, one could say that the land resources are quite abundant in Alaba Woreda. However, the people from the sample told otherwise. To the question whether the land they have is enough for farmers to fulfil the household needs, no one responded that their land is 'more than enough'. Table 7 shows that only 13 people (23%) perceive the amount of land as 'barely enough', but the majority of 43 persons (77%) perceive the amount of land as 'not enough'. A woman of 56 years in Guba owns 3 ha of land. She explains that if she applies enough fertilizer ánd if there is enough rain, this amount of land is enough. But if one of these two lack behind, it becomes critical. Other explanations point in the same direction: whether land is enough depends on rainfall and fertilizer. With the high chances of a dry spell occurring in the growing season, they have to take into account a significant crop loss and they need to be able to create a buffer for when harvests really fail. Because the fertilizer has become more expensive in the last decades and especially in the last years, it becomes more difficult to grow enough crops to live from. The expensive fertilizer is thus related to a decreased productivity and is perceived as a factor that increases land shortage.

Water

Water is a problematic story in Alaba Woreda. With the only river running at more than 25 km from both study areas, the primary source of water is ground water and surface water. The ground water table is at an incredible depth of 250 to 300 meters, which is inaccessible for individual farmers. Some Kebeles have a ground water pump, but many of them that used to work are now broken. The chairman of Guba Kebele explains that they do not have access to groundwater. There is an electrical pump that broke down more than a year ago after it was hit by lightning. Now the government and the (commercial) electricity company shift the responsibility to each other, leaving the people of Guba to be dependent on other water sources. Surface water comes in two types: community ponds and household ponds.

Table 9 reveals the sources of water –tap water, community or household ponds– that people actually use for different purposes –drinking, household use, animals or crops–. For drinking, half of the people in Tefo-Tuka rely on community pond water. What the table does not reveal, is that these people that drink community pond water are all from Tefo Chofo.

Table 9 Number of households that use a water source for different purposes.

Purpose	Source	Tefo-Tuka (n=29)	Guba (n=31)	Total (n=60)
Drinking	Deep well	14	30	44
	Community pond	15	1	16
HH	Deep well	11	30	41
	Household pond	0	13	13
	Community pond	28	4	32
Animals	Household pond	0	10	10
	Community pond	29	31	60
Crops	Household pond	0	10	10
	Community pond	24	22	46

Figure 7 gives an indication of how people perceive the sources of water they use in terms of quality and quantity. For the ground water deep well all respondents find the quality very good, but the quantity on the other hand scores the lowest of all. For household ponds only people in Guba have experience and they were the only ones to give their opinion, that ranged between medium and good.

In Tefo Chofo there is no ground water pump, so if people want to drink pure water, they need to travel long distances. A selected household in Tefo Chofo explains that she sometimes gets water from Konicha Kebele, this takes four hours. Mostly she goes to Firs Tefo, which takes 'only' one hour but is less reliable. Good drinking water is a serious problem in this region, she explains. From their own initiative, people started to collect money to enable the Kebele management to install a pond. A total amount of 8000 ETB (a good 350 Euros) was collected in a two year time. With this family they contributed with 20 ETB, which is almost 1 Euro. But so far, nothing has happened.

There are also several more traditional ways of collecting rainwater. People collect or simply use rainwater that is concentrated around the roof of their houses (Picture 3). First it falls on the compacted soil, after which they collect it in all kinds of plastic cans. This water is used for washing clothes, cooking, and other household uses. They also use the water that is collected in existing holes when it has rained, that may be natural or manmade holes. Picture 2 shows a woman fetching water from a hole that was made to build a living fence around a field. The women explains that she will use the water for drinking. The alternative source of water, community ponds, are of less quality because the water has been in the pond for months, and has been troubled by animals. In most Kebeles, including those close to the river, it is a common sight to see people fetching water from pools near or on roads after a good rain.

Picture 4 shows a woman who has dug a ditch to divert the water that normally follows the road. It leads into a small pit that she has made because they are going to make new walls in the house. For house construction a lot of water is needed, so this is done in the rainy time. According to key informant Antana, people have a special technique for collecting and filtering water for drinking. In areas that have a sandy soil, people dig a hole of not more than

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one meter deep. From this hole they can fetch water that is relatively pure because it is filtered by the sand. Up to one week after a good rain, the water will have seeped away.

After community ponds were promoted, people start imitating the idea and make small holes for all kinds of uses.

These water sources differ in their quality and also in the time that they are available and the quantity of water that they give. Figure 7 shows how the interviewed people perceive the quality and quantity of the 'arranged' water sources, that is the deep well, household ponds and community ponds, for the different study areas. The water quality for the water from the deep well that pumps up the ground water is very good. But we can see that the quantity is not good. People explain that when there is water available there is not enough water per person. This is because many too many people depend on too little pumps. But more importantly, the pumps are not always giving water. In the dry times the water table is too low and the deep well will not give water. For all the three water sources it is the same story: in big parts of the dry time there is not enough water. This has huge consequences for the livelihood practices, because people have to walk long distances to Alaba Kulito or to the river. This time cannot be used for working on the land or for income generation.

The area has no forest cover, except for individual acacia trees and some small plots of Eucalyptus that can be found throughout the Woreda. For example the case of Aguda in Guba. We encounter him the first time with an axe over his shoulder, stepping on his bicycle. This morning he is chopping a plot of eucalyptus trees that he had planted 10 years ago on one of his fields, one kilometer away. When some of the trees are cut, they are put on a donkey cart and transported to his home, where he smoothens the wood and removes the bark. After the trees are cut, he will plant new trees, cover them with the branches to protect them against animals, and when the rain comes they will grow fast in a short time.

After one month he plans to start the construction of a new house in Kataman, close to Guba town. It will become a square house, contrary to most houses in the area that are round, and now he is making the preparations.

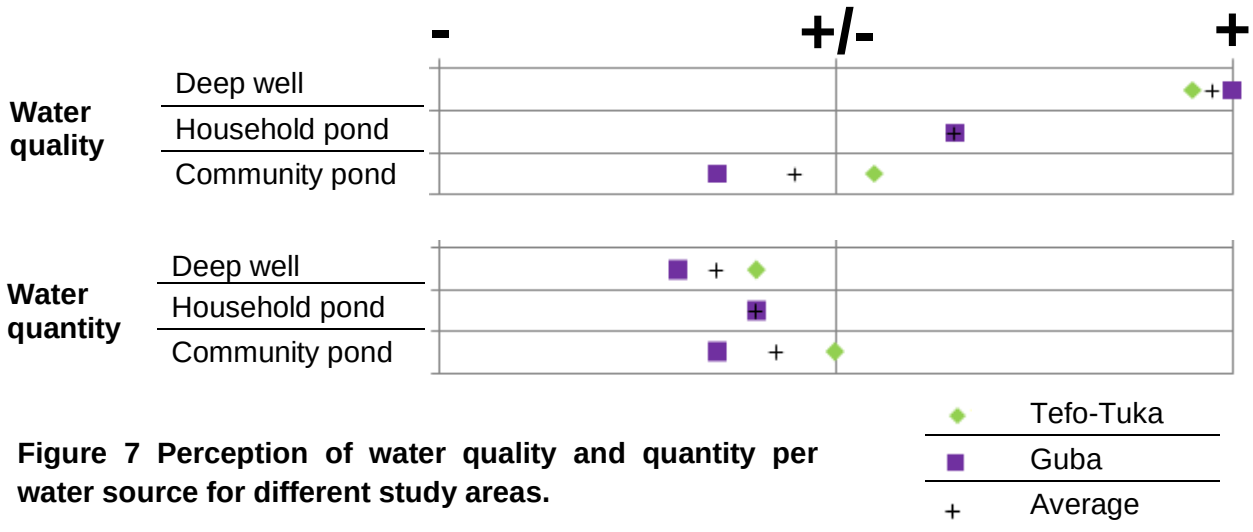

Figure 7 Perception of water quality and quantity per water source for different study areas.

4.6 Physical capital

Physical capital is a difficult chapter to treat as a separate class of assets. Originally it includes the basic infrastructures and production goods necessary to support livelihoods and pave a way for the livelihood strategies. This can include, and in this chapter it will include, the access to and functioning of roads, schools, health centres, electricity networks, access to a market, adequate housing and provision of adequate water and sanitation. If we look at this list, these factors can all be linked with other assets, but still it is believed that this perspective adds to the understanding of the possibilities and limitations for livelihoods in the area simply by looking at 'what is there'.

Access to public services

To begin, Table 10 gives an indication of the average distance that people live from a list of basic public facilities and services. Some respondents gave the distance in minutes, others in kilometres. For the people who answered this question in minutes it was assumed that one kilometer equals 15 minutes of walking. The table shows that most people in both study areas have their fields next to their house, and that there is a community pond at a distance of 1 km. For all other elements in Table 10 it counts that people in Tefo-Tuka live further away. This is the case for education and health centres, although the difference is not big. This difference is bigger in the case of access to markets where Tefo-Tuka is at 10 kilometers from Guba market, while people in Guba are at an average of only 2 kilometer. Guba is only a minor market. The big market is in Alaba Kulito, where also other necessities are found. This is at an average distance of 17 km from Tefo-Tuka, and at 14 km from Guba. The river is even further than Alaba Kulito, but a necessary source of water in the dry time. Although Guba does not have a functioning well, they do have access at an average of 2 kilometers in neighbouring Kebeles. In Tefo-Tuka the well is at an average of 9 kilometers, and because First Tuka does have a well, this high average is caused by the very low access to well water by the people in Tefo Chofo. Finally there is the distance to the asphalt road at 7 km for Tefo-Tuka and at only 1 km for Guba.

Table 10 Estimated distance to public facilities (km).

Distance to (km)	Tefo-Tuka	Guba	Average
Asfalt road	7	1	4
Primary school	2	1	1
Health centre	2	1	2
Market	10	2	6
Well	9	2	2
Pond	1	1	1
Bilate river	20	16	18
Fields	0	0	0
Alaba Kulito	17	14	15

My translator Semeru works in the construction business. A good friend of his tried to set up a business in Beshano, close to Tefo Chofo. Four years ago he started, with good hope, because it seemed a good time. There had just been built a high school, the second of the whole Woreda, but it was very challenging to get his material supply working. It is far away from the river, a source of stone and cement, and from Alaba Kulito. His business stopped two years ago and the only reason was that the road was not good enough to support his plans. Semeru concludes: “This is why nothing really changes in places like Tefo Chofo. People try it, but it all starts with good roads to support the new activities and initiatives.”

From the 60 households in both study areas, only 12 people had access to electricity. Three of them in Guba, the others in First Tuka, but they all complain that the electricity flow is not reliable. However, for most people electricity never comes closer than in Picture 5., where the high voltage network from Alaba Kulito to Shashamene is only a hindrance for ploughing the land. It was asked whether people had access to storage facilities, either personal or communal. This was the case for 17 households. This doesn’t mean that the others don’t store anything, because most households also store some crops in their houses. There was one household with a motorcycle, which is a very exceptional case. There were four people with a donkey cart. Such a cart can hold approximately 1000 kg and is very important to carry people and goods to the market, to transport the harvest etc. They are sometimes shared with other people, or people pay to get a lift to another area. People who had a concrete household pond were also given an iron water storage tank and a foot pump, together with drip irrigation hoses. However, the iron tanks were leaking after a few years and the pumps had already been broken. Most people indicated to have a radio and a cell phone. Nobody had access to internet and only one household in First Tuka had a television.

The community and household pond water is natural capital, but the structures should be considered as physical capital as it is the structure that enables water harvesting. In both study areas, there are around 20 community ponds. In Guba there are around 30 individual ponds, of which half are made of concrete, and the other half used to be plastic ponds (estimations of Kebele Chairman).

4.7 Vulnerability context: shocks and threats

This section illustrates the most important stresses that farmers in the study area have to face. There are structural threats to livelihood stability like hunger and illness, but there are also seasonal shocks like an extreme shortage of rain or flooding.

With crops being the most important source of income, it is good to see what influences yield losses. Table 11 summarizes the estimated percentage of crop loss and the causes for the two study areas. Crop loss is estimated to be 33% in Tefo-Tuka and 40% in Guba. The most important factor mentioned to influence a reduction of harvests is drought (80%), crop diseases (55%), and 'other causes' (17%). With 'other causes' people most often referred to the lack of fertilizer, or to fertilizer of bad quality. A remarkable thing is that this area is subject of the flooding-drought paradox, as illustrated by the following experience with Medina in Tefo Chofo.

Since the last time that I visited Medina, more than three weeks ago, it has not rained a single time in Tefo Chofo. Until a week ago when there was a promising rain, which allowed her to do some ploughing and weeding and gave new hope, but this rain stopped. Until four days ago, a very intense hail storm did more damage than it did good, she says that it was the most intense hail storm that she can remember. Last year there was no ice, two years ago there was also ice but not so intense. The next day it continued with normal rain in big quantities. There was so much water that it entered in her house; seven small chickens that she kept in her house died. The next day, neighbours helped her to dig a ditch around the house to drain the water away.

Besides that the water entered her house and her chickens were dead, most damage is to the crops. The beans were already weak after the dry time, that caused a loss of 50%, but after the ice she expects a loss of 80% compared to a good year. For the maize about two-third is lost after the dry time and the ice. Where you can harvest 3 ton/ha in a normal year, she counts on a maximum of 1 ton/ha. But she says that it depends on the coming week whether this will be translated in highly reduced harvest or only partly reduced harvest. If there is good rain in the coming week, it can probably recover partly. If it is followed by a dry time, the plants will die because they are very weak. Her pepper seedlings are no longer

Table 11 Percentage of crop loss and proportion of respondents that mention causes of crop loss.

	Tefo-Tuka	Guba	Average
Estimated crop loss	33%	40%	36%
Shortage of rain	72%	90%	80%
Crop diseases	41%	71%	55%
Other causes	13%	19%	17%
Too much rain	14%	13%	12%
Weeds	7%	16%	10%
Hail storm	14%	6%	8%
Locust and insects	10%	6%	7%
Bigger animals	7%	3%	3%

Table 12 Percentage of respondents to include a particular event in their "top three problems".

	Tefo-Tuka	Guba	Average
Land shortage	66%	61%	65%
Schooling	37%	52%	47%
Drought	42%	29%	37%
Poverty	32%	39%	37%
Death of family member	30%	26%	30%
Low harvest	21%	26%	25%
Illness	17%	13%	17%
Hunger	14%	13%	15%
Degradation of Natural resources	7%	16%	13%
Flooding	11%	13%	13%
Unemployment	10%	3%	8%

worth the effort of planting, it is a 100% loss mainly because the dry time lasted too long, but also because the remaining plants were crushed by the ice. It is too late in the season to make new seedlings, because she needs the land after a few weeks to sow wheat or Teff.

In the description of Alaba Kulito, Wikipedia describes how an extremely heavy hailstorm in August 2005 caused damage together with local flooding. “Eleven people were killed by the hailstones while two were drowned in the flooding; several livestock were also killed. Damage included up to 2 555 hectares of crops, and the roofs of many houses.” (Wikipedia, 2009). A farmer in Tefo Chofo shows me the signature that the recent storm a few days ago has left in the plants (Picture 6).

When I visit Bergena in First Tuka he tells a similar story, be it less extreme than in Tefo Chofo. The sky is clouded and the wind makes it even a bit cold on the motorcycle. Bergena expects that it will rain in the afternoon or tomorrow. This is really good news, at it has been dry for more than three weeks now. When I ask whether this drought is already resulting in damage of his maize or beans, he answers that he estimates that his bean yield will be half of last year’s. At that time it was four quintal (local unit, equivalent to 100 kg), now he expects two quintal. On the picture (7) you can clearly see the difference in colour caused by the water shortage. Although most of the plants will survive, the harvest will be significantly be reduced. Rajuna in Guba shows how her fields have been affected by soil erosion after a heavy rain. It does not only cause short term crop losses (Picture 8), but also fertility losses in the long term.

Table 12 shows how these problems relate to other important livelihood threats and limitations. People were asked to select a ‘top 3’ of most important problems from a list. The problem that 65% of the respondents include in their top 3 is land shortage. From the remarks it becomes clear that land shortage is a relative term, related to (money for) fertilizer, rainfall and (money for) farming equipment. Second with 47% is schooling, referring to low quality of education, the availability of especially higher grades, the lack of tables and chairs or a high school fee. Poverty and drought, being selected by 37% of the respondents, share the third place, Poverty is related to being able to afford agricultural inputs, but also to buy cloths and enough food. A relatively small problem, surprisingly in a context that is challenging for agriculture, is unemployment with only 8% of the respondents that include it in the top 3.

5 Rainwater harvesting ponds in Alaba Woreda

In Alaba Woreda, the ground water level is at 300 meters deep. In both study areas only one Kebele had a functioning water pump to access the ground water, and the only permanent river is at 15-25 km away. In such a context, the rainwater harvesting ponds become very important for the livelihood options that people have as it creates possibilities but also delineates some limitations. Rainwater Harvesting ponds are present in the area in different types and shapes. The community ponds are dug and used by communities of more than 200 people, they have no cover or layer to prevent seepage, but can still hold a lot of water. The household ponds are smaller and sometimes have a roof structure or not, they may have a concrete or a plastic bed or have an earthen bed like the community ponds.

Two aspects are covered in this chapter. It describes the processes around the construction of the different types of ponds and their technical specifications, how many were constructed, why and by whom. It also describes the practice and actual use. Who is getting water, for what purposes and what does it mean for the users to depend on RWH ponds, what are the possibilities it creates for their livelihoods and what are the perceived difficulties?

5.1 Household ponds

In Alaba Woreda, there are basically three types of RWH household ponds: concrete, plastic and earthen household ponds. They are discussed below based on observations, the questionnaire and the interviews at the Alaba Woreda office. The last give insight in the number of household ponds that have been constructed in the past years. It is all second hand information, as the officers that were responsible at that time are working in other places, and there is practically no paper archive. But it gives an idea of the number and types of ponds, how they are used in every day practice and how they influence livelihood options.

Concrete household ponds

Concerning the concrete household ponds, Woreda officials explained me that the key stakeholders were the regional government and the NGO project *Sasakawa Global 2000*. They worked together in the year 2003 (1995 E.C.) on the construction of concrete

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household ponds, sometimes called cemented ponds or cisterns. The ponds constructed by the NGO project Saskawa Global 2000 were only done by selected model farmers. What it means to be a model farmer was not traceable, but it was meant as a pilot for future up scaling. Development agents advised on the ponds dimensions and the location and the people and their families contributed the labour involved in digging the pit. Once this was finished, the Woreda office provided the concrete for free. The intended purpose was "for crops only" as the responsible Woreda officer explains, and households were also provided with storage tanks, manual pumps and drip irrigation tubes. In some cases, the construction of the concrete pond went together with the construction of a cattle trough and the provision of a cow and an ox.

The NGO project *Sasakawa Global 2000* constructed a concrete sedimentation pit with exits to both a trapezoidal shaped and an ellipsoidal shaped pond which were also covered with corrugated iron (Picture 9). The ponds constructed by government were trapezoidal without a cover (Picture 10). All officials at both regional and Woreda level assume that these household ponds have a capacity of 60 m^3. However, own measurements in four ponds at two households in Guba reveal that although the design is the same, the dimensions can differ substantially from one pond to another. When comparing two ellipsoidal ponds it was found that one had a capacity of 121 m^3 (resulting from a circumference of 24 m, and a depth of 4 m), while the other had a capacity of only 54 m^3 (resulting from a circumference of 19,5 m, and a depth of 2,7 m).

The government has invested in concrete household ponds, which looked like Picture 10. A total of 198 concrete household ponds were constructed, equally distributed over the 27 Kebeles. The Woreda officer recalled that in First Tuka there were 4 households that were given a concrete household pond, but for Tefo Chofo he didn't remember. In Guba he estimated also a number of 4 households, but I have visited at least 8 households with a concrete household pond. The officer explains that back in that time, around the year 2003, the regional agricultural office in Hawassa put high priority on rainwater harvesting projects. Nearly 4000 household ponds were dug out which were supposed to be cemented later. However, only 10 000 quintal (1 000 000 kg) of cement was delivered which was only enough for the 198 household ponds.

How are the household ponds actually being used? And for what purposes? The first thing that is observed around all type of household ponds, is that there are often many people that use it. A widowed woaen in Guba that was interviewed has a concrete household pond. She shares it with her sister who lives five minutes away, with her other sister that lives ten minutes away, and with about four households that live around her. This means that one 60 m^3 pond is used by more than 30 people. Household ponds, sometimes referred to as "family pond" or "individual pond" are actually small community ponds.

Jadisso, who lives in Guba explains the difference the pond has made for their lives. "Before we had the concrete household pond, that is before 2004, the main source of water was the community ponds in the rainy time and the Bilate river in the dry time. In dry times I regularly had to skip school to take the cattle all the way to the river and back, which takes a while when the river is at 16 km distance. But the government has been investing in agriculture and it is much easier in this time. Most important is that we have our own water source. We use it a lot and it is very important for us to grow onion, enset, coffee, avocado and for the cattle in the dry times. The pond is only dry for maximum of two months."

People with a concrete household pond face some new tasks and responsibilities. One time when I come to interview a farmer just after it had rained a few days, I see that his concrete household ponds are empty. He explains that he has just finished the maintenance by digging out the sedimentation pit and repairing the wooden roof structure that supports the corrugated iron (Picture 11). Because the carpenter who was hired cannot swim, he had to close the inlet of the ponds for a while and make sure that the water was low enough. It cost him a total of 800 ETB (≈ €36) consisting of 400 ETB for the labour and 400 ETB for the wood and nails. This, however, is an exception. Most of the observed roof structures have not been maintained since their construction and the wood that should support the corrugated iron was at least partly collapsed. But most ponds don't have a roof structure at all.

Picture 12 shows a farmer in Guba who is de-silting the sedimentation pit. This is the result of a single erosive storm, and he empties the pit a few times per year. Moreover, he de-silts the two concrete household ponds every year. He uses the dirt that comes out on the lands, because he thinks it is good fertile soil. So the household ponds don't only harvest water, they also harvest fertile earth that was washed down the upslope fields. In this way he can compensate a bit for the soil losses he suffers due to runoff on his own land.

The concrete household ponds were built with the goal to support small scale irrigation. From the interview held under 30 respondents in Guba of which 8 households (27%) had a concrete household pond, it becomes clear what crops are being irrigated. Figure 8 shows that all people with a concrete household pond irrigate cabbage and pepper, and most of them irrigate coffee, banana, enset and papaya. Some of them indicated to have irrigated onion, potato, avocado, mango and chat. The figure shows that a small percentage of the people without a concrete household pond still irrigate some crops. They use the water from community ponds to do this, and it is mostly limited to cabbage, pepper seedlings and some carrot. Where people without household pond can only produce for household consumption, farmers with a concrete household pond were actually producing for the market (Picture 13). Another farmer with a concrete household pond in Guba explains that he doesn't use it for irrigation at all, because his land is sandy and not very fertile. The roots don't keep the water

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very well, so in that situation he would be a foul to poor the water on the ground.

Besides the use for crops, the water is deployed for household uses. From two farmers in Guba, both having a concrete household pond, its was asked to keep track of the number of jerry cans fetched from the ponds during a five week period. Both ponds were used by three households. Daily water uptake varied from 2 to 14 with an average of 7 jerry cans per day (with a content of 20 liter each). In five weeks, a total of 3,7 m^3 per pond was fetched. This water is used for washing hands, washing clothes, and cooking. It is also used for the animals. A key informant tells me that it happens that people with a concrete household pond actually sell the water directly. Indeed I find a farmer who explains that he sells water in times of water scarcity, because his concrete ponds keep the water for a longer time than the earthen community ponds and he can make a direct profit.

In the questionnaire, people with a household pond of any kind, were asked to value the quality and quantity of the water. For quality, respondents gave an average of 2,3 out of 3, that is between 'medium quality' and 'good quality'. Especially the ponds with a roof structure find that their ponds are of good quality. Ponds without a roof structure were in most cases valued as being of medium quality. But for all household ponds it applies that the water is not contaminated by animals entering the water. For quantity they gave an average of 1,8 out of 3, that is between 'bad quantity' and 'medium quantity'. The people with a plastic or concrete household pond indicate that there is only 2 months without water, while for earthen ponds this is almost 5 months. That explains the negative valuation of the water quantity in household ponds.

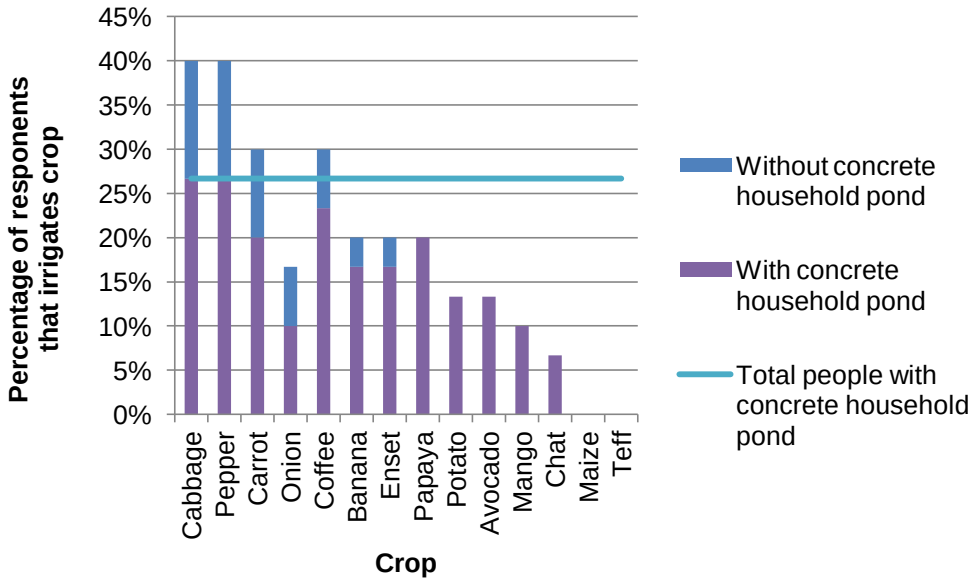

Figure 8 Percentage of respondents that irrigates different crops.

Plastic household ponds

The Woreda office has been involved in the distribution of geo-membrane plastics to prevent seepage losses (Picture14). This was a relatively cheap alternative for the costly concrete and as far as implementation is concerned it was much easier, as it requires less technical expertise. The efforts to construct plastic household ponds started in 2004 (1996 E.C.) with the installation of 35 ponds at selected model households. In the next year, nearly 2000 geo-membrane sheets were distributed throughout the Woreda. The year hereafter (2006) only 400 plastic household ponds were installed. The officer estimates the number of plastic ponds installed in First Tuka to be 80, while the estimated number for Guba is 30. Again, there is no information about the number of geo-membrane sheets supplied to Tefo Chofo.

The SNNPR regional agricultural office, located in Hawassa, confirms this reading. Although there was no data available for the zones and Woredas in this Ethiopian region, they could provide me with a table which is given in Annex C. It shows how many household ponds ("family ponds") and community ponds were constructed in the past 8 years in the whole SNNP Region. This can refer to both plastic and concrete household ponds, and it shows that the numbers of installed household ponds gradually increases from 245 in 1996 (2004) until 51 630 in 2007 (1999 E.C.). Than the number drops to 806 to continue with a quite similar gradual increase to 30 534 in 2011 (2003 E.C).

The responsible officer at the regional agricultural office explains that there was put big effort in getting RWH working in the whole country and also in SNNP region. He speaks of a 'campaign', in which little research and reflection was done and as many ponds as possible were installed. After four years they cut back the investments because the implementation process did not go in a satisfactory way; 'that campaign was a failure'. The following increase in achieved household ponds, as observed in the regional numbers, seems to have occurred in other zones and Woreda's than Alaba Woreda. At this time, Woreda officers explain, there are no household ponds being constructed because the concrete is too expensive, and the plastic 'is too fragile and breaks after one or two years'.

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While the Woreda office told me that hundreds of geo-membrane sheets were distributed, I do not see them in the field. That is when I set off on a quest to find a working plastic pond. It takes me to Hansha Kebele, where probably the only three functional plastic ponds in the Woreda can be found. Despite a dry time of almost a month, the plastic ponds were holding some water, while other concrete and earthen households ponds that we encounter on the way were all empty. The owners explain more about the background and about how it has changed their livelihoods.

“We have two plastic ponds, one was installed four years ago and the other six years ago. We dug it out with the family members, which took two months per pond and the plastic was entirely sponsored by the Kebele office. They supported the installation of more than 150 ponds for farmers in the Kebele, but at this time only we and our neighbours still have our plastic pond functional. The others? They have sold the plastic, we know many people who have sold the plastic, but it is not smart to do it. In one pond, the plastic is broken on the corners, this happened last year when hyena’s entered the pond to get water. But still it is keeping water pretty well. Every year we dig out the sediment. We use the water for coffee, banana, cabbage, pepper, carrot, onion, cattle grass and for the small papaya trees, but also for household use.”

This story sheds a different light on the time that plastic can be used, even when it is torn in the corners. Some people that say “the plastic never came” probably mean “I have sold the plastic”, and others that say that “the plastic broke down” mean “after a while I found a better way of using the plastic”. The other household with one functional plastic pond give another, but similar story:

“I have one plastic pond. As you can see, the plastic it is a bit torn in the corners. This happened when hyenas entered the pond, but the bottom is still good. One time I found a dead fox inside, but I never had accidents with my animals. It was installed six years ago by the Kebele office. We dug out the pond with our family, for 10 people it took about one month. We use the water for cooking and washing, and also for crops. But I find it difficult to use it for crops, because nobody explained me how to do it. There is enough water, but I have never got any training on how to use it. I only use it for the pepper seedlings and for my coffee plants. Last year, her neighbours explained her how to use cuttings to make new coffee plants.”

The plastic that covers the pond surface is worth a good amount of money. People that are involved in the selling or buying of plastic are avoiding any question about the price. They mostly give reasons like this, in many variations: “I got the plastic from a friend, it was a gift, I don’t know where he got it from”. This is logical, as it is an illegal thing to do. Other people say that the normal price is 2500 ETB (≈ €115). For a family with two such household ponds, one can imagine the temptation to sell it. The following story from a farmer in Tefo Chofo introduces some other elements related to the plastic ponds:

“The experience that I have with plastic for Rain Water Harvesting is that my father had one. His pond was installed 6 years ago here in Tefo Chofo, but three years ago it broke because hyena’s entered the pond. At that time, the Kebele gave this for free, so it is a good profit if you sell it. The price is 7000 ETB (≈€320) for a big piece of plastic. This is not the official price, but only what I know from other persons. I know of a farmer in my families area who has bought several pieces of plastic to use it for irrigation. He paid 7000 ETB for several

sheets and now he produces all kinds of crops. I know from other people that got a plastic sheet but didn't use it for several years. Instead, they stored it in their house and now they can sell it for a higher price than they could a few years ago. People are very clever."

With that last statement one can easily agree, at least to the point that people are creative. From this fragment we see that some people use it indeed for irrigation, and actually buy others' plastics to extend their RWH capacity. The practice of selling the plastic could easily be seen as a typical example of short-term thinking. However, this story suggest that some people don't sell it directly, but store it in their house for several years without using it. After that time the price has gone up and the governments attention is less, so it is easy and profitable to sell it.

To conclude this section about the practice around household ponds, some pictures are given on the next page. These pictures illustrate the many alternative uses of the plastic that was meant for water ponds. Picture 15 shows two houses with a plastic sheet as cover. The left picture shows a house where the plastic was of good quality and very much intact. It was fixed on top of the old roof, and firmly attached in all directions. Although the owner claimed that it was "a gift from a friend", it was probably bought for this purpose. The right picture shows a house where the plastic is provisionally put on top of the walls. The plastic was old and had many small holes in it, and the woman who lived there used it as a makeshift, a temporary solution for an acute problem. I visited her after an intensive rain, and the floor inside her house was soaked so it was not an effective roof. She said that she got it from her brother to help her after her roof collapsed.

Picture 16 shows how a piece of geo-membrane plastic serves as a cover, a wall. The left picture shows a piece of plastic around the toilet. This plastic comes from the father of the owner who had an individual pond, but it was broken because of hyena's entering. The right picture shows how a piece of plastic is used in the construction of this shop. The owner is Aguda, who has an earthen pond that used to be a plastic pond. After one year the plastic had some holes so he removed it and found some other uses.

Picture 17 shows how the plastic is used to treat or temporarily store harvest. The picture on the right shows the treatment of maize, which is necessary to separate the grains from other particles, also for most other harvested crops. This is impossible to do on the soil, so some kind of bottom is necessary and is found in the plastic. The other picture shows that dried Eucalyptus branches are being dried, and protected against the rain by the geo-membrane.

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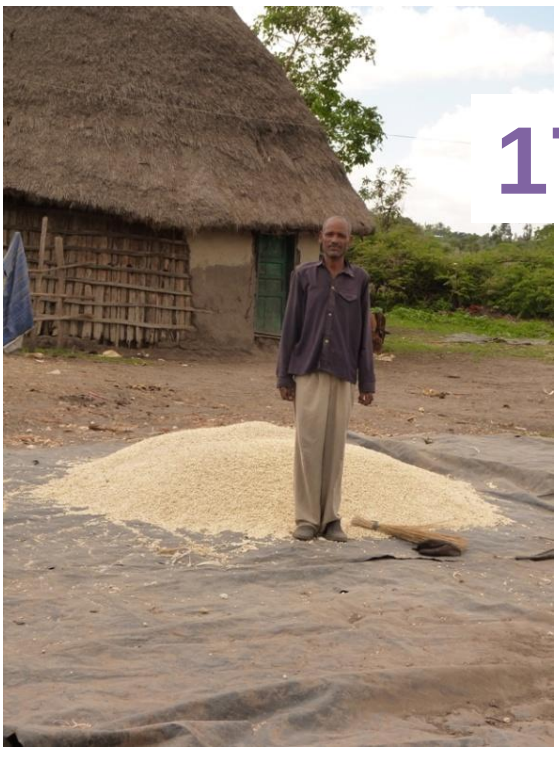

17.

Earthen household ponds

The concrete household ponds were a relatively rare sight in the Woreda. Most common was the earthen household ponds, which is basically a pit in the soil that is not covered with a waterproof material to prevent seepage. This type of pond can be found throughout the Woreda, but the Woreda officer explains that these are not as such supported by the Woreda. There are several reasons why the earthen household ponds can be found so abundantly. First reason can be that the concrete or plastic that was promised simply never came (Picture 18). We already saw that 4000 pits were dug out, but only 198 concrete household ponds were installed, which leaves a lot of 'earthen household ponds'. Another reason can be that the pit is the remainder of what once was a functional plastic household pond (Picture 19). When the plastic is broken or sold, there is only the pit that remains. Another reason is that people, from their own initiative, imitate either the successful community ponds or household ponds.

An example of how an earthen pond comes to being and how its meaning changes over time can be found in the lands of Rajuna. The first time that I visit Rajuna I ask if I can see her land, and we are soon walking through the chat, coffee and maize plants. She lives at about 200 m distance from a community pond, but to my surprise we find another big pond which is entirely located in her land. She explains that about 20 years ago she made a household pond together with her husband. There had been several years of serious water shortage and there were not a lot of community ponds in that time. It worked so well, that the people from the neighbourhood came to use the water. Together with them, they made the pond bigger to capture more water. In this way, it became a community pond. A few years ago, new community ponds have been constructed in the near area with better water quality. Now people don't use her pond anymore, so now it is a household pond again.

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How earthen ponds are being used and how valuable they are, is illustrated in the following two stories of Bergena from First Tuka and Aguda from Guba.

Bergena: “This is small pond, there is no water in it now. It is only holding water in the rainy time, when I use it together with four other people. It was installed 7 years ago by the Woreda office, and they promised to give plastic to cover it. But no plastic was supplied, only a few farmers in the area did actually received the plastic. But still I can use it, after it has been filled up during the rains, the water stays in it for about one month. I have never maintained the pond in the past seven years and it is still working well.”

Aguda: “Seven years ago my pond was made. The Woreda gave me information, selected the site and measured the dimensions after which I dug out the pond with 9 other people. It took us 1 month to finish it. When we were finished an NGO supplied the plastic sheet to cover the pond bottom. We were really happy with it because we could benefit from it for irrigation, livestock and for household use, for more than 10 people. In this first year, water could stay in the pond for a period of 4 months! However, after 1 year the plastic broke down. Without plastic, the water can only be captured for two weeks after a good rain. Now we use it not anymore for crops, but for cattle, washing clothes and cooking.”

Bergena did not mention that he had such a pond in the first questionnaire, it was only after a visit that I find out. It seems that he doesn’t consider it to be a ‘real’ pond without the plastic, and he doesn’t attach too much value to it, although he uses it when he can. Contrary to Bergena, Aguda and his family have tasted the fruits of a functioning water pond. They have benefited from it for one season, and being a very active person, he has used it intensively. But then the plastic broke down and he hasn’t used it or fixed it ever since. Aguda claims that he has tried to buy a new plastic sheet, but that it is not available. Bergena suspects that there are many plastics in storage at the Woreda office, but that they don’t supply them anymore.

The plastic and concrete household ponds are considered to be ‘real’ ponds, and they seem to be a pool of capabilities, increasing livelihood options. The plastic ponds were not found a lot, because the people apparently found other uses more important than harvesting water. The reason of this massive policy failure is however unclear. It is probably a mix of multiple causes. It is sure that the top-down approach of implementing plastic ponds was not adding to the success. People sometimes did not want it because it is ‘from the government’. Moreover, the expensive plastics were given for free. Without own investment there was little incentive to take good care of it. From the perspective of capabilities it could be said that the RWH project was mainly bothered with achieving the implementation of a minimum number of ponds. The implementation of ponds is investing in achievements rather than capabilities. Rather than setting an enabling environment in which people can choose to adopt RWH technology, the choice was already made. But still it is difficult to understand why the plastic has been sold at such a massive scale.

5.2 Community ponds

The community ponds in Alaba Woreda have a much longer history than the household ponds. This section will first introduce how community ponds can come to existence and secondly what they mean for everyday life. Important sources of information in this regard are the observations made during three visits of community ponds in the study areas, the questionnaire and interviews with key informants at NGO's and government offices.

Construction and chronology of community ponds

In 1977 the NGO Food for the Hungry started with food for work activities in Alaba Woreda, which included the construction of community ponds. According to key informant Antana it is around that same year that plastic jerry cans that are a common sight in the region, were introduced. Before that time, households did not have plastics to fetch water and used leather. In the questionnaire held under 60 households, people were asked to estimate the age of the community ponds that they use (Table 13). In Tefo-Tuka, 15 out of 23 people indicate that the community ponds they use are younger than 10 years, for Guba this is the case for 10 out of 25 people. There are three people in both study areas that estimate the age of the community pond at more than 30 years. My translator explains that some respondents associate the age with the regime that was in place. Because some community ponds were made under the Derg regime that ruled Ethiopia during 1974-1987, such ponds were at least 25 years old (Picture 20).

Now, construction and maintenance of community ponds are the shared responsibility of the Woreda agricultural office and the Safetynet program, with the occasional financial support of an NGO. The productive Safetynet program is active in 45 selected Kebeles that include First Tuka and Tefo Chofo, but does not include Guba. The program consists of direct support and public work. The community pond construction and maintenance is part of this public work. The plan for 2013 speaks of 42 386 m^3, distributed over the 45 Kebeles. The responsible for the Safetynet program at the Woreda office could not tell exactly how many ponds have been constructed in the last year. For the other Kebeles, including Guba, the Woreda agricultural office is responsible. The initiative for making new ponds or for the maintenance of old ponds can come from either the people in the Kebeles or from the office.

Table 13 Estimated age of community ponds.

Age	Tefo-Tuka	Guba	Total
<10	15	10	25
10-19	5	8	13
20-29	1	6	7
>30	2	1	3
Total nr of estimations:	23	25	48
Average age:	10 yr	14 yr	12 yr

20.

The Woreda Natural Resources officer, estimates that the total number of community ponds in Alaba Special Woreda is more than 200, with an average of 3-5 community ponds per Kebele and they strife for a minimum of two community ponds per Kebele. The chairman of First Tuka estimates that there are more than eight community ponds. The chairman in of Tefo Chofo estimates the number of community ponds to be nine, and in Guba there are more than 16 community ponds according to their chairman. The manager of FHE informs me that they have constructed 8 community ponds in the last five years, they de-silted another 3 and 3 more are still under construction, of which one is located in First Tuka. Sometimes, people make a community pond from their own initiative without institutional interference. In Guba people tell that they have started and finished the construction of a new community pond from their own initiative. Most of the work was done with their own labour, but they also hired an additional 50 paid workers from their own money.

At the Woreda office, the Natural resources officer explains more of about the construction of community ponds. These community ponds are dug manually by the people of the community themselves, where men and women equally participate in the digging. On average it takes 200 people 30 days to manually excavate the community pond, resulting in a capacity of around 4000 m^3. Most often they get paid a modest amount of money (for 2012 it will be 14 ETB) per day worked, and in the planning it is assumed that one person can move 0,5-0,75 m^3 earth per day. That means that the costs for constructing a community pond are about 70 000 ETB (≈ €3 350). NGO's that construct community ponds as part of their project, like Food for the Hungry Ethiopia (FHE), generally follow the same approach as the Woreda government.

Picture 21 shows a recently excavated community pond in First Tuka, as part of FHE project. It shows small steps, so that people can descent easily when the water table is low. The excavated earth is piled up around the pond on which a living fence has been planted to keep away the animals and children. The water comes from the nearby road, which gets its water from the neighbouring fields. The water passes by a sedimentation pit before entering the pond, to prevent fast sedimentation. Most people tell that it is capable of keeping the water for up three or sometimes four months after the rain stops, but this varies according to

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rainfall patterns and permeability of the soil. Picture 22 shows a pond in Guba that was very important for the people in the area. But the walls around the pond were aged and they broke down during an intensive storm. The community hired workers and together they repaired the walls and dug out the sediment. But they dug too deep and apparently pierced an impermeable layer. Since that day the pond only captured the water for one week after it is filled.

Practice and use of community ponds

The community ponds are a place where thousands of women and children go on a daily basis. The reason why they come there, is because the water is for free and close to their house, or in other words: they have good access to this water. But we will see that community pond users also experience difficulties with the water quality and quantity. First let us explore who are actually using the community pond water. Three days of observations at community ponds in Tefo Chofo, First Tuka and Guba give insight in the people that use them and where they use the water for. These three cases are described in the text and figures, illustrated by pictures and then compared with each other.

In Tefo Chofo a community pond was visited on Tuesday June 5th. On that day a total of 43 unique persons came to the pond to fetch water, of which 7 (16%) were young boys with an estimated age of six years old, and the other 36 (84%) were women. The people visiting the pond were asked some simple questions of which the answers are summarized in Table 14. It shows that the average time that people have to walk to the pond is 10 minutes, but some have to walk 30 minutes. No one was using a donkey to carry the water, the water was carried on the back (by the women) or in the hand (by the boys). The women and boys indicated that they visit a community pond between two and four times a day, carrying an average of 18 litre. But they are not the only person in the household that has to get water, they share this task with two or three other persons in the household. The water they get is used for between 7 and 8 people. They were asked where they would use the water for that they were fetching. Most people, that is 98%, used the water for drinking and also 98% of the people used the water for household uses, like washing and cooking. Eight people indicated to use the water to irrigate the pepper seedlings, and three people to irrigate chat, cabbage and coffee.

Figure 9a shows the number of people and animals that came to the community pond every hour to get water or to drink from it. There is a clear peak in the number of people between 9:00 and 10:00 am. The figure shows that the peak for cattle is between 13:00 and 15:00 amounting to 70 cows and oxen in two hours. The peak for small ruminants is between 14:00 and 15:00, amounting to 65 sheep and goats in one hour. The number of donkeys and horses stays relatively constant throughout the day.

In First Tuka, a community pond was visited on Saturday June 9th. On that day a total of 54 unique people came to fetch water in the pond. This pond had a green layer floating on the water (Picture 24). The pond is located next to a mosque, and that day people where getting water to sprinkle on the earthen floor. This was the only occasion that adult men were involved in getting water, together with some women. The other visitors included 6 children (11%) and 48 women (89%). Table 14 reveals that the people coming to this pond travelled an average 7 minutes. The number of visits per day was an average 1,7, ranging between 1 and 3. There were 9 women that came to the pond with a donkey to carry the water, which decreases the number of visits per day as it increases the amount of water they can take.

One donkey can carry two jerry cans of 25 liter, one women came with two donkeys, taking home an impressive 100 liters. The purpose of the water was only for household uses, like cooking and washing. The day before it had rained, so nobody would use the water for irrigation. They don't use the water for drinking, because First Tuka is one of the Kebeles that has a functioning and rather reliable ground water pump. The number of people that get water for the household is almost 2, averagely. The number of people in the household that benefit from the water is 6.

Figure 9b shows the pattern of people and animals visiting the community pond throughout the day. Most people come between 10:00 and 13:00, with a peak between 11:00 and 12:00. The number of animals is relatively constant throughout the day, with a peak of cattle between 12:00 and 13:00.

The third community pond was visited on Friday june 26th, and is located in Guba. On that day, a total of 79 unique visitors were recorded. This pond was known for its good water quality and also for keeping a lot of water, which attracted people from neighbouring Kebeles. The time travelled to reach the pond varied from 1 to 30 minutes, with an average of almost two visits per day. More than half of the people (51%) came with a donkey to carry the water, which leads to the high average amount of water that is taken of 41 liters. Four people come with two donkeys, which allows them to take 100 liters each. The purpose of the water was household use for everybody, which was combined with drinking purpose for 17 people (22%). All 17 came in the morning time before 11:00, which cannot be seen in the figures. One person indicated to use the water for the cabbage seedlings, but most people. In Guba there is no functioning ground water pump, but in the neighbouring Kebeles there is. In their household, there are an average of more than two people responsible for getting water, water that is used by 6,8 people on average, ranging from 2 to 13.

Figure 9c shows that the majority of the people come in the morning between 8:00 and 12:00, although there is not a single peak. Between 10:00 and 11:00 there is already many cattle passing by, but most cattle come after 12:00. The numbers of donkeys and horses show no pattern.

Table 14 Data from visits to community ponds.

		Tefo Chofo (n=40)	First Tuka (n=54)	Guba (n=79)
Time travelled to pond	Min	2 min	3 min	1 min
	Max	30 min	15 min	30 min
	Av.	10 min	7 min	8 min
Visits per day	Min	2 visits	1 visits	1 visits
	Max	4 visits	3 visits	4 visits
	Av.	3,2 visits	1,7 visits	1,9 visits
Liters of water taken	Min	5 liter	25 liter	2 liter
	Max	25 liter	100 liter	100 liter
	Av.	18 liter	31 liter	41 liter
People that use water for this purpose:	Drinking	39 (98%)	0	17 (22%)
	HH use	39 (98%)	54 (100%)	79 (100%)
	Pepper seedling	8 (20%)	0	0
	Other crops	3 (8%)	0	1 (1%)
People (in HH) that use the water	Min	4	2	2
	Max	12	10	13
	Av.	7,5	6,0	6,8
People (in HH) that get water at community pond	Min	1	1	1
	Max	5	4	5
	Av.	2,7	1,9	2,1

Figure 9a Users of a community pond in Tefo Chofo, Tuesday 5-6-12

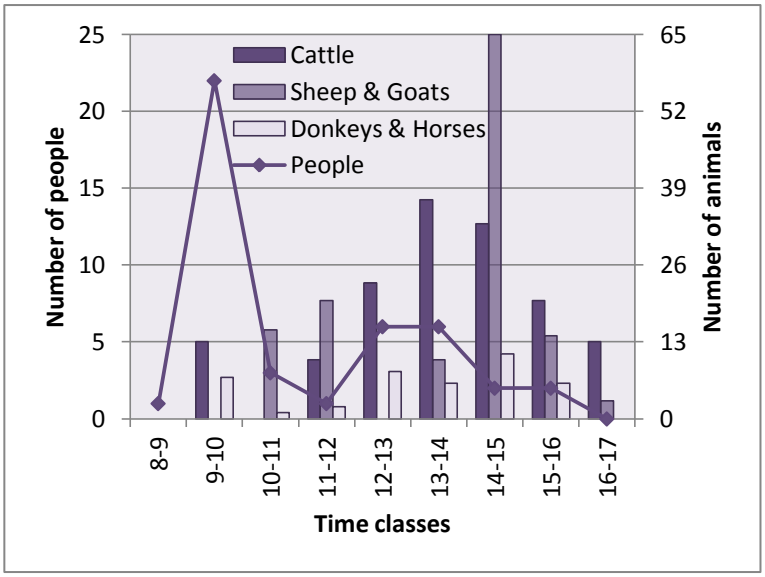


Figure 9b Users of a community pond in First Tuka, Saturday 9-6-12

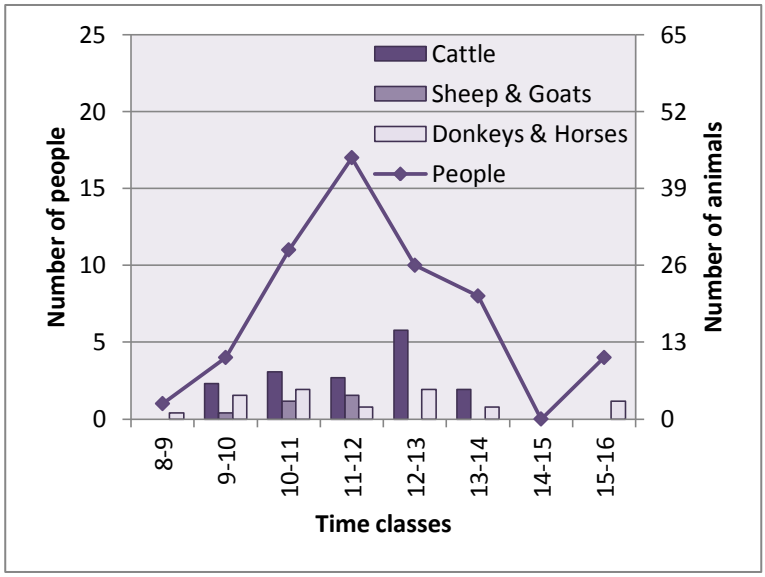
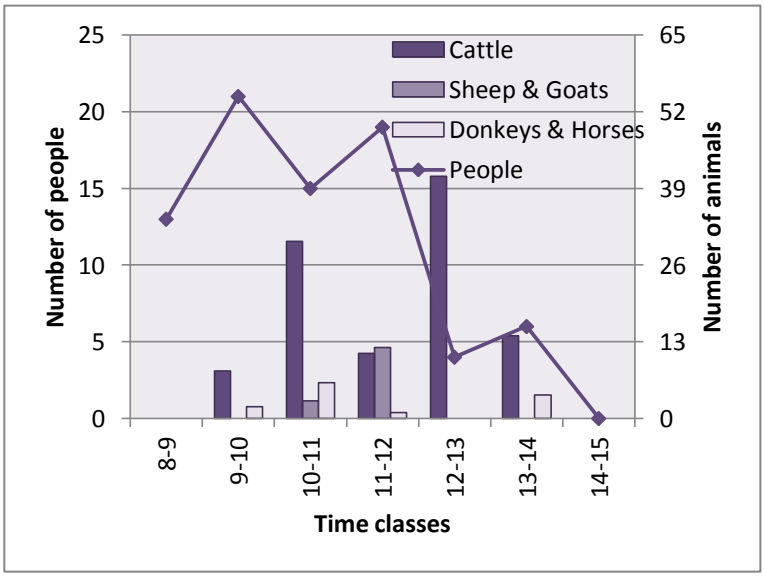


Figure 9c Users of a community pond in Guba, Friday 22-6-12



In general it holds that most people come in the morning and the animals in the afternoon. They come as early as possible –that is after the coffee ceremony- because in the morning the water quality is best. It is still cool outside and the animals have not yet disturbed and polluted the water. Figure 9a shows that the peak of the number of people in Tefo Chofo is earlier in the morning than in First Tuka. The people in First Tuka told me they were coming later than normal because after a three-week dry spell, it had finally rained. And rain means weeding, a labour intensive activity that is mainly done in the morning.

The day of the week also has its influence on the number of people coming, and the time they come. The visit in Tefo Chofo was done on a Tuesday, which is a market day in Guba just like Thursday is in Alaba Kulito. This leads to an increased number of children that have to take over from their mother who has gone to the market. The visit in First Tuka was on a Saturday, which is a 'neutral' day. The visit in Guba was a Friday which is the day that all people go to the Mosque. A visit on Sunday would result in a different scenery because it is the cloths washing day. One would see people taking their clothes to the pond and wash it there, so that they don't have to carry the water for a long distance.

A difference between the ponds is whether people use it for drinking. It is clear that when people have the opportunity to avoid it, they will. In Tefo Chofo, all people had to drink the community pond water as there is no ground water pump in the area. Picture 23 shows a man in Tefo Chofo who becomes excited from all the questions I ask about the water. He demonstratively pours some water on the ground, explaining that this is the water he and his family always have to drink. He rhetorically asks if I would choose to drink this water. In Guba there is no pump either, but more than half of the people at the pond had a donkey. This is a necessity to access the drinking water for which they have to travel a longer distance. Sometimes people share donkeys and alternate taking responsibility for this task. In First Tuka there are some people that have donkeys, but also people without donkey are able to access the ground water, which they all do.

Besides the people that fetch water in their jerry can, many other people come by to wash their body or only the feet and hands. Several times it was seen that children were swimming in the water. The animals were brought to the pond by children or adults. In First Tuka, the walls of the pond were made so steep that the animals could not enter the water, they could only drink from it, but not stand in it. In the other ponds, the animals could easily enter the water, which they also did. Most often they only enter with the front legs, but some walk around and mix the mud though the water, occasionally defecating in the water. Some people can be seen fetching water two meters next to a urinating cow. Others seek a steeper wall where the animals don't come, even when it means to carry the water on a steep slope. Some people put a piece of cloth on the inlet of the jerry can so that it is filtered when they fetch the water in it.

This raises the question how people see the water quality, and what positive and negative role community ponds play in their livelihoods. This was also part of the questionnaire held with 60 household members in both study areas. People could indicate how much they agreed or disagreed with a number of statements (Figure 10). The third statement 'pond water causes diseases' was given a 4,8 in both study areas, so almost all people strongly agreed.

A women said: “The water in Bilate river is flowing so it does not give diseases, but the community ponds are not flowing, so drinking the water causes pain in your stomach and fever”. A man said: “The water is all unprotected, it is because there is no roof structure at the community ponds that they cause diseases by mosquito and bacteria”. Another man explained: “There are many diseases that are the result of the pond water. It is because animals and people both drink from the same water, the animals enter in the water and decrease the quality”. So the reasons given why the water causes diseases are that it is stagnant water, it is shared with animals and there is no cover above, leading to stomach ache, fever and diarrhoea.

When I was visiting the community ponds, people regularly asked with unbelief if I was really staying the whole day. They were surprised that a white person would stay the whole day in a place like that. Some people suggested that I could come to their house to have a coffee, even while my translator could continue the interviews. Another time I was coughing because I was a bit ill, and people thought that the pond had made me ill. They seemed ashamed that I had to stay such a long time in the smell of the water, although it didn’t really bother me. Some women expressed the fear that staying too long in the smell would make me really sick. It seemed that people where ashamed of the water, and it made them worried that I was close to the water for such a long time, especially because I was white. This is a remarkable difference with the household ponds that the owners were often eager to show it. They were proud of their pond, the water source on their own land.

One other thing that a number of people mention is the danger of drowning of children. During one of my visits of a household, close to a community pond, we hear many people screaming from the direction of the community pond that is very near. The children around us immediately run in that direction to check out what it is, it 10 o’clock in the morning. After a while somebody tells that they just found the body of a child who drowned in the pond. It was a 14 year old boy that was missing since yesterday. Apparently, he wanted to wash himself when he came back from school the day before, because his school bag was on the side, next to his cloths. The pond had recently been maintained so it was deeper than normally, something he didn’t take into account.

The first two statements in Figure 10 are about the quantity of the water. Is it available when most needed and does it help to overcome the dry times? People responded that they are neutral or agreed that the water is available when most needed. Most people are very happy with the water that they can access for free for the biggest part of the year. Others are more critical and note that during the rainy season the water is enough, but in the dry time the ponds dry up. The consequences of dry community ponds are that people have to go to the Bilate river or to Alaba Kulito. In the time when some community ponds have dried up and others are still holding water, these will attract more people, also from other Kebeles.

Figure 10 shows that especially in Tefo-Tuka people agree that there are conflicts over the water with other Kebeles. They mention the names of all neighbouring Kebeles, and sometimes even from Kebeles more than 2 hours away. Such conflicts are solved in the same way as land conflicts, that is by *Sera* (see section 4.3 on conflict resolution). When it is possible, they will agree on how much water they can take, if the water is simply too scarce they are refused. The difference between the two study area’s in the figure can be explained by the fact that in Guba there were a lot of household ponds. The household ponds obviously don’t causes conflict with other Kebeles. A women in First Tuka explained that she was

member of a water conflict resolution committee. This is necessary because in cases of extreme water shortage there is even conflict within the Kebele. She explains that nobody gains from such conflict and it is better to be in peace with each other and she, together with other women, does whatever she can to prevent escalation of problematic situation, for example by arranging transport to get water in Alaba Kulito. They also enjoy respect in the Kebele because everybody finds it important to solve water conflicts in a peaceful manner. But it is difficult work, because there are not many options.

The last three statements in Figure 10 highlight again how important the community pond water is for the peoples livelihood, despite the negative aspects treated in the previous section. All people agree strongly or agree with the statement that “the pond is necessary for my way of living”. Most people indicate that they can increase their crop production with the community pond, even when it most often only refers to small scale vegetable production. All animals that people have depend on the water for more than half of the year. The people responded that they can have more animals with the pond even though the community ponds are empty for a part of the year. These results seem to be slightly paradoxical, because people say that community pond causes diseases, conflict and is not always enough, but on the other hand it is very important for their livelihood, allowing them to have animals and crops and to cope with erratic rainfall. It seems that even with all these problems, the absence of an alternative makes community ponds a very crucial factor in the lives of the people of Alaba Woreda.

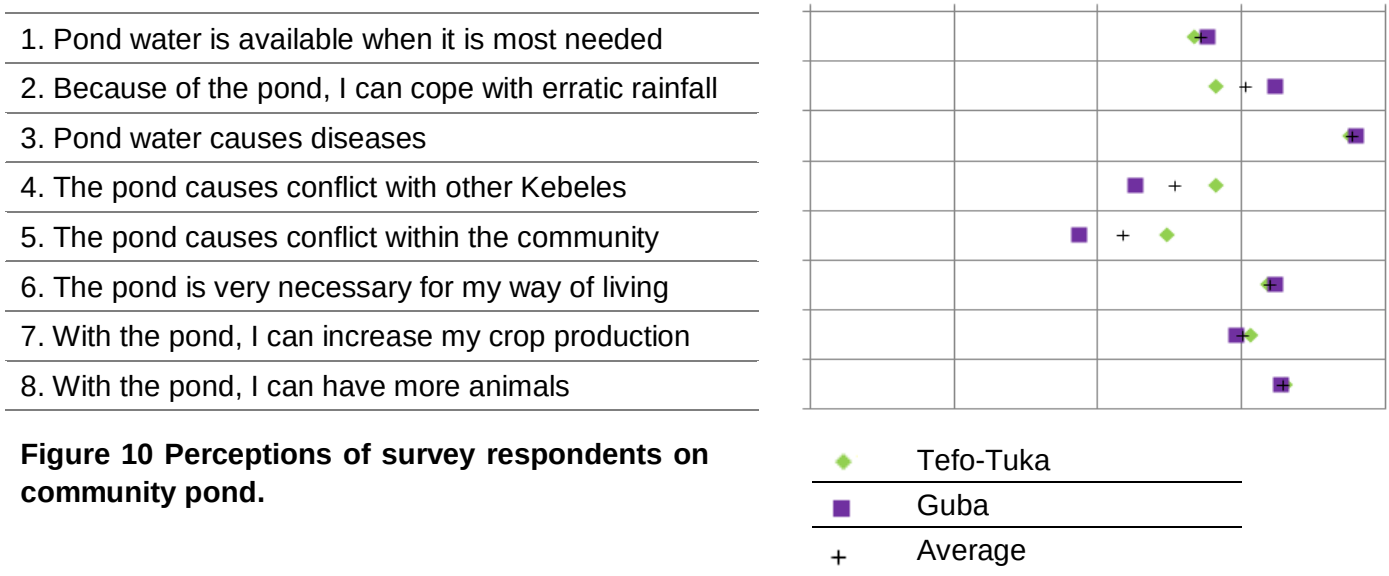


Figure 10 Perceptions of survey respondents on community pond.

6 Livelihood strategies

This chapter describes how the assets are combined into different livelihood strategies. Sometimes there is a clear link with assets, but sometimes the reason to pursue a certain livelihood strategy is more obscure. In the livelihoods approach as proposed by Scoones (1998), livelihood strategies are divided in intensification and diversification strategies and migration. They will be discussed in this chapter, but there is more to say. In the drought-prone Alaba Woreda people have different options of strategies to deal with the drought. Furthermore, the life histories that are presented throughout this report shed light on how strategies have changed in the past decades, which is described in livelihood trajectories.

6.1 Intensification strategies

More harvests per field

Annex D shows the different cropping systems from the five selected households. If we take a closer look at the way how they use their land to cultivate different crops, we notice that all households cultivate maize, beans and teff. It is normal for all of them to cultivate teff after beans on the same field. The next year, they will do this on the field that has maize in this year. Three of the households cultivate maize in between the chat. But only Dubala's household combines maize with potato. The potato was grown between the chat plants, and after the harvest they would sow maize. Dubala is also one of the few households that has high quality enset ("false banana"). Behind the house, they have two pits were they can let the chopped internal leaf sheaths in a fermentation process. This process lasts three months, from March to May.

This way of agricultural intensification could also be seen as diversification, because there is a bigger variety of crops. It is included as intensification, because this household only has three hectare and makes very intensive use of their land compared to other farmers. The oldest son explains that last year they used the water from the household pond to achieve three harvests on the same land. In April they could plant onion, in July they planted teff and in October they grew partly potato and partly carrot. This was possible because they had a

25.

Intensification:

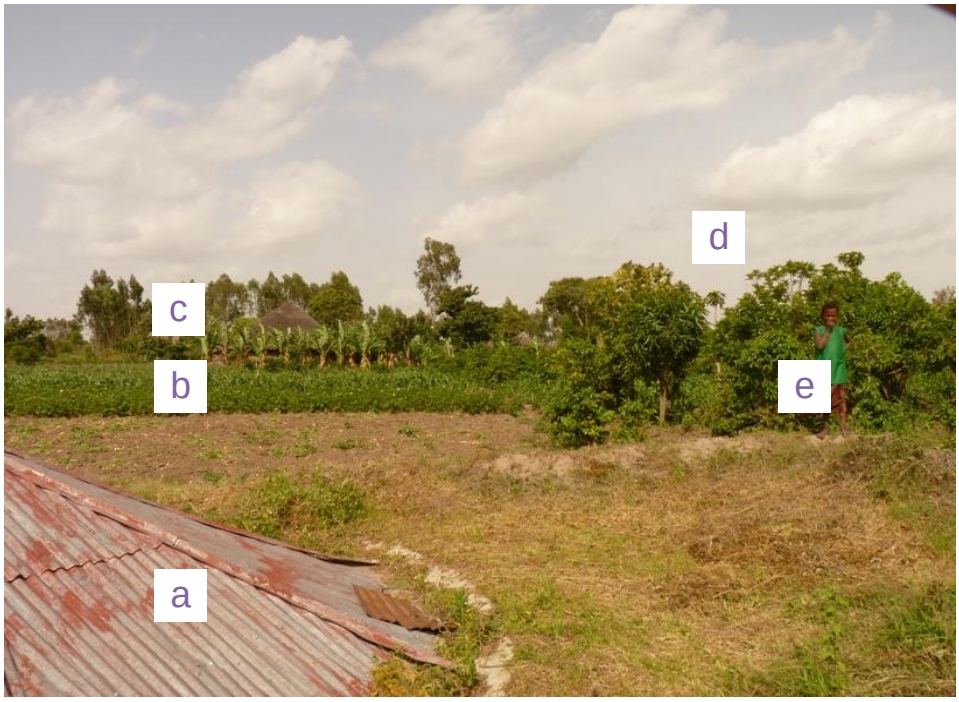
a) RWH pond

b) potato

c) enset

d) papaya and mango

e) coffee



small manual pump, this year it broke down, and they only irrigate coffee, avocado and cabbage seedlings. Even without the pump, their land is an example of intensification (25).

Another necessary component for intensifying the use of land is fertilizer. Traditionally people would use the natural fertilizer, that is the manure from the animals. Some households simply scatter the manure on the nearby fields every few days. Because there used to be many cows, this was enough to get a good harvest. Other people collect the manure in one place, together with some litter to make compost. This compost is put on the land with a donkey cart only ones or twice a year together with ploughing, or after the first weeding. Compared to scattering manure on the field, composting can be seen as a more traditional intensification strategy. Most people today combine composting or spreading manure with chemical fertilizer. The natural fertilizer is used for the nearby fields, while the chemical fertilizer is applied on fields that are further from home.

The rising prices of fertilizer show some signs of extensification, because some people can no longer afford to buy enough. The questionnaire held under 30 farmers in Guba reveals that most farmers still buy a small amount, something like 25 kg per ha where at least 100 kg per ha is advisable. A female head of household in Guba explains how she experiences this trend:

“Having too little fertilizer is related with water availability. Getting water takes a lot of time, time that can no longer be put in the farm work. This means no income to buy fertilizer. Without fertilizer it is not worth to make the investment to plough the fields and carefully sow the maize. Some people return to primitive way of sowing, simply by throwing the seeds on the land. Last year the fertilizer was very expensive too, but at least there was credit available. For unknown reason this has stopped. But it is important, some people in our community that did not apply fertilizer last years, are the ones that are hungry right now. They have no food in their house, and have to ask family and friends and neighbours for food.”

This story shows that the intensification process started with the supply of chemical fertilizer some decades ago, is very problematic to reverse. Having no fertilizer immediately makes people prone to hunger and poverty. It has a direct impact because the decreasing chemical fertilizer is not replaced by an increase in natural fertilizer. There are fewer cows than before, not enough to fertilize all the land. Furthermore it illustrates how the problem of a lack of chemical fertilizer is related with the problem of low water availability, and is taken into account to consider whether it is worth the effort to plough a piece of land if you cannot fertilize it. It leads to a different livelihood strategy.

Concerning cattle, some people say that the introduction of many types of cattle grasses has lead to an intensification of the cattle keeping. Dubala phrases it like this: “Cattle are very good in this time, because of additional food: grasses and residues result in fat and therefore expensive cows. Before, there were more cows, more grazing land, but the grasses were not as good as the cattle grass they get now. They were thin, more often diseased and cheap.” This is one strategy, to rely on a few healthy, fat and expensive livestock, while others invest less and let a larger flock of livestock to graze mainly in community lands.

6.2 Diversification strategies

Annex D shows that Aguda takes a different livelihood strategy than we could find at Dubalas household. Just on the other side of the road, we see that Aguda has 6 hectares of land. He and his wives rely more on diversification. An example of how he diversifies is by spreading the sowing date of the maize. He has different fields where he sows maize and to avoid the risk of failing them all, he sows the maize with a 2 week difference. This year he lost only one field, that he had to replant. The difference is visible on his field. Fifteen days is the difference between a very nice crop and completely lost of crop due to drought. Depending on the rain, there can be one or two rotations of crops per year. First potato, than Teff or first bean and Teff, or only maize.

Also the type of crops to cultivate is part of the strategies. Medina in Tefo Chofo explains how she makes a decision for a particular crop. The first choice is to cultivate for own consumption or to sell. If she needs to make a big investment, she will cultivate Teff, which is a cash crop. She sells the Teff and is able to buy fertilizer and maize and some cloths. To cultivate bean is very functional, because you can easily eat it or sell it for a good price. Usually she sells 50% at the market to be able to buy coffee and salt and small groceries, the other part is eaten at home. Boloke is also an accepted way to pay any kind of workforce in kind. If maize harvest was low, this will be a reason to choose to cultivate Teff. Like this, people can choose to intensify the production of a certain crop, or to diversify to other crops.

The classic interpretation of diversification strategies in an agricultural setting, is the engaging in off-farm activities. An example is found in Bergena, whose life history is given in Box 6. He has only 0,5 ha, and needs to find other sources of income. In the pepper harvesting season, he often goes to other farmers in the Kebele to buy pepper. He buys 40 kg, and takes it to the market in Alaba Kulito. He has to pay taxes on the crops, he pays an amount for the transport of the pepper and for himself on a donkey cart. But when he gets in Alaba Kulito he can sell the pepper with some profit.

When I visit him one day he tells that he spent several days of that week working for the Kebele office. There had been an outbreak of sheep disease affecting the wool and skin,

Box 6

Life history Bergena

I was born on the same land where I live, 25 years ago. I helped my father and mother as a child, and I belief that when you help your father and mother when you are small, you will have a good life when you are old.

I went to school until grade 5, which he liked very much. The reason that I stopped is because there was a conflict with the teacher. He used to ask money and honey from the children, and normally there was some kind of agreement. But in a bad year, the bee colonies had left, so there was no honey. There was also no money left to pay this additional money to the teacher, to which he responded by decreasing his grades. From that day I left school and dedicated myself to working on my parents' farm.

Three years ago I got married an I have a cute little doughter. We have only 0,5 ha of land which is not very much. Fortunately I can work on my fathers' land and I try to find other work where possible. Like this I can manage.

which decreases the worth of the animal. To prevent this disease from spreading, the animals needed to be disinfected, so he passed by farmers with sheep to spray a disinfectant on them that will re-grow a good skin. For every sheep that he disinfects, he gets 0.55 ETB (≈ €0.025). This weeks he has treated 300 sheep, which amounts to 165 ETB (≈ € 7,5). This is not much, but for him and his family it is a welcome supplemental income.

Another source of diversifying the income from agriculture is food aid and development projects. There have been many projects by many NGO's, and also the government is structurally investing in many things. Some people are very good in accessing the resources that are distributed in such occasions. There are also many households structurally dependant on food aid, as if they are 'given up' by the institutions. From the perspective of the recipients it is however one of their livelihood strategies. Something that I, as a researcher, have experienced is that some people show a very dependent attitude. As researcher I wanted to get insight and information, but I was not going to give any material. But being a white person, some people had the expectation that they could directly benefit from my questions. One time when I visit a woman in Guba she gives very good information, so I decide to visit her again. But the second time she was not honest and was giving information that was not correct. My translator Semeru was also surprised that she changed her attitude, and it is our guess that her husband told her to try to get some money from me. Semeru explains that she asks for money, medicine, food, to construct a pond etc. She was no longer listening to my questions but exercising a livelihood strategy: manipulate alleged resourceful people and attract potential beneficial projects. Probably it is a successful strategy. The NGO employees also complain that people show a very dependant attitude, complaining about their situation rather than changing it. Perhaps it is rather one of their strategies to change their situation.

6.3 Migration

Another livelihood strategy can be to migrate to other areas with better possibilities. In the questionnaire held under 60 people in both study area, a question was asked about the residential satisfaction and most people are happy to live in this area where they are born and where their family lives. Some people however indicated that the only reason they still live there is that they don't have the opportunity to move somewhere else. They are waiting for this opportunity so that they can have better access to electricity, health centres and shops. Aguda, from Guba, is a person who actually took the opportunity to move to the city of Guba. He is not living there permanently, but one of his wives will live there and he will visit her every few days. He has a plot of land where he has grown Eucalyptus trees with which he has constructed a house in Guba. It is close to the asphalt road, and he lives in a street with people from the whole Woreda. They come from Chake, Guba, Chenkele, Falka and Kofe Kebele. The secondary road offers the opportunity to open a small shop as an additional source of income.

Many people that live in the visited Kebeles do have children or other family members that did leave the area. If we look back at the life history of Medina, we see that her daughters moved to other areas after getting married. Although she doesn't have the possibility to migrate herself, she is happy that her daughters had this opportunity. Others also have daughters that have emigrated to other, preferably muslim countries like Saudi Arabia, South Africa or Oman.

6.4 Coping with drought

When the yields are disappointing because of drought, people have different coping strategies. In the case of Bergena in First Tuka, he has several ways of dealing with drought. When the drought has caused his maize harvest to fail, he tries to get some money from family or friends to buy maize. Part of what he buys, he stores to sell later with good profit. Sometimes at twice the price for which he bought. This is a way of combining his trading skills with family connections.

He also tries to find other work, preferably within the Kebele. When it hasn't rained for several weeks, he is feeling kind of demoralized, knowing that he lost half of his bean harvest and nothing that he can do about it. Without rain, there is no energy, and it is also threatening hygiene and bodily strength. Most important thing is to stay alive, and when he is noticing that his family is getting weak because of shortage of food, he will take measures. A possibility that is open for everyone with animals, is to sell one of his cows, or a smaller animal. He gives an example of a few years ago when he sold a cow in Alaba Kulito in order to buy maize, although the price of maize was very high. For one cow he could get 2200 ETB (≈ €100). For 1200 ETB (≈ €55) he bought a small cow in return, for the remaining 1000 ETB (≈ €45) he bought 150 kg maize. In this way he can satisfy the short term food needs for his family, but keeping a cow for the future. Goats are sold and bought in the same way, for small food gaps.

A way of dealing with drought for many people is food aid. The Safety Net Program gives direct support for people who are an easy victim for drought, and the program also gives the opportunity to work for cash. In this way people can make enough income to buy food. A safetynet officer explains that this is done structurally, that is in the dry time of the year, but also through the early warning system in response to an emergency. There is also a food and fertilizer distribution centre of the World Food Program, where people can get aid in a food insecure time, most often caused by drought.

6.5 Livelihood strategy trajectories

The livelihood strategy trajectories basically describe the most important developments that the livelihood strategies have gone through according to the people. It was asked to the five households that were visited repeatedly, but also to other farmers.

Jadisso, the oldest Son of Dubala explains what according to him is the biggest change in their families life. He says that things have improved in the last 10 years because the government is investing in agriculture and in education. He works in education (see Box 5) and he has experienced a big change in the coverage of schools and the quality. The investments in agriculture has widened their range of opportunities, especially because they have a concrete household pond. The pond is used a lot by their family and is very necessary for their livelihood. It is used for onion, enset, coffee, avocado and for the cattle in the dry times. Before they had this pond cattle needed to drink from the river, and because this is very far away the children sometimes needed to skip school to bring the cattle to the river. Besides the pond, the government has distributed coffee trees and they explain how to make seedlings.

Many people find the number of cattle to be the biggest change in the past decades. A farmer in First Tuka says that “the biggest difference between 10 years ago and now is in the number of cattle. There used to be a lot of cattle, that could produce compost for natural fertilizer on the fields. Now that the number of cattle has decreased and population increased, we are dependent of too expensive fertilizer.” His uncle, sitting in the circle of men around us, explains that 20 years ago, the cattle of different people were kept together in big shelters on the communal fields. Now that the number has decreased, most households have only 2 or 3 cows, that are kept in the same house as where the people live themselves.

Because populations have increased, communal grazing lands have been converted into agricultural lands. Now it is impossible to live only from your animals. It is necessary to have a mixed farming system so that you can feed the crop residues to the animals. and near roads and some scattered grazing lands.

It is a common tendency for this part of Africa, that due to increasing population pressure communal grazing lands are taken in cultivation. Both literature and the experience of people confirm a close connection with problems around chemical fertilizer. The main problem is the price: in the same time that numbers of cattle decreased and natural fertilizer was replaced by chemical fertilizers, the price of chemical fertilizer has only increased. But some people also complain that the fertility of the land is structurally decreasing with the use of chemical fertilizer.

Birhanu and Sterk (under review) describe how this shift from cattle based livelihoods to mixed farming is mainly driven by population increase. But they also found that a drought is relative to its use, and that in the last 30 years there have been fewer ‘extreme droughts’ for maize cultivation than for cattle keeping. This means that maize production is less vulnerable for extreme drought than cattle keeping. Moreover Dubala from Guba explained that although the number of livestock have dramatically decreased, they are much fatter, healthier and more expensive, and there are more expensive breeds. This means that cattle can still be an important element for livelihoods. This is due to fattening practices with special grasses and crop residues.

There are also different crops being cultivated compared to a few decades ago. Crops that are relatively new is the cattle grass for fattening, introduce around 7 years ago by the agricultural office. Dubala explains that the Woreda agricultural office provided him and some other model farmers with the grasses. He sold this to others, and explained how to make them for themselves. Like this it was spread from farmer to farmer. He also has Enset, which was introduced 12 years ago. He says that the Enset is good for him to eat in the morning with a cup of milk. He still remembers the time that Teff was not being cultivated in his area, because it is a crop that is not resistant to frost. But he estimates thata 15 years ago there was no longer frost, so they could start cultivating Teff. Dubala is an innovative farmer an eager to find new crops and techniques that work in the area. The conversation continues to go in the direction that he wants new crops to try and to spread to other farmers.

Other people mention some crops that used to be grown, but can no longer be found. More than 10 years ago the people in First Tuka produced Bakela (Faba bean) and a kind of peas (Ater). The problem with the last one is that it can be eaten fresh from the field, which was done a lot. This caused conflict among the people, so they stopped cultivating this crop. Also Gabs (barley) used to be cultivated, but this has stopped also. In terms of land management some small things have changed. People used to plough 2 times, one time vertically and one time horizontally. Because there were big lands the ploughing was not so intensive. Now there is fewer land so it is ploughed more intensively, most often four times. Several farmers indicated that it is necessary to plough 4 times because otherwise the fertilizer doesn't work very well.

What most people also mention is the difference between now and a few decades ago in terms of economy. This means that living in general has become very expensive as compared to when they were young. This refers to agricultural inputs like seeds and fertilizer, but also to clothes, shoes and small groceries.

7 Dreams of development

We have seen how the different strategies are sometimes closely related to the assets available to a person: a land- scarce farmer will try to diversify by find off-farm income. But sometimes the reasons behind are less rational and more personal. This is what is tried to discover under the term 'dreams', covering the vague ideas and concrete plans, the personal dreams, and the dreams that are related to their livelihood strategies, with an emphasize on Rain Water Harvesting in the drought-prone context of Alaba Woreda. Although dreams may be not always be very realistic, it can increase the understanding of what meaning they attach to livelihood strategies. Furthermore, in government and NGO policy the same reflections can be found of meaning and ideal-type future prospects and values. By a series of actions, this is than transformed into practice, where this policy dreams encounter peoples' dreams, but also simple practical constraints. These dynamics are tried to grasp in this chapter.

7.1 Farmers and their dreams of development

Most people that were interviewed started smiling when being asked about their dreams and plans. It did not take long before there was an atmosphere in which they could express what they really wanted to achieve, and why and what were the main constraints. People give interesting wishes that are a mixture between exaggeration and real hope. For example this farmer in Guba:

"In the rainy season there is enough water from the community ponds for household use, but not for crops. I do not produce irrigated crops because I do not have a household pond. Water is really the biggest problem. My biggest wish is to have three household ponds, for irrigation on all types of crops. Why would I select the extra hectare of land? Or extra cattle? If there is no water in the area, what is the use of land and animals? If I would win the lottery, I would choose the individual pond also for the animals and my family."

His way of reasoning points out that other assets such as land and cattle only become valuable if there is water. And because I ask to his dream, he starts to think bigger than realistic. Rather than having one household pond, he wants to have three household ponds. This is what would become the major methodological difficulty in writing this chapter, because the respondents are aware of the presence of the researcher and their narrative is given with this awareness. The research data is a result of this interaction between the researcher and the respondent, and also the interpretation of the translator.

It was tried to grasp the idea of dreams by asking what people would prefer in a situation where they could choose freely or if they had more possibilities. Therefore a question was included about a hypothetical agricultural lottery: if you would win a lottery worth 4000 ETB (≈ €180), what would you spend it on? Five options were given to choose from: 1. A plastic household pond with irrigation equipment; 2. A plastic household pond with cattle trough; 3. Two cows; 4. One ha of land under contract for one year; or 5. Farming equipment. Of all people, 52% indicate to opt for the individual pond with irrigation equipment, in order to produce crops in the small rain (Belg) season and to produce new crops like banana/coffee and fruit trees. Twelve percent would opt for the individual pond with cattle trough because they experience a shortage of water for their cattle. Only 8% would choose for cattle and even fewer people, 5%, for land under contract. The second highest percentage was for farming equipment, being selected by 22% of the respondents. The kind of farming

equipment that would be bought is a spade and other metal tools, but also fertilizer or a donkey cart for the harvest time. The last option was very attractive to people who didn't want to select something specific, but wanted to use the money for several separate items, including cloths, animals and tools or simply to save.

There are many other farmers who say to dream of having a pond in order to be able to irrigate crops. This is a dream of agricultural intensification, where a new asset like water opens a range of possibilities to benefit more from the current land and labour. The same accounts for peoples' choice for fertilizer, which shows that people find it important to invest and try to grasp possibilities to intensify their agricultural practices. In the current situation people face limitation in many kinds, that is also limiting the possibility to dream. This reminds us of the theoretical introduction where we considered dreaming to be a capability. An example of how real constraints temper the *capability to dream*, is the land shortage. When I ask how much land they would like to have, they respond with a sad look on their face by saying: "Where would you get new land? Everything is already being used".

Another person in Guba tells his dream for the Kebele: "It is my dream, because this is the most important for us, that I construct a lot of community ponds for Guba. Now we have 10 or so, but we need at least 45. We depend on it every year, because if there is not enough water we have to walk to the river every 2 or 3 days, which is at 15 km distance. So when I have constructed these ponds, the people will remember my name. In the dry times they will say: 'This is the pond that Anjuda has constructed!'"

This kind of dream seems indeed to be "only a dream". Rather than something that has a chance of becoming reality, it tells us what a person finds important and what it means for him. Anjuda's story above is a dream that reflects how valuable the community ponds are for the current livelihoods that they would need many more. It also reflects that there are too little community ponds for the number of people in Guba, so there is a kind of deprivation going on. But this person is not actually capable of realizing it, although he could try to influence some decision making.

The remarks that surrounded the questions about peoples' dreams make clear that high priority is given to basic infrastructural facilities. The living conditions would really improve significantly, in their own words, if people would have good education, good health care, better and more roads, reliable electricity and pure water supply. All people mention at least one of these elements when I ask about their dreams. This indicates that dreams are not detached from the idea of 'needs'. Again, some people exaggerate beyond the realistic, because they were asked about their dream. If these people want better health care, they say they want a big hospital in their Kebele. If they want access to water of better quality they say they want a deep well at their house. If they want better living conditions they say that they will construct houses of stone for the whole Kebele. If they want to migrate to a city, they say they want to migrate to Addis Abeba. But despite the exaggerations, a big proportion of their dreams for the Kebele are related with 'basic' infrastructure, rather than agricultural or economic changes. It suggests that livelihood strategies are of a more instrumental value, and that they are deployed in order to achieve the dream behind it which is more well-being: Enjoying a life with good health care, education, electricity and water.

When it comes to dreams related to livelihood strategies, there are clear examples of dreams of diversification. Two heads of household in Guba are dreaming of starting to run a mill. All people need a mill every year to grind the Maize, Teff, Millet and Sorghum before they can use it or before they sell it. One of them is Aguda. For him, starting a mill is a good possibility, because he lives next to the crossing of a secondary road with the asphalt road. He talks about the mill as the next big thing he wants to achieve. His life history is given in Box 7 and it shows something of how dreams are very personal and how character and values can be shaped by important events in a life. He is a very hard working person who does not allow himself to lean back. From his time in prison he has an extra motivation to make something from the time and opportunities he has. The biggest problem is that there is no electricity, and he still has not got enough money for the initial investment. That is why he constructs houses in Guba and sells animals and works without resting. For Dubala, the other person with this dream, the Mill would be a nice place to make money in a short time. He is an old man, over 70 years old, and he has worked hard for all his life. Now he wants to move to Alaba Kulito in a new house. This is still close to this land, where some of his children can live. But he faces the same difficulty of the lack of electricity. In both cases, it is a dream to realize a mill, but not for its own sake, but for the sake of making money fast and being able to migrate as a more abstract meta-dream.

Another dream of diversification that is heard a lot, is to start a small shop with food or cloths. Especially the people living next to a busy road have repeatedly considered to start a small shop, and still dream of really doing it one day. Rajuna, in Guba, lives next to a secondary road and she also wants to start a shop with salt, sugar, coffee and small groceries. But in order to make it possible she needs some kind of investment that can only come from her own sources of income. That is her land, which gives insufficient revenue to let her children go to school, let alone to save money for this investment. A reason why she dreams of it, as she explains, is that there is a shortage of shops in her neighbourhood, and there is a good possibility next to her road. The reason why it is 'just' a dream, is that she does not have enough income to save for the investment, nor does she have access to credit. For the future she relies mostly on Allah, who can give this all. If Allah gives a very good harvest, maybe she will be able to make it reality. Until that time, she cherishes the idea and it gives her a

Box 7

Life history of Aguda, Guba

I was born in this area, 55 years ago. I come from a big family. In that time there was no school in our neigbourhood, so I didn't go to school, but had to work with the animals and on the land since I was a small boy. When I was 18 years, I married my first wife. We have 6 children together.

When I was 35 years old, I visited a marriage and that is where I met the women who would become my second wife. We got three children, but only a few years later I had to go to prison. I caught a thief in the act, but hit him a bit too hard. After a few days he died of his injuries, and I have been in prison for 10 years. It was frustrating not to be able to do anything on my land, and I strongly got the intention to make something big out of my life when I got free.

Since that time, the world is a different place. I work the whole day, and that is my secret. I don't rest, but work, every day, the whole day. Seven years ago I married my third wife, with whom I have three children. In the future I hope to be able to move to Alaba Kulito, or even to Hawassa. But before we can do that, I have to work hard. After a few years I hope to construct a mill, that will help to realize the plans.

kind of hope for change.

In First Tuka, Bergena is dreaming in another direction. Of course he also would like to have more land and other opportunities, but what he is thinking about for the near future is to become active in a farmer association. Two months ago, the Safetynet program started the development of a farmer association which he joined. All 220 farmers involved have paid 50 ETB which amounts to a total of 11.000 ETB. With this money the association can buy maize when the price is low, store it and sell maize when price is good. The storage facilities have just been constructed by an NGO and things are looking good.

Bergena explains more about his dream. “Three years ago there was also a similar farmer association, but the manager and his vice left with the money, they were very corrupt. There was no discussion about the policy with the members, and they decided together about the direction, the plans and policy. Now in this new association, there is a management of three persons who are elected. Every month they have a meeting in which they decide on the policy. The Woreda is involved to audit and everybody can check the price at which maize is bought or sold, so it is very transparent. I want to become the manager of this association because I think it is really good for our Kebele.”

It is a mix of his personal dreams and his ideas of what is good for the Kebele. He has always been good in trading pepper and maize, and now he has the possibility to do it at a bigger scale, and by doing so, contribute to the development of his area. Being a farmer with only 0,5 ha it is also a good source of income, because this function comes with a salary. They say it to be 500 ETB per month, but it is probably 100-200 ETB. He expects that it is supplemented with services from the members of the association.

Finally, there are those who dream of migrating. As we already saw in the case of the construction of the mill, this was a dream for the future but it was not the goal in itself. The goal of constructing a mill was to make money in a short time to be able to move, to migrate. Aguda, who has just built a house in Guba, phrases it like this: “When I have constructed the mill, I think I can move to Hawassa within a time frame of three years. Then I can buy a motorcycle etc. But all such developments depend on electricity.” He wants to move to Alaba Kulito, and eventually to Hawassa.

Migration is a way of realizing dreams concerning basic needs as electricity, water, shops, health care and education. A limitation to really pursue this dream is not only the economic aspect, it requires an investment, but also that it goes hand in hand with leaving the family. This is why most people do not want to move far away, but only to a small town nearby. Aguda is very happy that he could move to Guba town, especially with the fact that there is electricity in his new house. It opens many business opportunities. He also says that if there would have been electricity in the place where he lived, he would not have migrated. A farmer in Tefo Chofo phrases his dreams like this: “First I want my children to follow good education so that they have good opportunities. Then they can migrate to a rich country, like South Africa, and they can send money. With this money I can invest in clean drinking water for our Kebele, and later even for other Kebeles.” Such stories reveal how education is valued for their children as a window of opportunity, how emigration is surrounded with an idea of idyllic situations and how drinking water is the biggest problem for the Kebele of Tefo Chofo.

Just like this person above, some people refer to emigration to another country as their biggest dream. Several people told that they had daughters that were married to Saudi Arabia. This is probably the best thing that can happen to you as a parent, because Saudi Arabia is a country with a good Muslim culture, but also a rich country of possibilities. These households with a daughter in Saudi Arabia enjoy respect in the community. This symbolization of Muslim countries in the middle east as good country is also going on with the habit of chewing chat. When talking to some farmers that were chewing chat, they say that it is unique for Ethiopia, and Saudi Arabia. That was sufficient reason to value and justify the chewing of chat. So these countries are a symbol of good culture and a wanted place to emigrate to. For both local migration and international emigration it accounts that the motivation to move are not only negative, to get away, but also positive, that is to start a better life in another place.

Not everybody that we interviewed had dreams for the future. Especially some of the older people could not really mention things that they still want to change. They have seen the pace of change and don't expect that many things are still possible to happen for themselves. But they still express the most beautiful wishes and hopes for their children, that they may have good education and better possibilities than they had, that they may find a place where life is good. Another reason that people do not dream about earthly life is in religious terms. It can be that people dream of the afterlife or the glory of Allah, and about a religious dominion. But for this life, it sometimes is accompanied with an attitude of acceptance and resignation. About plans and about change, some people simply say that "Allah can give, and Allah can take. We all depend on his blessings". However, this seems to be more of a personal attitude rather than a necessity for all believers, because others get inspiration and hope from their belief, also for this life.

7.2 Dreams of development and policy (makers)

At the level of NGO's and governments at Woreda and Regional level, dreams are very much present. The first thing considered in this chapter is how policy formulations are a kind of reflection of an ideal type world. In his 'geography of good and evil', Andreas Kinnigen describes how the contrast between nature and culture is also present in the creation of order out of chaos. Dreams of a better situation can be compared with the goal, the image of order that needs to be pursued. Following van Gastel (2011), I try to describe some of these dreams reflected in policy documents, but also to take into account personal career dreams of NGO and government workers. This will reveal how dreams are created, accepted or modified by persons and documents, and how this takes shape in the the contextuality of actual policy implementation.

Regional agricultural office

At the regional agricultural office in Hawassa, several people were interviewed about the Rainwater Harvesting policy and ideals. It was tried to get access to policy and evaluation documents, but it proved impossible at the regional office to obtain such documents. Via other sources it was found that there are several guiding documents that contain country and regional ambitions. At the most abstract level there is the right to water. On the 28th of July, after many years of work and lobby, the General Assembly of the United Nations declared that "safe and clean drinking water and sanitation is a human right essential to the full enjoyment of life and all other human rights". This right entails the obligation of states to respect, protect and fulfill this right. Also vulnerable and marginalized groups have this Right to Water, and with a growing water scarcity Rain Water Harvesting is an attractive option (RAIN, 2010).

The Ethiopian Water Resources Management Policy is one of the policy frameworks that is issued by the Ministry of Water Resources. In the Ethiopian Water Sector Strategy (MoWR, 2001), the application of Rainwater Harvesting is recommended for areas with water scarcity. The government aims at a rural potable water coverage of 98% in 2015, while in 2009 this was 65.8%. In the same period, the urban water supply should go from 91.5 to 100%. This is referred to as the 'Universal Access Plan' (MoWR, n.d.). UNICEF (2012) refer to this universal access plan, and say that "in rural areas, access to safe water is defined by the State as having protected water supply, able to provide each user with at least 15 litres per day within 1500 m of their homes". At this level, RWH is not really included in the policy objectives, although it is mentioned occasionally as one way of achieving universal access by 2015.

At the regional agricultural office in Hawassa, people indeed connect RWH to the idea of universal access. According to the regional responsible for RWH, "It is present policy that every household has access to at least one water source. This can be water from river diversion, lake water, ground water or an open pond, depending on what is available in a certain zone." Although this officer does not seem to be aware of the details of this Universal Access Plan, he mentions the same principles as the goal of their efforts in the region. These ideas of order, these policy formulations and "dreams", are not transferred via policy documents. The documentation capacity at all levels is not very strong and it is not valued for practical use. Most of the reporting and instruction is done verbally though the telephone and through personal visits. The officer explains that he receives letters and phone calls from his superiors with instructions for important issues that he then conveys through visits in the

zones and Woredas, or by telephone calls. So that is also the way how dreams are transferred from one place to another.

Governmental dream travel through the telephone lines. When a superior to calls to Regional and Woreda responsible, the dream is transported. The distant superior does not invent this dream by himself, but it gets born in a policy arena in the negotiation with national and international actors. An example is the UNICEF (2012) report on the future of boys and girls, which is a publication by UN and Ethiopian government. A hard copy was found at the agricultural office in Alaba Woreda, where it surely has its influence. Because the verbal culture and the poor documentation, it is difficult to get insight in the contribution of the individuals and groups in the chain. The initial dream has a good chance of being molded into something that suits the lower responsible in a better way.

Parallel to the dream of universal access, there is also a dream to achieve food security for all, in which irrigation is a central notion. The expansion of the irrigation acreage is one of the goals of the Growth and Transformation Plan (MoFED, 2010). In 2009 2.5% of the irrigable land was developed, and the aim is to increase this figure to 15.6% in 2015. Using RWH for small scale irrigation development requires wet season runoff that can be stored, but among the different water sources that can be used for this, Rainwater Harvesting does not get special attention. In the context of the 'Food Security Program' RWH is mentioned as a water source for both livestock and human consumption, and incidentally as small scale irrigation.

The most interesting and relevant example can be found in the recent peak in Rain Water Harvesting efforts. In 2003 (1996 E.C.) the SNNP region started a true "RWH campaign". The two persons interviewed at the regional agricultural office knew that I was coming for information on runoff ponds, and before I could start asking questions they told everything about this campaign. "There was a big budget available for rainwater harvesting. There was one type of household pond, the trapezoidal shaped concrete household pond, that was selected to be distributed in the region. This was done mainly with the purpose to increase the irrigation coverage. The main objective was to achieve food security at household level, which requires self sufficiency. The household pond could help to start small-scale irrigation for garden vegetables and for high value crops, and at the same time provide access to water for cattle and domestic use.

But the campaign was a failure. The extension was not done in a good manner, the technical adaptation was not good, because the best shape of a household pond depends on the soil type. This was not taken into account, leading to cracks in the concrete. There were big problems with the supply of inputs, which lead to big differences in numbers of realized ponds in the SNNP region. There was no prioritization done in the region, that means that there was the same policy for the whole SNNP region. Sometimes there was political resistance, that means that people did not cooperate because it was a project 'from the government'. The officers conclude that the things that went wrong during the RWH campaign can be reduced to three classes of problems: technical, institutional and capacity related difficulties.

Due to the failure, the campaign stopped and policy was changed. Because of increasing demand to concrete from industries, the price has doubled in the last few years. The concrete household ponds became costly to realize and more investments were made in the cheaper plastic, of which many thousands have been realized in the region. Now they pursue

gradual adoption of RWH ponds. Based on their interest, farmers can buy a plastic sheet to line the pond, or they can buy concrete. But the initiative is coming from the farmers. The agricultural office focuses more on training and capacity building together with the provision of credit at low interest rates. Instead of a fixed top-down planning approach, it is much more bottom-up. In practice, however it means that investments in Rain Water Harvesting have decreased a lot, or have shifted to areas where implementation was successful. The officers knew that Alaba Woreda was one of the problem areas where implementation of RWH was very problematic. Table * shows the number of achieved household ponds for the whole region, and how they are increasing again in the last years. At the regional agricultural office they could not tell where these realized ponds were constructed, but from the Alaba Woreda office it becomes clear that Rain Water Harvesting is not a priority anymore. This means that Alaba Woreda has been given up, and that although RWH ponds are successfully implemented in other parts of SNNP region, this is not the case for Alaba Woreda.

So the dream is over. However, there is a new campaign starting, the beginning of a new dream according to the key informants at the regional office in Hawassa. The new dream is Watershed Management: to recharge ground water, increase production and to reduce environmental problems for sustainable use of resources. This includes aforrestation, terracing and gully treatment. At the more abstract federal policy level, the documents still talk of `food security' and 'access' to water etcetera. But the way to achieve this is no longer RWH but watershed management. According to the key informant in the agricultural office, the quality of the work depends a lot of the person, partly because of the verbal office culture. If not much is documented, except for plans and percentages of the plan that are accomplished, it is possible to achieve very little while using the appropriate policy terms. In practice, he says, nothing has changed. There is still a quota approach in which a multiple year plan is fixed top-down. There is a lack of a type of policy that includes reasoning like "We did A, and we found the problems a, b and c. Therefore we propose the strategy B for this area and strategy C for this area." There is only the very abstract policy that is detached from practice. And in practice it is mainly the numbers of people that are 'embraced' by a project that count, and evaluation is solely expressed in the % of the plan accomplished. So according to these two key informants that both work at the Regional Agricultural office in Hawassa, there is a big gap between long term policy dealing with food security and access to water, and the means to achieve this in the 'campaigns'. Again, there is a gap between the goal of Rain Water Harvesting a few years ago or the Watershed Management now, and the policy at Zone and Woreda level.

Woreda government

At the Woreda level, two governmental institutions are discussed in this section: The agricultural office and the Productive Safety Net Program (PSNP). At the agricultural office, Rain Water Harvesting is now part of the natural resources department. When trying to get information about past RWH efforts, it became clear that most people who were working at the agricultural office in Alaba Kulito during the 'RWH campaign' had left to another job. With the little documentation available, the major source of information was a few people who were involved and other persons that have heard stories from third parties. A key informant working for the Natural Resources department remembers that "the regional office in Hawassa put high priority on rainwater harvesting projects in that time. There was a lot of money available for concrete and later for geo-membrane plastics. Our Woreda is very food in-secure, and it seemed that RWH could be the perfect solution for us to achieve food

security. With a household pond people can cultivate some vegetables and high-value crops for the market. And with the ground water being very deep, RWH is a welcome source of water for animals and domestic use." The focus in the policy on RWH is thus connected to the dream of food security and the ideal of self sufficiency.

At this time, nobody at the agricultural office is very much involved in RWH. The disappointment of the failure to achieve successful and RWH is clear in the responses from the key informant. He explains that the disappointment is fed from two sides. "First the number of concrete household ponds was meant to be very high, and we dug out many pits that could be filled up with concrete. But the budget was lower after all, so we could only realize 200 concrete household ponds. Second, it was very disappointing to see that the people that got geo-membrane plastic for lining their household pond have sold it at a massive scale. Others that used it, faced the breaking of the plastic after one year." Now, RWH is officially part of the natural resources department, but in practice it is not getting much attention. People can buy geo-membrane plastic, but they have to pay the full price for it.

The other institution at Woreda level is the Productive Safety Net Program, that seeks to combine to support food in-secure households and simultaneously realize securing of assets through sustainable watershed management. Every year, the PSNP office has to make a plan which is sent to the regional SNNPR PSNP office for approval. This plan contains the distribution of resources for direct support and public works. In order to get insight in the considerations taken into account when allocating money to particular domains, interviews were held with key informants at the PSNP office in Alaba Kulito. He explains first that "this is a food in-secure area. What we want to achieve is more food security for households by securing assets. Many people have sold their cattle or land just to survive, and we think people should not sell their assets. That is not a sustainable solution, so we give support, either directly for vulnerable households, or through working on public work."

The dream behind PSNP policy is further explained by the key informant. It was the plan that households would graduate within 3-5 years to a situation where they would no longer need the PSNP. The dream was to lift people out of the food in-secure category into the food secured category. To get people to cross the line from dependent household to a self sufficient household and by temporarily offering an alternative for selling their assets in that time, and structurally strengthening assets, people can sustainably become food secure. However, in 7 years only few have 'graduated'. Still he believes that the program is very necessary, because without the program it would be much worse. It seems that the dream was to big, too massive, and that practice is lacking behind. The PSNP year plan for 2013 gives an idea of the more practical goals and considerations. The following fragment is a full quote of the only page containing policy, justification and explanation. The other pages are mainly numbers, amounts and percentages.

"Hlaba Sp. Woreda is one of food insured Woreda,s in SNNPR sate. It's total population is estimated to be 210,243/2005 data projection /Out of 79 PA's of the SP/Woreda 45 pA's are Embraced under safety net program since 2005 GC. Current Year Based on Food in security. House hold Labor status & related conditions, safety net program embraced **34,403** beneficiaries of which **30,378** are under public work and **4025** are under direct support.

Concerning the preparation of annual plan of the projects much effort is made to make the plan participatory Starting from the community level up to Woreda Food security task force & plan approval. In the plan 65% of resource allocation is for natural resource & environmental protection, 25% of the resource is for Rural rood unit,& the rest 10% is for Education & health activities."

What can be found about the big dream is in the start of the narrative, referring to Alaba special Woreda as a food in-secure Woreda, and how the PSNP selects the most vulnerable people. Selection criteria are "food in-security, household labour status and related conditions." About the way of working it follows that the projects are participatory and community based. Than follows the budget allocation. How this relates to experiences of the previous years remains a mystery. The bold and underlined numbers of beneficiaries "embraced", emphasize what is most important. In the progress reports and evaluation reports a similar story is written down as given above, also emphasizing the amount of people actually reached. What the measures really are supposed to change and the mechanisms of change are not stressed in the plan or in the evaluation. It is most important that it is answering to the outcome of the participatory process.

The officer responsible for the PSNP in Alaba Woreda explains more about the participative nature of the planning. There are group discussions where some representing people from a Kebele come together with experts from the Woreda office and local Development Agents. They prioritize the different options and make a plan. For pond construction, the plan for 2013 is to dig out 500m^3 of earth in First Tuka and 1500 m^3 in Tefo Chofo. Taking into account that a normal sized community pond has a capacity of about 4500 m^3, the planned amount can only be used for the maintenance of already existing ponds. This means that there is put more priority to other things like construction of terraces, water ways, roads and check dams.

There is a tension between the PSNP having certain objectives and a dream of achieving food-security, and the community based participatory approach where people decide on budget allocation. The officer agrees with this observation, and indicates that "it is the Woreda experts and Development Agents that have to guide the process to a diagnosis that corresponds with their own. But it is almost impossible to achieve continuity in this way, because the Woreda experts and Development Agents often lack the capacity for leading such processes and they often leave after a few years. And once this approach is taken, you cannot deny the priority of people, even when other things would seem more appropriate." It is the tension between the different dreams and ideals, that becomes visible in the practice of their realization.

NGO Food for the Hungry

From the various NGO's working in Alaba Woreda, especially Food for the Hungry Ethiopia (FHE) was active in the implementation of Rain Water Harvesting through the construction of community ponds in, amongst others, First Tuka. It is the vision of FHE "to answer Gods call, until physical and spiritual hungers ended worldwide", and it is their mission "to walk with churches, leaders and families in overcoming all forms of human poverty by living in healthy relationship with God and His creation" (FHE, 2011 - leaflet). Alaba is one of the three areas where FHE has embarked on implementing a several years 'market-led livelihood recovery and enhancement program (MLREP). According to the same leaflet (2011) "the overall goal of the program is to protect, diversify and increase the assets of food insecure households

through the promotion of marketable agricultural production". From the Alaba project synopsis it becomes clear that there is a close link with the Productive Safety Net Program where it says that "the proposed program aims at rehabilitating the affected population who are currently benefiting from JEOP Relief and Productive Safety Net Programs. The program will introduce Community Knowledge Building (CKB) and Value Chain Analysis (VCA)-based market-oriented interventions as innovations in the targeted areas".

From the Alaba MLREP project proposal the same important elements can be recognized as with the PSNP. "This sub-sector aims at providing temporary employment and thus income to chronically food insecure HHs and, at the same time, create productive community assets through their labor contribution. FHE will undertake nursery operations and construction of ponds for livestock through cash for work as a temporary employment scheme." There is a double advantage from making these ponds. One is to offer working opportunities, that is to diversify the livelihood opportunities. The other is to structurally contribute to important assets, in this case water supply for animals. Both contribute to the dream of achieving food security, and follow the same approach as the PSNP does. More specifically on the community ponds the report writes: "Because of the scarcity of water FH will construct ponds, which will greatly improve the water supply for livestock. FH will respond to this critical need by constructing ponds through cash for work. The ponds are structures for collecting rainfall runoff through collection channels and drains. [...] FH will construct 8 ponds, each suitable to local drainage and environmental conditions in geographically representative locations that can be accessible to many target beneficiaries."

The manager of the FHE Alaba project explains how the policy is mainly based on a baseline study at community level, that means interviews with people, focus groups and key informants. Project is designed in close cooperation with Woreda and regional governments. The role of the regional government is in the domain of impacts and outcomes that are evaluated, while the role of the Woreda government is in terms of experts and focal personnel. FH has the money and the plan, the Woreda helps implement it. What he likes about his work at FHE is that it has a lot of resources compared to the previous NGO where he has worked. At that NGO they could only do training, but at FHE you can also provide people with actual things, like water ponds, seeds, cows. He experiences that this NGO has a better impact, but what he really finds difficult is that people show a very dependent attitude to the project. People don't want to work by themselves but want the project to do everything. They also expect the NGO to intervene when the situation gets bad, so they don't have to be worried and make their own provisions. At FHE Alaba, they have the experience that people always indicate that they are interested in new projects, but when the actual work needs to be done, they show an attitude of great dependency and expect that you as NGO or government do everything. This is also a problem caused by FHE, because they are not working a lot on training. There is no time for "changing their attitude, to help them to help themselves". This is partly because this whole project is also some kind of pilot for FHE, in the real project there will also be more training.

Both in the documents and in the interviews, there is a big difference in the level of self reflective reasoning between the NGO FHE and the Alaba Agricultural office. For example when it is asked why FH only implements community ponds and no household ponds, the reasons are realistic and based on previous experiences. The FHE Alaba manager explains that it is difficult to manage these individual households, it is far more costly, and when you consider the long-term use, a community pond is much more sustainable because a lot of

household ponds are being abandoned after a while. In both the documents and in personal conversations the reasons for policy decisions can be explained.

A lot depends on the persons involved in the work. As compared to the government, a position at an international NGO is much more attractive in terms of salaries. The job requirements for working at an NGO are also high, not only you need to have a BSc level education in a relevant field, but also to speak fluently English. The FHE manager in Alaba participated in the national exam called ESLCE and scored above average. This allowed him to go to a university that is largely subsidized by the State and to pursue his personal dream to work for an NGO. Also my translator Semeru, who currently works as a teacher at the Alaba Technical school, dreams of working for an NGO rather than for the government. Not only because you get paid better, but also because the way of working has more impact. This illustrates how dreams are a multi-layered phenomenon taking place at different scales.

8 Conclusions

This report was started with the question how livelihood strategies and dreams of development relate to each other in the lives of the people living in the drought-prone rural area of Alaba Woreda, and how they relate to dreams of development of policy makers of the Ethiopian government and NGO's. The results support a number of interesting conclusions both at the conceptual and the practical level.

All people interviewed in Alaba Woreda were Muslim and share the Alabic ethnic identity. In their mixed farming systems, the main sources of income come from crops, and to a lesser account from animals. Two factors were concerning the farmers most in terms of their influence on production: the expensive fertilizer and irregular rainfall, including drought and flooding. These two factors lead to a relative land scarcity, because one needs relatively more land to be able to deal with the shortage of fertilizer and the unreliable rainfall. Drought is also impacting life in other areas. Because people spent every day a good amount of time and energy to go to a community pond or a deep well. Moreover, people need to travel long distances in the dry time, children have to skip school several times a week. The plentiful time spent for getting water cannot be put into productive labour. Drought and water supply is key to understanding rural livelihoods in Alaba.

All three classes of livelihood strategies, as used by Scoones (1998) are found in the results. Intensification strategies could be identified in the irrigation practices with household pond water. Both concrete and plastic household ponds had a substantial irrigation potential, allowing people to cultivate different and more crops, not only for more diverse household consumption but also to sell at the market. In the past years the introduction of cattle grasses and techniques of livestock fattening have resulted in intensification of livestock farming, although the overall numbers have decreased. Diversification strategies could not be found easily. Where they were present, it is in the form of small scale trading or working on other peoples' land. Another strategy found in this area, often described as chronically food in-secure area, is to employ aid resources from alleged resourceful people and projects. Migration is a strategy found for in some cases. Migration at local scale from the Kebeles to the small nearby towns, and migration at the global scale in the case of daughters that marry people in Saudi Arabia or South Africa. Livelihood strategy trajectories show as biggest change that population increase has caused massive conversion from range lands to crop land, reducing the number of cattle in its turn reducing the supply of natural fertilizer. Now people are dependent of chemical fertilizer which is only becoming more and more expensive.

Concerning the use of rainwater harvesting, it can be concluded that the water quality of community ponds was perceived as very low and it is associated with stomach ache, fever and insects. At the same time it is very much valued in the lack of an alternative. A paradox was observed in the use of plastic geo-membranes introduced for plastic household ponds. Being meant as a simple, cheap and effective rainwater harvesting technique in the context of evident drought, there were very few functional ponds. Some plastic sheets were broken after one year, but most people have sold the geo-membrane sheets and found another uses as roof or for the processing of crops.

When it comes to the dreams, it can first be concluded that it was not only possible, but very interesting to talk about dreams with people. It gives a relaxed sphere of conversation in

which people shed light on their plans and ideals. Merely informing about major problems and needs suggests, unspoken, an unequal relation, while discussing dreams is a way of appealing to the *human* rather than to the *poor*. Discussing dreams is a good entry point for understanding the subjectivity of human needs, which does not mean that the two are detached. On the contrary, it was found that people mainly dream of basic infrastructural things, like better roads, better and more education, good health care, more shops and electricity. These are things that the respondents refer to as their dreams, and the same things that are often called basic needs. This results suggests that adding the perspective of dreams to a livelihoods approach takes us back in the direction of needs, be it from a bottom-up approach. Dreams are not detached from needs, but evidently related.

Dreams of people can also be related to the different livelihood strategies. Some people dream of intensification by having one or several household ponds. Others dream of starting a small shop or to start a Mill. Others dream of becoming active in a farmers' association. It reveals much of what people value most. Surprisingly, it seems that livelihood strategies are not so much valued for their own sake, but rather play an instrumental role. This becomes clear in the multi-layered dreams of alternative livelihood strategies. The reason why the diversification strategy to start a mill was valued, was because of the possibility it offers to make money in a short time. This in turn, is critical to achieve a bigger dream: moving to the city. Most dreams seem to relate to making profit, and being agricultural livelihoods they include agricultural intensification and diversification dreams in order to achieve the real dream. Migration should also be understood of moving to a place where life is considered better in terms of access to health care, education and electricity. This suggests that 'sub-dreams' in terms of livelihood strategies are deployed in view of 'meta-dreams' of a good life in terms of income and access to facilities.

In policy it is not difficult to find the dreams that lie behind it. The biggest dreams are to achieve food security and to realize 'universal access', meaning that every household should have access to at least one source of water. Rainwater harvesting was seen as perfect way of combining these dreams by supporting small-scale irrigation for high value crops, and at the same time provide access to water for cattle and domestic use. It dominated policy, but it's planning and evaluation was only done in terms of *achieved* number of ponds. This word *achievement* directly reminds us of the contrast with capabilities as defended in the capability approach. Rather than offering the possibility to gradually adopt Rainwater harvesting technology, there was a top-down quota approach. Rather than evaluating policy at the capability level, RWH policy was concerned with *achievements*. Now, dreams of food security and access are still the same, but it is tried to achieve through sustainable watershed management, following a more gradual bottom-up approach.

Struggle becomes a fundamental and inescapable element when an institution with a certain vision and dream takes a 'bottom-up' approach. Because at the 'bottom' there are people with very clear dreams and ideas of desirable developments, gathered in communities with similar ideas. From the 'top' come institutions with an idea what is the best. This has not been explored into depth in this thesis, and this would be an interesting point of departure for further research.

Dreams are not static ideas, but continuously subject to interpretation and reformulation. A difference was found in the way that dreams *travel* within an organization between the government and the NGO. In both Regional and Woreda government the policy focus and

formulation of priorities and underlying dreams are conveyed through personal visits, phone calls and through letters. In the transfer of a big dream like food-security to actual practice, there is room for intermediate chains to reformulate this and to transform it into something more tangible. At the GNO Food for the Hungry Ethiopia there was much more a culture of documentation, written policy and written evaluation from donor parties that reshape policy dreams.

Of course, dreams are not the answer to all questions. We should not be trying to start a renewed rationalism in which people are depicted as consequently chasing their dreams. A good part of choices and behavior is motivated irrationally. The narration of dreams can reveal some of the meaning that plays a role under the surface of choices, but is not explaining all decisions. And it does not solve all paradoxes in the field. To have access to enough and clean water is a shared dream by all stakeholders. Why it is not a reality remains a very difficult question.

Dreams provide an alternative framework that is able to reveal capability deprivation. In the context of rainwater harvesting, the community ponds are used a lot and are crucial for everyday life. But both the quality and quantity of water is not appreciated. When asking people what they would choose in a more ideal situation, it gives an indication of what is found valuable. This alternative ideal-type situation revealed by the capability to dream, can - and maybe should- also be given a normative weight in evaluation of policy.

So dreams really do increase the understanding of strategies, not only because people dream of certain strategies but mainly because it reveals the non-rational and personal preferences, meanings and goals that make strategies valued. Livelihood strategies were found to be a means to achieving the *real dream*, suggesting that dreams are not so much related with livelihood strategies but more with livelihood outcomes. I would argued that the dreams that were found in this thesis seem to correspond better with an idea of well-being than with livelihood strategies, and that well-being can be seen as an desirable livelihood outcome.

The perspective of dreams counter the suggestion of linearity in the livelihoods concept, where assets largely determine the types of livelihood strategies that in turn lead to certain livelihood outcomes. The perspective of dreams has revealed that there is also an opposite movement where it is the image of the preferred outcome, the dream, that influences which strategies are deployed, within the given possibilities and limitations of assets.

The multi-layered dynamics of dreams can help to understand the struggle for meaning that inevitably takes place in the light of policy intervention. The friction point of dreams at different levels are an entrance to understand the difficulties in the process of policy to practice. The detachment from *needs thinking* should be reconsidered on the basis of the dreams described in this report, but only to give them a place as the capabilities to pursue *well-being.* The conclusions are an appeal to break with the incongruity of confining the use of the term *well-being* to developed countries while it is a shared dream for all people.

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Annex A: Questionnaire

Enumerator
Date of interview
Name of respondent (HHH)
Kebele
Cluster

Please explain the goal of questionnaire:

1. Understand livelihood strategies
2. Water use
3. Dreams for the future

1 General Household information

How many people are part of the household? _____

	First name	Relation with Head HH ❶	Sex	Age	Marital status ❷	Economic activity ❸ (contribute to income)	Seasonal migration (months)	Education ❹
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

❶ Relation with HHH:	❷Marital status:	❸ Economic activity:	❹ Education:
1 Head of Household (HHH)	*1 Single*	*1 Crop/ livestock on own holding*	*1 Illiterate*
2 Partner of HH	*2 Married*	*2 Labour: Paid work on other farm holdings*	*2 Non-formal*
3 Child	*3 Divorced*	*3 Labour: Seasonal work in city (not own business)*	*3 Grade 1-4*
4 Close relative	*4 Widowed*	*4 Labour: CFW programs*	*4 Grade 5-8*
5 Non-relative		*5 Retailing goods/petty trade*	*5 Grade 9-10*
6 Other:		*6 Metal smith/house construction/clothes making*	*6 Grade 11-12*
		7 School/student	*7 College*
		8 Other:	*8 Higher*

To which ethnic group do you belong? ☐ *Alaba* ☐ *Kambata* ☐ *Oromo* ☐ *Amhara* ☐ *Other:*

What is your religion? ☐ *Orthodox* ☐ *Protestant* ☐ *Muslim* ☐ *Other:*

How long do you live in this place? _____

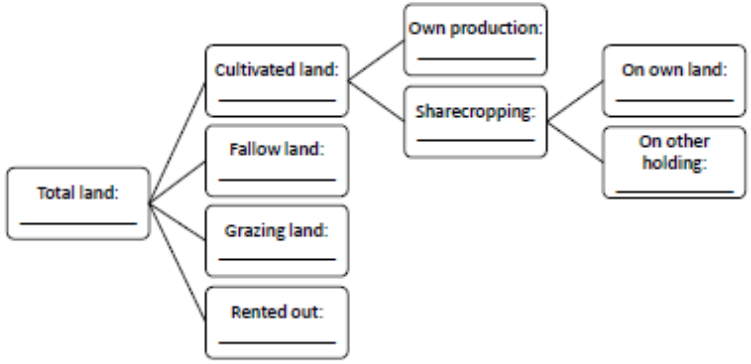
Do you like to continue living in this place? _____
Why? _____

How have the living conditions developed since you live here?
☐ *Improved* ☐ *Stayed the same* ☐ *Worsened* ☐ *Don't know*
Why? _____

2 Agricultural resources

2.1 Land resources

How many hectares of land do you have and use?



How did you obtain your current farmland? (The numbers of hectares are not important here)
☐ *Inherited from parents* ☐ *From Kebele Administration*
☐ *Under contract (_____yr)* ☐ *Sharecropped* ☐ *Other:*

Is the current amount of land enough to meet the basic household needs (food, clothing, improvements of sheltering, schooling, etc.)?
☐ *Not enough* ☐ *Barely enough* ☐ *More than enough*

2.2 Animal resources and products

What kind of animals has this household kept **in the year 2003/2004** E.C.?

Type of livestock	Number of animals in property:	What is the main use of these animals? ❶	How many animals sold?	Number of animals that died:
Cows+oxen				
Sheep				
Goats				
Poultry				
Mule/asses				
Horses				

❶ Main use of animals:	
1	*Transport*
2	*Ploughing / draft*
3	*Milk / dairy*
4	*Beef*
5	*Reproduction / breeding*
6	*Wool*
7	*Eggs*

Do you have beehives? ☐ *Yes* ☐ *No*
If yes: How many kg of honey do you produce per year? _____

3 Household resources

3.1 Physical assets

How far is it to reach the following: (only write down minutes if kilometer is unknown)

Asphalt road _____ km (_____min)
Primary School _____ km (_____min)
Health centre _____ km (_____min)
Market _____ km (_____min)
Well / tap _____ km (_____min)
Community pond _____ km (_____min)
Bilate permanent river_____ km (_____min)
Fields _____ km (_____min)
Alaba Kulito _____ km (_____min)

Do you have access to storage facilities? ☐ *No* ☐ *Private* ☐ *Community/kebele*

Do you have (access to) any of the following:

☐ *Electricity* ☐ *Radio* ☐ *TV* ☐ *Mobile phone* ☐ *Internet*
☐ *Donkey cart* ☐ *Horse cart* ☐ *Motor cycle*

3.2 Water use

Do you have access to an individual water pond? ☐ *Yes* ☐ *No*

Do you have access to a community water pond? ☐ *Yes* ☐ *No*

If yes: To how many community ponds do you have access? _____

What is the water holding capacity of the pond that is closest to you? (how many liters?)

_____

How many years ago was this pond installed? _____

Before you had access to the pond(s), what was your main source of water? _____

What was the goal for installing the pond?
☐ *Don't know* ☐ *Cattle* ☐ *Household* ☐ *Crops* ☐ ____

Do you use irrigation on your fields? ☐ *Yes* ☐ *No*

If yes: On what type of crops? If no: Why not?

What water do you actually use for the following purposes? (just tick like this: ✓)

Water source → Water use ↓	River	Well / tap	Individual pond	Community pond	Other	Remarks
Drinking water						
Household						
Cattle						
Crops						

Imagine that you could freely choose between all the sources in the table. What would be your favourite water source for the following purposes? (just tick like this: ✓)

Water source → Water use ↓	River	Well / tap	Individual pond	Community pond	Other	Remarks
Drinking water						
Household						
Cattle						
Crops						

Indicate for every water source that you use, the following: What is the **quality** of the water? And is the **amount** of water enough? (just tick like this: ✓)

	Water quality			Amount of water		
Water source ↓	Bad quality	Medium quality	Good quality	Not enough	Most often enough	More than enough
River						
Well / tap						
Individual pond						
Community pond						
Other						

Please indicate how much you agree with the following statements:

1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly agree

	No				*Yes*
Pond water is available when it is most needed	*1*	*2*	*3*	*4*	*5*
Because of the pond, I can cope with erratic rainfall	*1*	*2*	*3*	*4*	*5*
Pond water causes diseases	*1*	*2*	*3*	*4*	*5*
The pond causes conflict with other kebeles	*1*	*2*	*3*	*4*	*5*
The pond causes conflict within the community	*1*	*2*	*3*	*4*	*5*
The pond is very necessary for my way of living	*1*	*2*	*3*	*4*	*5*
With the pond, I can increase my crop production	*1*	*2*	*3*	*4*	*5*
With the pond, I can have more animals	*1*	*2*	*3*	*4*	*5*

3.3 Income

What is the estimated amount of the household income in **2003/04** E.C. for:

Livestock _____ ETB
Crop production _____ ETB
Others _____ ETB

Besides livestock and crops, what sources of income do you have?

- ☐ *Labour: Paid work on other farm holdings*
- ☐ *Labour: Seasonal work in city (not own business)*
- ☐ *Labour: CFW programs*
- ☐ *Retailing goods/petty trade elsewhere*
- ☐ *Selling fuel wood/charcoal/timber/grass/dung*
- ☐ *Metal smith/house construction/clothes making*
- ☐ *Making/selling Arake/T'ala/ Keneto (no alcohol)*
- ☐ *Remittances from urban areas*
- ☐ *Others*

Do you have access to credit? ☐ *Yes* ☐ *No*

Do you use credit now? ☐ *Yes* ☐ *No*

If yes: What is the source of this credit? ☐ *NGO (____* ☐ *Government*
☐ *Bank/financial institute* ☐ *Local money lender* ☐ *Friend/relative*

Where do you use the credit for? ☐ *Crops: Fertilizer/Improved seeds, etcetera*
☐ *Rent/contract additional farm land*
☐ *Cattle: Feed/Treatment etcetera*
☐ *Petty trade/Post harvest technology*
☐ *Other:*

3.4 External relations

Have you been included in an extension/training program?
☐ no → why not? _____
☐ yes, from agricultural office Woreda ☐ Yes, from NGO

What kind of extension/training?
☐ *Livestock development* ☐ *Post harvest technology*
☐ *Other:*

Please indicate if you are connected with one of the following associations:

Association	Member yes / no	Special role?	Association	Member yes / no	Special role?
Farmer association			Production association Kebele/woreda		
Eder			School committee		
Irrigation association			Religious committee		
Youth association			Other:		
Women association					

4 Agricultural activities

4.1 Crop production

What crops have you cultivated **in the last year (2003-2004 E.C.)**?

Type of crop	Total production (Quintal/ Ferrasula*)	Utilized for (Quintal/ Ferrasula*)			
		HH consumption	Sale	Seed	Others
Grain crop					
1					
2					
3					
4					
Vegetables					
1					
2					
3					
4					
Root crops					
1					
2					
3					
Permanent crops					
1					
2					
3					
4					

*) or other local unit.

4.2 Land management

Method of ploughing:

☐ *Hand dug* ☐ *Oxen* ☐ *Horses* ☐ *Tractor*

Do you apply chemical fertilizer? ☐ *No* ☐ *Yes*

If yes: how much **in the year 2003/2004 E.C.**? _____*kg*

If no, why not applying chemical fertilizer?

☐ *I see no advantages* ☐ *Don't know how* ☐ *Too expensive*
☐ *Insufficient supply* ☐ *No credit service* ☐ *Other*

Do you use natural fertilizer? ☐ *No* ☐ *Yes*

If yes: how much **in the year 2003/2004 E.C.**? _____*kg*

Do you ever produce crops in the Belg season? ☐ *No* ☐ *Yes*

If no: why not? (wait for answer, than tick or fill in under 'other')

☐ *It is more beneficial to work with FFW program*
☐ *Too big risk of not enough rainfall*
☐ *Not necessary for livelihood*
☐ *Other*

In the year 2003/2004 E.C., how many percent of your crops was lost? _____%

What reasons for crop loss do you experience?

☐ *Crop disease* ☐ *Frost /hail storm* ☐ *Locust*
☐ *Shortage of rain* ☐ *Too much rain* ☐ *Wild animals*
☐ *Weeds* ☐ *Other*

4.3 Work on the farm

In the year 2003/2004 E.C., how many persons were engaged in laboring on the holding, and for how many months?

	Number	Amount of months per person
Paid workers		
Unpaid family workers		
Partners (shareholder)		

Who in the household is responsible for the following activities? (just tick like this: ✓)

					
	Only male	Mostly male	50/50	Mostly female	Only female
Tilling (=ploughing)					
Sowing					
Weeding					
Harvesting					
Feeding animals					
Herding animals					
Milking					
Marketing					
Getting water					

4.4 Shocks and threats

From the list below, please select the 3 most serious problems for your household? (just tick like this: ✓)

		Remarks:
Low harvest		
Schooling fee		
Illness		
Natural resource degradation		
Poverty		
Hunger/Food crisis		
Death of family member		
Shortage of land		
Unemployment		
Flood		
Drought /Erratic rainfall		

5 Dreams for the future

How do you see yourself, ideally, in 10 years, with respect to the amount of land?

Select one: ☐ *I have more land* ☐ *I have less land* ☐ *The same as now*
Select one: ☐ *I share more land* ☐ *I share less land* ☐ *The same as now*

How do you see yourself, ideally, in 10 years, with respect to crop production?

I have _____ ha of cropland
I produce these type of crops: _____

How do you see yourself, ideally, in 10 years, with respect to irrigation?

☐ *No irrigation*
☐ *Several crops under irrigation*
☐ *All crops under irrigation*
☐ *Only small-scale vegetable garden*

How do you see yourself, ideally, in 10 years, with respect to livestock?

☐ *I have_____oxen*
☐ *I have_____goats*
☐ *I have_____sheep*
☐ *I have more beehives*

Suppose you won an agricultural lottery worth 6 000 ETB, that you can choose in one of the following categories, what would you choose?

☐ *Individual water pond + irrigation equipment*
☐ *Individual water pond for animals*
☐ *Livestock (2 cows or 5 sheep)*
☐ *Land: 1 ha for one year under contract*
☐ *Farming equipment*

What do you think is most important for the future of this Kebele?

We have reached the end of the questionnaire. Is there something you would like to add?

Annex B: Crop yields 2011-2012 (2003-2005 E.C.)

Crop and percentage of respondents that cultivates crop		Tefo-Tuka	Guba	Average
Maize	Total	1445	2268	1870
100%	Sale	**983**	1068	**1031 (55%)**
	HH	518	**1108**	823
	Seed	121	92	105
Teff	Total	1059	1043	1051
93%	**Sale**	**789**	**820**	**804 (76%)**
	HH	185	150	167
	Seed	95	73	84
Pepper	Total	1040	1228	1138
83%	**Sale**	**775**	**1211**	**1002 (88%)**
	HH	288	18	142
	Seed	1	0	0
Mashela/Sorghum	Total	857	911	896
42%	**Sale**	**629**	**494**	**532 (59%)**
	HH	186	350	304
	Seed	43	67	60
Dagusa/Millet	Total	844	733	781
35%	**Sale**	**533**	342	**424 (54%)**
	HH	200	**354**	288
	Seed	111	38	69
Onion	Total	433	2867	1893
25%	**Sale**	**333**	**2089**	**1387 (73%)**
	HH	100	422	293
	Seed	0	356	213
Potato	Total	481	2964	1640
50%	**Sale**	**244**	**2543**	**1317 (80%)**
	HH	150	243	193
	Seed	88	179	130
Haricot bean	Total	467	1325	1043
14%	**Sale**	**367**	**800**	**614 (59%)**
	HH	67	525	414
	Seed	33	0	14

Annex C: Achieved rainwater harvesting activities in SNNP region

The following information was obtained as a hard copy from the Regional Agricultural office in Hawassa. Unfortunately no specification for zones or Woredas could be given.

Water harvesting activities achieved from year 1996 – 2003 E.C.

Year	Family pond	Small community pond	Hand dug well	Small river diversion
1996	245	6677	33879	0
1997	4289	2291	13168	149
1998	4924	729	8458	920
1999	51630	147	6507	227
2000	806	603	13592	1245
2001	4824	575	11611	450
2002	4812	575	11611	450
2003	30534	1307	6148	465

Annex D: Cropping systems of the five selected households

Rajuna, 2 ha + earthen private “community” pond

Month	feb	mar	apr	may	Jun	jul	aug	sep	okt	nov	dec	jan
Field 1			Maize									
Field 2			Bean				Teff					
Field 3				seedling			Pepper					
Field 4					Dagusa							
Field 5					seedling		Cabbage					

Dubala, 3 ha + concrete household pond

Month	feb	mar	apr	may	Jun	jul	aug	sep	okt	nov	dec	jan
Field 1	→	Chat	Potato			Maize						→
Field 2				seedling		Pepper						
Field 3			Bean				Teff					
Field 4				Maize								
Field 5	→	Enset			→ coffee, mango, avocado						→	
Field 6			Potato			Pepper						
Field 7					Dagusa							
Field 8					seedling		Cabbage					

Aguda, 6 ha + earthen household pond

Month	Feb	mar	apr	may	jun	jul	aug	sep	okt	nov	dec	jan
Field 1	→	Chat		Maize					→	Chat		
Field 2					Maize							
Field 3			Maize & Sorghum									
Field 4				Maize								
Field 5			Potato				Teff					
Field 6			Potato				Teff					
Field 7			Bean				Teff					
Field 8			Bean				Teff					
Field 9				Dagusa								

Medina 4 ha

Month	feb	mar	apr	may	jun	jul	aug	sep	okt	nov	dec	jan
Field 1				Maize								
Field 2			Bean				Teff/bean					
Field 3				Sorghum								
Field 4			Pepper seedling				Teff					
Field 5	→	Grazing land				→	Grazing land					

Bergena 0,5 ha + earthen household pond

Month	feb	mar	apr	may	jun	jul	aug	sep	okt	nov	dec	jan
Field 1			Bean			Teff						
Field 2	→	Chat		Maize						→	Chat	
Field 3				seedling		Pepper						