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Afar Resilience Study

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For

Feinstein International Center (Tufts University)

and

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This paper draws on a review of livelihoods In Afar commissioned by the Feinstein International Center, Tufts University'

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Acronyms and glossary

| | |
|---------------|---|
| <i>amole</i> | salt bars (previously used as trading currency) |
| AKLDP | Agricultural Knowledge, Learning, Documentation and Policy Project |
| ANRS | Afar National Regional State |
| ASAL | Arid and Semi Arid Lands |
| CPI | Country Priority Intervention Area |
| CPP | Country Programming Paper |
| DF | The Development Fund (a Norwegian NGO active in Afar) |
| DRM | Disaster Risk Management |
| FPIC | Free, prior and informed consent |
| IDDRSI | IGAD Drought Disaster Resilience and Sustainability Initiative |
| IRR | Institute of Rural Reconstruction |
| IGAD | Intergovernmental Authority on Development |
| <i>kebele</i> | lowest level in the regional administrative system |
| NGO | Non Government Organisation |
| PCDP | Pastoral Community Development Project |
| PFE | Pastoralist Forum Ethiopia |
| PSNP | Productive Safety Net Program |
| UNHCT | UN Humanitarian Country Team |
| <i>woreda</i> | a district or intermediary level in the regional administration of ANRS |

Executive summary

This paper provides an analysis of the situation in Afar National Regional State that the current project to strengthen and build resilience must take into consideration. It is the second part of an AKLDP resilience study. A *mapping study* has been carried out in ANRS, indicating the kinds of development interventions that are currently being supported by the regional government and its development partners. The mapping study was discussed at a regional resilience conference in Semera in September 2014.

The following issues are discussed in this paper:

Resilience

The persistence of Afar pastoralism demonstrates its capacity to ‘bounce back’ after the crises that are a regular feature of the Afar environment. This resilience, however, has often carried an unacceptably high cost. Attempts at strengthening resilience cannot replicate old patterns, but must strengthen the ability of the system to absorb crises and exploit new opportunities, even if this implies change.

As pastoralism cannot accommodate the current population in ANRS it is strategically important to identify viable alternatives and supplements to pastoralism that will reduce the numbers of people dependent on livestock - thereby potentially strengthening the livestock sector as well. Failure to do this could easily result in a general downward spiral leading to an increase in destitution and dependence.

Efforts to strengthen resilience must therefore take account of the need to strengthen and find alternative sources of livelihood, in addition to improving basic services and providing even better social protection for the vulnerable parts of the population. These strategies will necessarily be closely associated with increased attention to drought cycle management, since Afar will, without any doubt, continue to be exposed to harsh and unpredictable climatic conditions.

Emergency drought response

In response to major droughts, government with the support of development partners has historically responded with short-term emergency interventions that address immediate food security, water, health and related needs. Emergency interventions are primarily designed to prevent emergencies developing into famines and they rarely address the fundamental and underlying causes of the emergency. Increasingly well organized, there is little doubt emergency interventions in Afar have played a major role in maintaining positive population growth over the past 20 to 30 years

In more recent times emergency interventions have been expanded to include the provision of feed and water for breeding animals. By maintaining a nucleus breeding herd through the emergency, the chances for faster household recovery are improved. In this way emergency interventions are contributing to maintaining a slightly higher livestock population and thus enabling more people to remain in pastoralism. It is not known how widespread this practice has become and how it will reorganise the pastoral system of the Afar.

Productive Safety Net Program

In response to growing levels of vulnerability in Afar the PSNP has been extended to cover all 32 *woredas* and is now providing transfers to almost half a million people, or about one third of the population in the region. ANRS is therefore being massively subsidized by the PSNP which while funded for another five years is unlikely to be funded at current levels for the longer-term future.

In pastoral areas such as Afar, the PSNP has found it difficult to organize public works projects that will boost the productivity of pastoralism and has therefore focused instead on alternative livelihoods and income sources.

In the same way, other projects including the Pastoral Community Development Program (PCDP) is concentrating on providing location-specific infrastructure and fixed assets that are focused on alternative livelihoods with limited value or relevance to pastoralists.

There is a widespread perception that both the PSNP and PCDP are struggling to design, construct and maintain even simple infrastructure projects in Afar as a result of the lack of skilled labour and associated support (design and supervision) services.

Pastoralism

ANRS is a large, sparsely populated dryland region with limited agricultural potential, other than the Awash River Valley. Approximately half the region consists of semi-arid and arid rangeland that can only sustain mobile livestock production - the mainstay of the Afar people - and even the higher rainfall areas are generally unable to support reliable rain fed agriculture. Flood recession agriculture has been practiced for several hundred years on the flood plains of Afambo *woreda* on the lower Awash.

An estimated 90 percent of the Afar population depend on pastoralism, herding cattle, sheep, goats and camels. Areas of good pasture that are able to support cattle have never been more than 15 percent of the total land area and are now becoming increasingly fragmented and lost. This is partly due to competition from irrigation agriculture in the Awash River Valley and the associated loss of the best dry-season grazing areas. The loss of high quality rangelands has been further exacerbated by bush encroachment, in particular by *Prosopis juliflora*, and long-standing security issues along the borders. One major effect of the loss of rangeland resources seems to have been a shift away from cattle to greater reliance on goats and camels.

It is mostly irrelevant to talk of over-grazing in Afar, since only a small part of the rangeland resources is sensitive to over-utilization. In general, the rangeland resources are more than anything directly dependent on the seasonal rainfall. None the less, non-pastoral use of trees and other woody species, for building materials, firewood, charcoal production as well as the restricted mobility of herds has translated into declining rangeland production in some locations.

Failed rains result in low rangeland productivity and lower herd productivity while good rains facilitate herd growth and increased production. Rainfall is therefore the main driver of the pastoral system while herd management plays a secondary role. As rainfall is variable, with good years followed by drought years, the pastoral production system typically follows what has been described as a 'boom-bust' cycle under which animals are accumulated in the 'boom' and lost in the 'bust' phase. According to the depth of the drought phase households can bounce back, either more quickly or more slowly or in some cases not at all, as whole herds are wiped-out.

Few pastoralists in Afar or anywhere else in the Horn of Africa subsist solely on the products of their herds - milk, blood and meat - if indeed this was ever the case. Pastoralists have historically bartered their livestock for grain with neighbouring settled farmers. Today, grain is an integral part of the Afar

diet and pastoralists trade 'expensive' pastoral products (milk, butter, live animals) for 'cheap' grains, with significant gains in terms of food. As a result, most pastoral households are sensitive to the terms of trade between the two classes of products, in particular during times of drought when the availability and quality of animal products is falling and the price of grain is usually increasing.

There is increasing evidence of a growing imbalance between the human population and the resource base in Afar. This imbalance is exacerbated by the fragmentation and loss of key rangelands resources. Not all households can be supported by pastoralism, even under normal circumstances and in times of drought, food insecurity quickly reaches crisis levels.

Despite these constraints, pastoralism will continue to play a significant role in Afar as an activity that can generate income and wealth from Afar's poor resource base. The Afar people have a long history of successful livestock keeping and livestock will continue to play an important role in Afar culture.

Development investment

While an estimated 90 per cent of the population of Afar is pastoralist, most of the development investments in the region have been made in sectors that are marginal to Afar pastoralism - irrigation, transport infrastructure, service provision and minerals.

Irrigation already employs thousands of workers and continued irrigation development will generate many new jobs. For example, the Tendaho Sugar Scheme is expected to create up to 50,000 new jobs when it is fully functional. As with other irrigation schemes, however, it is not clear how many Afar people eventually will be absorbed in the labour force.

While the Afar have undoubtedly benefitted from road construction and other infrastructure development through an increase in trade it would appear that there has been comparatively modest Afar-owned investment along Ethiopia's busiest highway that links Addis Ababa and Djibouti.

Afar is the most important source of salt in Ethiopia and exploration work is currently on-going at the large deposits of potash found in the region. The search for other mineral resources is also accelerating as it is believed that the potential is significant. It is yet unclear how large-scale mineral extraction will be integrated into the local economy and to what extent it will result in increased employment for the Afar community.

Irrigated agriculture

Modern irrigation agriculture - both concessions to foreign investors and through state farms - has been practiced along stretches of the Awash River for the last 50 years or more. Since 1991, the government has returned some of these farms to Afar clans. It is also developing the irrigation potential of the tributary rivers of the Awash and it is in the process of expanding large sugar plantations in the Middle and Lower Awash Valley.

The irrigation potential of the Awash Valley is estimated to be between 150,000 and 200,000 hectares of which less than half has been developed to date. It is seldom recognized outside the region, however, that the development of this land for irrigated agriculture removes most of the dry-season grazing areas that support the region's livestock.

It is noted in Afar that pastoralists that have lost their land were not always adequately consulted nor compensated for the loss. There is therefore an urgent need to continue to strengthen pastoral land tenure systems and protect pastoral user rights.

Alternative livelihoods

Pastoralism in Afar cannot accommodate the population it contains today. The conclusion that the best way to strengthen Afar pastoralism is offering as many Afar pastoralists as possible alternative opportunities, away from pastoralism, is perhaps counterintuitive. But the alternative seems to be collective misery and a downward spiral of destitution and dependence.

- While recognizing the challenges associated with irrigated agriculture, small-scale irrigation that incorporates fodder production and livestock rearing probably offers the most obvious opportunity for livelihood diversification in Afar. Scaling-up these small-scale schemes also seems a more viable strategy than scaling-down industrial-scale and mechanized schemes that have been established on the Awash River.
- In addition to irrigation it will be necessary to identify other income alternatives as the irrigation potential is not limitless. Investment in education including raising education standards is widely seen as one of the most cost effective investments to opening up future alternative livelihood options in the region.

1. Introduction

This paper examines the progress made in Afar National Regional State (ANRS) to build more resilient communities there, specifically the progress made since the 2011 Horn of Africa drought. While there has been no major drought in ANRS since 2011, droughts will continue to have an impact on the lives and livelihoods of people living in the region, as they have in the past. Major droughts are commonly associated with widespread misery and distress; high levels of food security will be caused by abnormally high losses of livestock and severely reduced production from the herds. Longer-term effects of high levels of food insecurity and under-nutrition will be prevalent in children, including both wasting and stunting in cases of chronic under-nutrition (Rabbia Fantew *et al.*, 2013). Additionally, under-nutrition in young children can result in a whole range of medical problems that manifest themselves later in life.

Despite the challenges posed by major drought, pastoral societies have sustained themselves in the arid and semi-arid lands of the Horn of Africa through history through sophisticated livelihood adaptations. Pastoralism as a system has been resilient, even if the costs to individual pastoralist households were considerable. In more recent times not only have pastoralists bounced back from drought but they are also increasingly integrated into other economic systems¹ that operate at local, regional and indeed national levels. Pastoralists must exploit opportunities where they are found and the issue of resilience-building cannot, therefore, be considered in relation to the pastoral system alone - even if this is where most of the people in Afar are still to be found - but must include the wider economic processes and developments.

There is still some uncertainty over exactly what ‘resilience’ should mean in the context of the new initiatives for the pastoral societies in the arid and semi-arid lands – ASAL - of the Horn of Africa. The term is originally taken from the natural sciences (ecology), where it may either be taken to signify the capacity of a system to return to a steady state after a disturbance, or the capacity of the system to absorb these disturbances and reorganize itself so that the essential functions and the structure of the system are retained. It will become clear that in this paper the term is used in the second sense: resilience concerns the ability of the socio-ecological system that we are dealing with to adapt to and overcome the crises and challenges that it is regularly subjected to. This is a definition of resilience that is very close to how it was first used in social science²: *resilience is a property that allows a system to absorb or utilize (or even benefit from) change.*

1.1 Afar National Regional State – ANRS

ANRS is a large (almost 100,000 km²)³, sparsely populated (approximately 1.4 million people) part of Ethiopia located in the arid lowlands in the north-eastern parts of the country. It covers approximately 10 per cent of the country and almost 30 per cent of its pastoral lowlands. These are deceptive figures, however, because large tracts of the land in Afar are classified as barren lands, - extensive areas covered with gravel and lava and where only minimal and ephemeral vegetative production can be found, in the aftermath of the rare and occasional rainfall episode. Surveys indicate that approximately 50 per cent of the land consists of ‘*exposed soil, sand and rock*’, with another 30 per cent classified as ‘*shrub-*

¹ The commonly accepted definition of a pastoralist household is a household with at least 50% of the available income from pastoral activities

² By Blaikie & Brookfield in their book ‘Land Degradation and Society’ Methuen, London, 1987

³ Some sources put the size of the region to be 96.707 square kilometers, others state that the size is 75.053 square kilometers. The reason for this inconsistency is not known.

land'.⁴ In the remaining areas (approximately 15 per cent of ANRS is classified as 'grassland') productivity of the Afar pastures is largely governed by rainfall. Average annual precipitation varies from approximately 600 mm in the most favoured areas in the south and along the Rift Valley escarpment in the western part of the region, to less than 200mm in the Dallol Depression (130 meters below sea level) in the north. Dallol is described as the hottest inhabited place on earth, with average high temperatures reaching over 46°C in the hottest month of June. There is very little pastoralism going on in Dallol, which on the other hand is the center for traditional salt mining⁵ in Afar. Work on the salt flats and in the business of transporting the 'amole' salt away to the highlands provides important income opportunities for people from the area. This industry, which employs several thousand people, is listed as one of the main sources of income for the people of the northern parts of Afar (see Save the Children *et al*, 2008).

A recent survey of pastoralist livelihoods in Afar (Diress Tsegaye *et al*, 2013) concludes that '*although pastoralism traditionally has been the major economic activity for Afar society, households specializing only in livestock now have lower incomes than those who practice farming or combine livestock and crop farming*'. The findings suggests that pastoralists in the region survive not only through the traditional subsistence economy based on livestock husbandry, but also through an involvement in various non-farm and non-pastoral activities and that they also increasingly depend on relief aid. The findings show that Afar communities '*adopt new strategies in response to environmental changes, altered market and ever changing political conditions, but still without total detachment from traditional mobile herding regimes*'.

This account from the northern parts of Afar, from a site with some agricultural potential (Alaa'ba *woreda*) illustrates a process that is common throughout Afar. Pastoralism seems to be failing and can no longer sustain Afar society. There are similar accounts from the southern parts of Afar as well, from the much better endowed (in terms of natural resources) Middle Awash Valley (see Müller-Mahn *et al*, 2010). Although 90 per cent of the Afar are still classified as pastoralists, pastoralism as a way of life and an economic pursuit is evidently under severe strain. Pastoralism, which traditionally has compared very favourably along a number of welfare indicators with small-scale farming throughout the Horn of Africa, is apparently becoming increasingly unable to feed and maintain the populations that depend on it. The Productive Safety Net Program (PSNP), which is the main social protection program of the Ethiopian government, has now been extended to all 32 *woredas* in ANRS, and has enrolled close to 500,000 people, or about one third of the total population of the region!

The main argument of this report is that the fundamental problem in Afar arises from a mismatch between the productive capacity of the Afar pastoral economy and the population trying to subsist from it. There are of course two dimensions to this mismatch: on the one hand there has no doubt been a general reduction in the overall quality and productivity of the Afar pastoral resources, caused by desiccation, vegetation changes, bush encroachment and perhaps most significantly, competition from alternative forms of land-use (primarily irrigation agriculture). On the other hand, even if population growth in the pastoral areas is slower than in the agricultural areas throughout the Horn (HPG, 2010), the size of the Afar population has increased⁶.

⁴ Figures cited in Dubale Admasu (2008): Invasive Plants and Food Security: the case of *Prosopis juliflora* in the Afar Region of Ethiopia

⁵ The main centers for modern salt production in Afar are found at Afdera and Dobi, further south. See Dereje Feyissa: *The political economy of salt in the Afar Regional State in northeast Ethiopia*, Review of the African Political Economy, Vol.38(2011)No.127, pp.7-21

⁶ As for most pastoral areas in the Horn of Africa, credible and rigorous demographic information is hard to find. The official population of Afar in 1994 was 1.1 million people, increasing to 1.4 million in 2007. But the CSA census material from both 1994 and 2007 show highly unusual sex ratios, with a high surplus of men (at 124 men per 100 women in 2007; 130 men per 100 women in 1994). It is not known if these figures are a question of data error, systematic underreporting or a shockingly high (and unexplained) female mortality rate. See Aynalem Adugna: Afar; Demography and Health, July 2014 www.EthioDemographyandHealth.org (accessed 20122014)

As indicated above, this population has to a large extent remained within pastoralism. There are many good ecological, economic, social and cultural reasons for this preference, but there is an obvious question how continued pastoralism can be sustained under these conditions of a human population growing against a shrinking resource base. Afar pastoralism is probably even more directly dependent on rainfall than most other pastoral systems on the Horn and a failed rainy season translates quickly and directly to a food security emergency. There is a growing realisation, that drought is not an unusual and singular event in Afar. If the most pessimistic climate change predictions are correct the productivity of the Afar pastoral resources will be reduced even further. The local capacity to handle drought emergencies, whether through the government or NGO channels, has improved a lot. There has been a slow evolution away from isolated emergency measures directed at the immediate problems caused by a drought towards institutions with a mandate for more sophisticated drought cycle management.

1.2 Drought and hunger

Droughts have been closely associated with food security shocks, and hunger, has been prominent in the history of the pastoral societies of the Horn. Protracted food security deficits can turn into famine, but famine is not a necessary consequence of drought. Famines can rarely be explained by natural phenomena alone and these days it is common to see famines primarily as the outcome of social rather than natural processes. At the most general level, it can be said that food security problems are primarily caused by poverty and by the way the resources in a society are distributed rather than by the natural calamity that previously was the explanatory factor. These explanations also clarify why the effects of droughts will not be equally distributed in a population, and that there will always be some parts of society that are more exposed to starvation than others.

In the context of the pastoral societies, household food deficits arising from reduced herd production often resulted in the expulsion of parts of the human population from pastoralism and this unhappy aspect of pastoralism is central to the adaptive capacity of the pastoral system. The adjustment of the size of the human population, often following close on increased mortality in the animal populations, is a crucially important part of pastoralism. The removal of parts of the population from the pastoral system has taken many forms through history, from pursuit of alternative livelihoods and sedentarization to migration out of the pastoral society and absorption in neighbouring societies, or even outright starvation and death.

Droughts can turn to famines if drought preparedness strategies and structures for drought mitigation are absent. Ethiopian history can show to two recent examples, when the widespread famines of 1972/73 and 1984/85 were allowed to happen because policies and organizations to stop drought from turning into famines were not in place. Since then government and non-government emergency relief agencies have become increasingly proficient, to the extent that droughts in Ethiopia now do not become famines. The 2010/11 drought, which killed 250,000 mainly women and children across the border in Somalia, did not result in famine or widespread medical emergencies in the neighbouring countries of Kenya and Ethiopia, because of the preparedness and mitigation services put in place there. Successful drought mitigation and the survival of the population at risk should of course be celebrated in its own right. None the less, one should not overlook that there are also troubling consequences arising from this success. In pastoral societies this success at one level implies a reorganization of the pastoral system. The persistent adjustment of animal and human populations to the resources that can be extracted has been central to the adaptive superiority of the pastoral systems in the drylands of the Horn and is a main prerequisite for the resilience that these systems have displayed over time.

1.3 Drought mitigation

Drought seems to have become an increasingly frequently encountered hazard in the Horn of Africa. The Emergency Events Database (maintained at the Centre for Research on the Epidemiology of Disasters - CRED) in Belgium reports 16 major droughts in Ethiopia since 1965, all of them with direct impact or indirect effects on the pastoral areas and the pastoral economies of the lowlands (see also Ali Hassen, 2008). Additionally, there are a number of more localized drought events, which may or may not receive public attention, depending on how serious they become. There is a controversy, however, whether and to what extent the increasingly frequent crises in the lowlands of the Horn of Africa simply are due to random weather events or more systematic changes in the climate. The role played by changes in human land-use patterns and other anthropogenic factors must be further clarified. One view links drought mitigation and famine relief efforts directly to the frequent crises, implying that successful drought mitigation in the short run will contribute to increasingly frequent crises in the longer term. It may thus be necessary to expand the time horizon of drought mitigation efforts significantly.

The explanations that primarily link the situation in the Horn to the changes in the climate point to a general desiccation of the region, over a time-scale which varies from a few decades to several centuries. Some analyses even go back six or seven thousand years, pointing out archaeological evidence of how the Sahara desert has dried out over this period of time. Other analyses emphasize short-term amplifications of the already highly variable rainfall patterns. Furthermore, both long-term and short-term climatic changes may be influenced by human activities on either a local or a global scale, through feed-back mechanisms like the albedo effect or the release of greenhouse gases and global warming.

It is believed that since the 1970s, the severity, frequency and impacts of drought have increased and that the areas affected by drought and desertification are expanding (World Bank, 2009). This is no doubt partly because the systems for reporting and disseminating information about these events have improved dramatically, but also because of real changes in the situation. A drought has been reported from Afar every second or third year since the turn of the century (Pantuliano & Wekesa, 2011), which is more frequently than what used to be the case. Furthermore, and in light of the climate change debates, the forecasts for the region indicate that higher temperatures could translate into more frequent and more extreme weather events in the future (Oxfam, 2011). Climate change impacts are still uncertain, however, because the human populations of the Horn are not simply going to be passive bystanders to the outcomes of climate change. There may be new or intensified risks produced by climate change, but depending on how they are encountered, climate change could offer a range of new opportunities as well (see Ericksen et al, 2013).

Disaster relief was provided to the pastoral societies of the Horn for the first time in the context of the well-publicized drought of 1972-74, and drought mitigation is still a constant political and administrative issue in the region. Not all countries are equally concerned with drought mitigation, however, and a recent review points out that there still are far too many gaps in the drought contingency planning in many countries. It is generally agreed that Ethiopia has made significant advances in this regard by improving its preparedness and response systems at all levels (UNISDR, 2012). One notable and very important shift, for instance, involves moving from a view of droughts as exceptional and singular events to an understanding of the need for continuous drought cycle management to meet drought as a normal, or at least highly probable, occurrence in the pastoral areas. None the less, not all systems for drought mitigation put in place are equally proficient. There continued to be gaps in the chain of events from preparedness, contingency planning and early warning information to concrete interventions to reduce drought risk or provide drought mitigation (Levine et al, 2011). As far as the pastoralist societies in the Horn are concerned, these gaps must primarily be related to the politically marginal situation of most pastoral societies rather than to technical competence for drought mitigation.

In an evaluation of the drought response in Afar in 2010, for instance, it is reported that ‘there was a five-month interval between the submission of the budget proposal by implementing agencies and final approval by the donor’, and an additional two months were required before adequate and competent staff was in place (Gezu Bekele et al, 2010).

2. Methodology

This analysis of the development situation in Afar has been prepared in conjunction with a mapping exercise that was recently carried out in ANRS, to survey the details of the development issues that government development agencies and their partners (often NGOs) are working with in ANRS. The purpose of this paper is a better understanding of the current situation in ANRS, to identify trends and vulnerabilities and on the basis of this analysis offer conclusions and recommendations that will inform on-going resilience-building efforts.

A short field trip was made between November 3 and November 12, 2014 to gain an overview of some of these issues, and to situate Afar in the context of the larger Horn of Africa region, including the regional political initiatives that have recently been proposed. The study is none the less largely based on a review of available published studies as well as ‘grey’ literature (unpublished reports prepared for various development agencies). The quality of the information available is highly variable and within several fields there is urgent need for further research. At some point in the future it might be useful to use the issues raised in this paper to inform future mapping exercises so that the gaps can be better discussed, to ensure that adequate attention is given to the key themes presented below and so contribute to better and more precise knowledge of the situation in ANRS. It will be evident that there are many gaps and uncertainties and this study does not have the scope or the ambition to resolve the controversies encountered.

The field trip took place in November 2014, under the auspices of the regional Disaster Prevention, Preparedness and Food Security Bureau in ANRS. The trip was organised to gain impressions of current events in the main livelihood settings in Afar. These include the agricultural areas along the Lower Awash River, the areas below the Rift Valley escarpment where the regional development policies see an opportunity for a combined agro-pastoral adaptation, and the arid northern parts of the region where pastoralism is combined with work in the traditional salt industry. The visits were facilitated by government technical staff working at the woreda level and while the field visits provided excellent introductions to the themes that are raised in this report, they could only provide brief glimpses into the realities that the resilience-building exercise in ANRS must address.

3. National and regional initiatives to build resilience

3.1 IGAD

One important political consequence of the diversity of drought experiences across the countries of the Horn has been the recognition in the Intergovernmental Authority on Development (IGAD) that past responses had been ineffectual in terms of meeting the recurrent humanitarian, environmental and economic consequences of droughts in the arid and semi-arid lands in the Horn of Africa. The IGAD summit in 2012 therefore resolved to embark on an International Drought Disaster Resilience and Sustainability Initiative (IDDRSI) (see IGAD, 2014). This initiative enjoined the member states to develop national platforms for coordination and policy guidance that would be multi-sectorial and interdisciplinary in nature and that would organize public, private and civil society initiatives and actions to counter the effects of droughts. It was recognized that more knowledge is needed on how sub-normal rainfall translates into the kind of crises that were experienced in 2011, that the underlying causes and structures of drought-related disasters must be examined and that the strategies, plans and tools for humanitarian and sustainable development interventions must be considered yet again. Each IGAD member state undertakes to articulate its overall IDDRSI priorities to build drought disaster resilience in a Country Programming Paper (CPP). Those priorities are reflected in the CPP according to the common Country Priority Intervention Areas (CPI) as agreed when the IDDRSI was formulated.

3.2 UN Humanitarian country team

In line with the national strategy in Ethiopia, the UN Humanitarian Country Team has taken due account of the complex tasks involved in enhancing community resilience, including capacity building for key institutions (particularly at the regional and 'woreda' level). The Humanitarian Country Team approach has in particular focused on the following four interconnected elements that underlie resilience building and which will require both additional analysis and stronger intervention, viz:

- Local livelihoods
- Basic services
- Social protection
- Disaster risk reduction

The Ethiopian Country Programming Paper for the IDDRSI on its part sets out six components for a resilience strategy, under slightly different headings and organized into a number of sub-components. In practical terms there seems to be adequate overlap between the CPP and the UNHCT approach.

It is important to keep in mind that because of the IGAD initiative there is now a new momentum in the political and administrative attention that will be given to the ASAL. It is a well-known view that across the Horn of Africa the main problem of the ASAL is one of political marginalization. The lack of political influence at the center has kept the ASAL off the national political agenda and interventions and investments that happen in the ASAL are usually driven by considerations that have little to do with the social welfare, economic and political progress of the people of the ASAL.

3.3 Country change

None the less, one should also remember that IDDRSI is not the first time that the manifestations of drought in the lowlands of Ethiopia have been on the agenda. Each drought episode since the 1973-74 famine has been accompanied by a period of 'reconstruction and rehabilitation'. These efforts, which usually do not have the time perspective required to achieve much in the ASAL and which usually fail to address the root causes of the problems in the ASAL, usually run out of steam quite quickly, most commonly because they have been donor initiated, donor funded and donor driven. So, hopefully there is now a new energy in the regional initiative from IGAD and the associated national platforms and other ramifications of the resilience building initiative. It is proposed in the IDDRSI documents that the new initiative involves a paradigm shift from the temporary crisis responses for the ASAL to a long-term endeavour of building resilience and ensuring food security in these vulnerable societies!

There is clearly a commitment to organize new initiatives and new interventions along the lines emerging from the IGAD initiative, but perhaps without a clear realization that development in the pastoral areas, whether for resilience building or for food security purposes, does not start with a clean slate. In fact, most of the pastoral areas of Ethiopia have a history of rather unsuccessful development interventions. Many of the development issues in the pastoral areas that repeatedly are being identified and set out as priority problems are in fact the intended or (mostly) unintended consequences of previous development efforts. In Afar, the few previous development efforts specifically directed at the pastoral sector are dwarfed by the massive investments in irrigation development that have been put in place for entirely different purposes, but which none the less gravely affect the pastoral systems.

Some of the investment projects in the pastoral lowlands have at various points in history paid lip service to the plight of the pastoralists and made promises to take the interest of pastoralist into account in their investment plans, while other ventures have gone ahead without any concern for the encompassing pastoral society at all. This is again a manifestation of the political marginalization of the ASAL in general (and perhaps of the Afar in particular). While declarations of the kind made by IGAD may be seen as an excellent beginning, real progress is unlikely to be evident before the Afar pastoralists themselves have a strong enough voice to be heard and are sufficiently politically empowered to demand attention to their problems on their own terms. That would perhaps be the best possible outcome of any resilience-building exercise on the basis of the IGAD declarations.

3.4 Resilience

The first platform in Ethiopia for crisis response in the wake of a drought, which also covered the pastoral lowlands, had 'rehabilitation' in its title, implying that the task at hand, after the phase of emergency relief, was one of returning the disaster-affected communities to a previous state. The realism of this policy precept was never really put to the test, although for a while the idea of funnelling destitute pastoralists back into pastoral society through various restocking schemes was quite popular with a number of non-government organizations in particular. Furthermore, the idea that pastoral societies could or should be re-established at some pre-disaster level obviously begs the question of why these societies are so vulnerable and exposed to crises in the first place. At best, a resilience agenda can aim at restoring, perhaps through a reorganization of the system, some of the functions of the pastoral systems in question.

Even if the large majority of the population in ANRS are pastoralists, one should not restrict the resilience-building efforts to the pastoral system alone. Pastoralism is by its very nature opportunistic and the pastoral livelihood has always included a range of non-pastoral activities, on a temporary or permanent basis. Pastoralists have not lived in isolation and have maintained contact and interaction

with other communities in the region; in the current situation, this interaction has taken on an aspect of competition in land-use with irrigation farmers. The resilience agenda must avoid solving problems for one part of the population at the expense of creating problems for others. It is necessary to expand the perspective to include the whole population of ANRS, because, after all, the main function that the resilience-building exercise must address is to re-establish the ability of ANRS to feed the population it contains. Pastoralism, in a historical perspective, has faced up to the brutal realities that the Afar rangelands can only accommodate so many people. If pastoralism can no longer feed the population it contains, it does not seem very useful to restrict resilience-building to the pastoral system. Pastoralism alone does not seem able to absorb the changes that have taken place in ANRS over the past few decades and it will be necessary to include also the full range of non-pastoral activities that make up livelihood opportunities in ANRS.

Additionally, the resilience agenda must be forward-looking and prepare for opportunities that are not yet evident. The basic social services component of the resilience-building agenda becomes, in this light, perhaps even more important than the contemporary questions of strengthening livelihoods and providing adequate social protection. Under the circumstances of pastoralism in Afar, education will be the key issue that will allow those which Afar pastoralism cannot accommodate, an alternative livelihood. It is important, however, to realise that education is not a sufficient condition for a better future anywhere, but that it will become an increasingly indispensable necessary condition! Paradoxically, the best way to strengthen the future of pastoralism in Afar is to allow as many individuals as possible to leave pastoralism and seek other livelihoods. Without better education this will not be possible.

4. Afar Pastoralism

An estimated 90 per cent of the population of ANRS depend on pastoralism, herding cattle, sheep, goats and camels. Areas of good pasture that are able to support cattle are only about 15 per cent of the total land area and are now said to become increasingly fragmented and lost. This is partly due to competition from irrigation agriculture in the Awash Valley. The associated loss of dry-season pasture is exacerbated by bush encroachment, in particular by *Prosopis juliflora*, and long-standing security issues. *Prosopis* was introduced in the 1980s to combat desertification and has since spread aggressively to cover large areas. A major effect of bush encroachment and the changing species composition of the rangelands seems to have been a shift away from cattle to increased dependence on goats and camels.

Some parts of ANRS are found in the extreme end of the aridity continuum in the arid and semi-arid lands of the Horn of Africa. None the less, Afar shares many of the features that characterize the ASAL in general, including the occurrence of the unpredictable and severe droughts that have become a characteristic of the region. While variation in rainfall is the main driving variable in the pastoral system, other events, like increased sedentarization, increased demand for firewood and charcoal and expansion of agriculture into marginal areas are all linked to observed changes in the vegetative cover and resource depletion (Diress Tsegaye et al, 2010)

While ANRS shares a number of characteristics with other lowland pastoral areas, there are also some features that set it apart. Parts of ANRS are exceptionally arid (and barren) with a resource base that can only support pastoral production for brief periods in a year. But the main distinguishing feature of the region is the presence of the Awash River that flows through the southern and eastern parts, ending up near the Djibouti border in a series of flood plains and shallow lakes (see Girma Taddese et al, n.d.). The Awash River has been a major resource in the Afar pastoral production system; seasonal access to the river frontage and to the river flood plains during the dry season has allowed the exploitation of the wet-season pastures away from the river. Furthermore, the flood plains, particularly along the lower reaches of the river, have allowed simple agriculture and food production as the floods recede. Flood recession agriculture has been practised for several hundred years in the Afambo area. This is also the only place in Ethiopia where dates have been produced in traditional agriculture, something which suggests a historical connection between Afambo, the historical Sultanate of Aussa and the Hadhramaut region of Yemen.

The Awash river regularly floods after the rains start in the highlands and the normal pattern of movement of the pastoral communities is away from the river during the floods, out on to the Alledeghi plains to the east or up to the Rift Valley escarpment to the west. This pattern of mobility has been disrupted by the large-scale development of irrigation agriculture along the river since the 1960ies (Ali Said, 1997; Ali Hassen, 2008, Rettberg, 2009).

There are a number of smaller but permanent rivers draining the highland areas to the west of Afar. Some agricultural activity is also found along these rivers. The general movement pattern in Afar pastoralism is towards permanent sources of water in the dry season, with dispersal in the wet season to exploit patches of good rainfall and transient water sources away from the rivers. Mobility is an important feature, even if the movements are not very long. Due to the run-off from the escarpment which runs along the western parts of Afar, the seemingly dry pastures are surprisingly well watered. Water is stored in the sand of dry riverbeds for long periods after the surface water has dried up and herd movement in these parts of Afar are not usually motivated by water shortages.

The Afar herd all species of livestock common to the pastoral societies of the Horn. Camels are no doubt the culturally most important animal, since they are the preferred animal for expressing social

relationships (as tokens of bonding in bond partnerships, or as fines for wrongdoings). They are well adapted to the Afar environment and are important as pack animals, as well as milk producers. Camels are expensive animals, however, and are rarely sold or slaughtered for meat. Cattle are also common and are highly valued but are more limited in terms of mobility and the range of pastures that they can tolerate. The most common and perhaps best-performing animal of the Afar herds is the Afar goat. Goats start breeding early, they have short kidding intervals and they are well adapted to the Afar environment. Being browsers, they are well adapted to the increasing bush encroachment that has been reported from many parts of Afar and they are in high demand in the market as meat animals, both for export out of the region and for the increasing urban populations in the small towns within Afar. The precise mix of animals depends on a range of factors, but general the driest and poorest parts of the Afar ranges are exploited by camels and goats, while cattle and sheep are found in the better endowed parts of the rangelands. Furthermore, rich people not only own more animals than the poor, but also have more varied herds as well, in terms of age and sex, as well as species. This distribution is not uncommon among other pastoral peoples of the Horn.

The stereotypical concept of pastoralists is that they subsist on a diet mostly composed of animal protein, - milk, butter, meat and blood. This may have been true at one stage but very few pastoralists, including pastoralists in Afar, can now directly subsist on the product of their herds. This is reflected in surveys such as the 'Livelihoods and Vulnerabilities' (Save the Children et al, 2008) that indicate that there are many households without sufficient numbers of animals; what is sufficient of course depends on how productive the animals are. But perhaps most importantly in a situation where there are food shortages, as happens regularly in Afar, livestock products have become too valuable to be consumed!

A household that falls short of its food requirements will have as their first buffer the exchange of valuable and expensive animal foods (milk, butter, live animals) for cheaper agricultural foods. Agricultural foods are grown in some areas of Afar, but are also traded from outside the region, or supplied as rations in e.g. the Productive Safety Net Program. The favourable terms of trade between animal and agricultural foods vary a lot; in times of crisis they may even be inverted. But normally there are significant gains to be made - between 4 and 6 grain calories may be obtained for each animal calorie. Most pastoral people of the Horn now depend on this food exchange buffer for their food security and have probably done so for a long time. An old study from Afar, for instance, states that Afar pastoral households obtain as little as 10 per cent of their energy requirements from milk (Tegegn Teka, 1991), and that the sale of animals to buy food is crucial to the food security of the Afar. In the 'Livelihoods and Vulnerabilities' study (Save the Children et al., 2008), livestock sales and food purchases are listed as important components of food security and coping strategies across the region and for all wealth categories.

4.1 The resilience of pastoralism

We must accept as an axiomatic truth that the pastoral societies in the Horn of Africa have endured through history because they have been able to handle droughts and restore themselves after droughts. Hence, pastoral societies are resilient in the sense that they display a capacity to absorb the problems posed by a drought and 'bounce back' after an emergency.

None the less, one should note that there is a difference between the persistence of pastoralism at the systemic and societal level and the survival of individual pastoralist households. The more we learn about the adaptive features built into pastoralism, the more we understand that maintenance through time of pastoralism as a system has depended on the ability of this system to meet the challenges posed by extracting a livelihood from an unpredictable and dispersed resources base. Mobility, underpinned by the socio-political organization of society, allowing pastoralist to move across large units of land in

search of water and animal feed are well-known and crucial aspects of pastoral society. But since the resource base is so scattered and diversified, and depends on highly unpredictable factors like rainfall, there situation will, from time to time arise where the population cannot be supported by the resources available. This will initially affect the animal population, but will soon translate to the human population as well. Pastoralism is after all a specialized adaptation to a resource base that more than anything else is unpredictable.

There has been some disagreement on how pastoral systems actually adjust populations to the productivity of the resource base. In some cases, particularly in the wetter parts of the pastoral areas, where the resource base is sensitive to overutilization, this may be a continuous process. As populations increase, we may expect fodder resources to become depleted and herd production to decrease. The household closest to a viability threshold (in terms of a balance between people and animals) are most vulnerable; the least viable pastoral households must compensate for reduced herd productivity by consuming their productive assets (their animals) and eventually leave pastoralism, leaving the more successful ones to carry the pastoral system forward. The literature on pastoralists is, however replete with accounts of all kinds of socially constructed countermeasures, like mutual assistance networks and arrangements for the redistribution of livestock, which at least will delay the expulsion of the unsuccessful units. Additionally, there are from time to time examples from pastoral societies, also in Ethiopia, that some individuals voluntarily withdraw from pastoralism as an economic management decision, exchanging all or parts of their livestock capital for other business assets. The growth of small towns in the lowlands can probably be related to this influx of both failed and successful pastoralists, alternatively looking for new livelihood or business opportunities (see Piguet, 1998)

In the most arid parts of the pastoral areas in the Horn of Africa, however, this adjustment seems to happen through 'boom and bust' cycles. The vegetation at this arid end of the continuum usually reacts quickly to episodes of good rainfall and herd growth and herd productivity will track the availability of the forage produced. On the other hand, a failed rainy season or two will quickly translate to herd losses and reduced productivity. Reduced productivity is likely to affect the most vulnerable and exposed households first, i.e. those who are closest to a household viability threshold or have poor reserves, or for some reason have poor networks and limited ability to move. In a really serious and prolonged drought the losses could be massive. These losses are of course tragic in their own right but under the circumstances they is actually a normal event which makes room for the 'boom' part of the cycle the next time around. The main issue is how the human population is able to handle the consequences of the 'bust'.

There is no record of famine relief being supplied to the pastoral societies in the Horn prior to the 1973/74 drought and it is highly likely that the normal consequence of drought was herd collapse, causing famine and increased human mortality. But irrespective of how population adjustments happened in the past, either in a slow but enduring trickle of people out of the pastoral adaptation, or in dramatic environmentally induced disasters, the pastoral human populations grew very slowly, or not at all, and were apparently kept within the bounds of what the pastoral production system could sustain. Droughts, famines, disease outbreaks and warfare were all commonplace events that contributed even further to this outcome.

Previously, emergency interventions were primarily directed at the human population; the perspective now has been expanded so that the emergency actions now also cover feed supplies for livestock and water transported from far away (Gezu Bekele et al, 2010). Selective and supplementary feeding obviously protects breeding stock and contributes to a quicker recovery when the rains come, and provides improved food security to the pastoral families during the emergency . There is not yet information available about how widespread and systematic these new emergency practices have become.

The provision of livestock feed and water during a drought implies a significant subsidy to the livestock economy, furthermore, it is a subsidy that depends entirely on external resources. In addition to the difficulties of envisaging these subsidies as a regular solution to what after all are frequent and commonplace problems in Afar pastoral society, these interventions seem to run counter to the fundamental logic of mobile pastoralism. The adaptive advantage of pastoralism in an environment like Afar is of course the ability of herds to move to the next patch of forage and the next watering point! Mobility has always been paramount in a pastoral system and a reorganization of this system of resource use has important implications both for the sustainability and resilience of pastoralism as a production system.

The subsidies to the pastoral economy, whether they are provided by donations from emergency relief agencies or from the income that pastoralists derive from other sources, will actually not solve the underlying problem of the imbalance between the productivity of the rangelands, the number of people dependent on pastoralism and the number of livestock required to support this population. Interventions aimed at keeping people in the pastoral sector will at best have very short-term benefits. It is, on the contrary, necessary to create alternative means of livelihood for the pastoralists who fail to maintain themselves in the pastoral sector. Under the current circumstances, it will be unproductive to use subsidies or safety nets to keep people in pastoralism. The resilience of the pastoral system has throughout history depended on the ability of the system to 'get rid of the losers', and this is the function that needs to be restored if resilience is to be rebuilt and restored.

Decades of humanitarian efforts and development work in the pastoral areas of the Horn have for all practical purposes overcome these disasters. This is of course the desired outcome of the interventions, but a direct implication of the successes has been population growth. We do not know precisely how important was the system function that periodically removed parts of the population from pastoralism, but it was most probably an important component of the resilience that the pastoral systems have displayed. In an area like Afar we may infer that pastoralism can be the basis of a good livelihood for a limited number of people and that a quickly growing population very rapidly can become a threat to the ability of the pastoral system to sustain itself (see also Sandford, 2007). The evidence in Afar today is that the pastoralists are becoming poorer. This is of course often a matter of definition: while the livestock holdings of pastoralists may be substantial, consumable products or even saleable products may be rare. Camels, for instance, are often difficult to sell in Afar. But the increasing frequency with which drought emergencies are being declared, and the enrolment of close to one third of the total Afar population in the Productive Safety Net Program provide a highly disturbing indication of a crisis of pastoralism in Afar. Another highly disturbing indicator shows a virtual standstill in the prevalence of stunted children in Afar, remaining at close to 50 per cent and showing only a 4 per cent improvement over the decade from 2000 to 2011, compared to over 20 per cent change in Ethiopia as a whole in the same period (Heady, 2014).

In sum, there is increasing evidence of a growing imbalance between the human population and the resource base in Afar. This imbalance is exacerbated by the fragmentation and loss of key rangelands to irrigation, invasive bushy species and to conflicts along the borders, with the result that levels of vulnerability are on the increase. Not all households can be supported by pastoralism, even under normal circumstances and in times of drought, food insecurity quickly reaches crisis levels. Despite these constraints, it can be expected that pastoralism will continue to play a significant role in Afar as livestock production can generate income and wealth from Afar's poor resource base. The Afar people have a long history of successful livestock keeping and livestock will continue to play an important role in Afar culture.

5. The development agenda

In response to major droughts, government with the support of development partners has historically responded with short-term emergency interventions that address immediate food security, water, health and related needs. Emergency interventions are primarily designed to prevent emergencies developing into famines and they rarely address the fundamental and underlying causes of the emergency.

The political agenda in Ethiopia has moved in the direction of finding new alternatives for the pastoralists. It may be argued that these policies often are created for the wrong reasons and that they do not take the realities of pastoralism properly into account. These public policies seem to disregard the contributions that the pastoralists make to the national economy and to ignore the fact that mobile pastoralism is actually extracting a livelihood and value from the areas that other Ethiopians view as barren, hostile and unusable. But pastoralists constitute between 10 and 15 per cent of the population of Ethiopia and over the past decade the issue of pastoral development has received increasing attention. The political marginalization of the pastoralists is often evident in initiatives since there is little concern in public policy for consulting pastoral communities, to actually find out how pastoralism works, what pastoralists want and need. The proposed solutions often involve the development of fixed-location facilities that may or may not meet the needs of the pastoral community. The main purpose of the pastoral development strategies that have been suggested, however, has clearly been to 'enable pastoralists to establish settled livelihoods' (MoFED, 2010:53). As far as public policy is concerned, settlement is a basic precondition, without which there can be no development.

5.1 Pastoral community development project

The government will from time to time organize specific projects and interventions with the explicit purpose that pastoralists should settle. A major government-sponsored project in this regard is the Pastoral Community Development Project (funded by the World Bank since 2002), with a main objective of improving the livelihoods and reduce the vulnerability of pastoral and agro-pastoral communities through a transformation towards market-oriented agro-pastoralism. The components of the current phase of the PCDP are:

- Community Driven Service Provision with three sub-components:
 - i. Community Investment Fund (CIF),
 - ii. support to institutionalizing the CDD approach, and
 - iii. community level self-monitoring and learning.
- The second component is the Rural Livelihoods Program (RLP). This component will assist pastoralist/agro-pastoralist households to improve their economic livelihood systems by promoting enhanced access to financial services (through the promotion of Savings and Credits Associations) and supporting improved advisory services that will enable them to identify viable investment opportunities, technically support them to strengthen and/or diversify their production systems and encourage innovation.
- The third component is the development learning and knowledge management which comprises a set of interventions to complement community level development (on which the first two components focus) with policy dialogue, strategic thinking around pastoralist development issues and enhanced transparency and learning within the project. The component will have two sub-components:

- i. Policy consultations and knowledge management
- ii. Communication and internal learning

Müller-Mahn (Müller-Mahn et al, 2010) assessed the contributions of the previous PCDP phase as encouraging sedentarization because they involve mostly infrastructure development such as irrigation schemes, water development, roads, schools and health posts. Müller-Mahn asserts that although these facilities ‘are identified by the communities within participative village meetings and Community Action Plans, they only partly reflect local needs because the planning process tends to be manipulated by local officials who administer the budget of the project’ (p.668).

The PCDP is by now operating in all 32 woredas of Afar. The first two phases were established in less than half the woredas, but had a pastoral risk management component extending to all 32. This component organized participatory early warning at the woreda level and put in place an early response fund at the regional level. Both seem to have played an important role in the successful handling of the 2010 emergency. The PCDP is well funded (from the federal level) and has since its inception maintained a reputation for concentrating its attention on infrastructure development.

In view of Müller-Mahn’s criticism it is very interesting that the third phase of the PCDP now clearly sets out to encourage more active and genuine local participation by granting decision-making autonomy to local communities and to embark on policy dialogue and strategic thinking around pastoral development issues. This could perhaps lead to more pro-pastoralist policies and investment decisions, even if they no doubt will be made within the framework of the established settlement outlook, at least initially. These established policies primarily involve the establishment of permanent facilities (water points, schools, health posts etc.) to invite or induce pastoralists to settle. There are without any doubt many arguments in favour of more stable settlement, including the considerations that go into strengthening resilience, viz. livelihoods, basic services, social protection and drought cycle management. The main argument against settlement has always been that the settlement policies invariably disregard the critical importance of mobility to the pastoral economy. Restrictions on mobility will not assist the pastoral economy and renewed efforts must be made to find ways of combining pastoral movement patterns with settlement.

5.2 Productive Safety Net Programme

The other government program regularly found at the woreda/local level in Afar is the Productive Safety Net Program. Although the PSNP must primarily be seen as a program for social protection, it also contains a development aspect since it aims at creating collective productive assets in the communities where it is active. This well-established and long-running program is well known and basically operates within the same modalities here as in other parts of Ethiopia, viz. targeting chronically food insecure households and organizing public works that are important to the local development tasks. It should be noted that the pastoral woredas in Ethiopia initially were excluded from the PSNP, probably for operational and programming reasons. At the time, the lack of clear technological interventions for the pastoral sector was also mentioned as a concern. Today PSNP is present in all the woredas of Afar and the woreda administrations have the primary responsibilities for its operations. The issue of appropriate technical interventions for the pastoral sector remains unresolved.

The PSNP originated in the old food-for-work relief operations introduced in Ethiopia in the aftermath of the two major famines in the 1970s and 1980s. At the time famine relief recipients were required to register for work in exchange for food; this was primarily an attempt to increase self-targeting of the food assistance provided, viz. those famine relief clients who had better things to do and could make a better earning elsewhere would exclude themselves from further participation. It quickly became

evident that this structure worked better as a targeting and screening mechanism than as a method for mobilizing labour for specific productive tasks, although this was the ideal already at this early stage. It was difficult to find the resources for the design and supervision work required to use untrained, poorly motivated and often unreliable labour for any useful purpose; in many cases the labour force was absolutely not up to the task. There were also cases where nobody actually knew for instance, how to build a road without machinery or lacked the appropriate background to design structures such as dams or diversion weirs on seasonal rivers. These weaknesses have beleaguered the PSNP since the beginning.

The screening and self-targeting functions of the food-for-work phase have been modified in the PSNP, into administrative procedures for beneficiary selection (with community consultations to cross-check the selection made by woreda and kebele administrators). The program still has quite high ambitions for the public investment and asset-building functions initially envisaged. PSNP accepts that there are some food-insecure people in all woredas who are unable to contribute much in the form of useful labour, and who will receive rations anyway (direct transfer beneficiaries may constitute as much as 25 per cent of all beneficiaries). None the less, PSNP is still about food for work, with beneficiaries contributing labour to receive predictable food and cash transfers for up to 6 months of the year. PSNP retains the option of paying participants a cash wage in lieu of food rations, but this is generally not popular because the low wages have not kept up with the increasing high price of food. Cash payments are administratively more simple to manage than food rations however and there is a tendency towards cash payment. Although a much wider range of technological solutions is now available as options for the public works projects, the question of finding proper support for design and supervision remains. In Afar, for instance, small-scale flood water diversion schemes for spate irrigation off seasonal rivers are popular, but also technically very demanding. Woredas are from time to time able to find the additional resources required and use PSNP labour contributions for these purposes, which all have a very high propensity to fail. And in general it seems quite challenging to identify useful PSNP projects in many areas in the lowlands, since the inventory of project ideas seem to be closely tied to the situation in the highlands.

Neither the PCDP nor the PSNP have sufficiently qualified and trained staff to allow them to design and supervise the construction of anything but the simplest structures. The PCDP does not rely on free labour but on local construction companies that also demand high levels of qualified supervision. Hence, many of the public works projects financed by the PCDP and the PSNP in Afar have been of poor quality. The outcome of spate irrigation projects, for instance, which potentially can be very useful either for growing food or for improving forage resources for livestock, is particularly disappointing, since the seasonal rivers that are big enough to attract the attention of a project officer are usually far too big to be handled by the technology available locally. The destructive powers of these seasonal rivers are legendary and there are spate irrigation projects in Afar that have been rebuilt 3 or 4 times already. This is a great pity since these outcomes are particularly destructive of the motivation, confidence and commitment of local staff. Compared to the funds that are invested in these projects the additional cost of securing proper design and supervision is probably marginal.

6. Alternative development thinking

Stephen Sandford notes in a recent contribution (Sandford, 2013) that the pastoralists of the Horn are being seriously impoverished at a very rapid rate and links this directly to population growth and the absence of technological solutions to stop the decline of rangeland productivity. He points out that diversification into other production options is essential and reviews the experiences of irrigation schemes in the pastoral areas in this light. In spite of the many failures and the virtually unanimous rejection by all students of pastoralism of all proposals involving irrigation for pastoralists, Sandford argues that the pastoralists need to diversify, that there are irrigation resources available in many pastoral areas and that there are, in fact, examples that irrigation for pastoralists is possible.

This surprisingly positive view of irrigation agriculture is also promoted by the foremost pastoral political interest group in Ethiopia. The Pastoralist Forum Ethiopia, review the experiences from a number of small-scale irrigation schemes in Afar in a recent publication. PFE points out that these schemes seem to work as intended, supplementing the income from livestock with agricultural products, stating that 'the traditional economy has been transformed by the use of irrigation' (PFE, IRR & DF, 2010:82). New practices, which include the growing of animal fodder in addition to food crops, have enabled these new communities to attain food security. In addition, the sedentary lifestyle has facilitated interventions related to health, education, transport and electric power. None the less, the irrigation potential of the rivers in Afar is limited, and with a large proportion taken away by large-scale commercial schemes like the sugar plantations at Tendaho and Kessem, the proportion of Afar pastoralists that can be accommodated is limited, even if this adaptation becomes popular.

Neither Sandford nor PFE go into any detail with regard to the management dilemmas that must be solved by a production unit that combines irrigation agriculture with pastoralism. To the extent that small-scale irrigation practices mimic traditional flood-recess agriculture of the kind found in the Afambo district of Afar, however, it seems that there are local models available for how to solve these dilemmas. The review by Müller-Mahn et al (referred to above) of development pathways in the Middle Awash also conclude that 'the case studies (...) indicate that mobility (that is, the continuation of mobile forms of pastoral production) and modernization (that is, transition to market-oriented sedentary agro-pastoralism) are not mutually exclusive paradigms of pastoral development' (p.674-75).

Müller-Mahn et al. also note, however, that there is an urgent need for a shift towards pro-pastoralist policy in development policy thinking. They point out that the pastoral development policy of the government has remained 'remarkably unchanged' over the past two decades, even as the methods and forms of interventions have shifted from coercive to voluntary sedentarisation and from a top-down approach to a more participatory process'. There is still a problem, however, that 'many government officials still view pastoralism as a 'backward' culture; they believe that pastoral production systems need to be transformed so that pastoralists become 'civilised' citizens contributing to the national economy' (p. 667). The issue of how much the pastoralists actually contribute to the national economy is extensively discussed by Little et al in their assessment of pastoral development policies, referred to above. Figures show that the contribution of pastoralists to the national economy is probably much higher (perhaps as high as 16 per cent) than the officially accepted estimate of 9 per cent and that without pastoral livestock production a main pillar of the livestock export industry of Ethiopia would most likely collapse.

Hopefully, the IGAD initiative for new policies for the arid and semi-arid lands of the Horn of Africa will maintain their initial momentum and continue to drive a concern for what goes on there and the people who live there. The first test of this will obviously be the next 5-year development plan, which will replace the current Growth and Transformation Plan within the next 6 months. A recent review of

the development situation in Afar after the Ethiopian Country Programming Paper (CPP) was issued concludes that

In general, the Ethiopian Government has only vaguely recognized the support of pastoral systems in the ASALs in their current policies which contributes to the persistence of the precarious situation of pastoralists in the ASALs. The importance of supportive policy – on mobility, on land tenure, on marketing, on conflict and on well adapted service provision such as education and health – for pastoralism has long been recognized by researchers, donors and NGOs. Until recently however, the Ethiopian government has not yet accepted the adoption of such policies. Pastoral rangelands continue to be encroached upon by commercial large-scale agriculture irrigation schemes run by investors, by parks and protected areas and increasingly by natural resource exploitation. However, very recently the Government has recognized the importance to address pastoral livelihood's vulnerability in the ASALs following the 2011 drought. In response to the IGAD initiative 'Ending Drought in the Horn of Africa' Ethiopia's Country Programming Paper (CPP) has been prepared in 2012. The CPP recognizes the development of pastoralism as the dominant livelihood in the ASALs, but in the moment it is only a political paper (Böhnert, 2013:39)

7. Agricultural expansion

In Afar, we may postulate that there are a number of factors that over the past few decades have contributed to the maintenance and growth of the human population. These include drought relief, improved drought cycle management, improved health services, relative political stability, improved trading networks, closer integration with the Ethiopian nation-state, etc. Demographic information from Afar, as well as from other pastoral populations in the Horn, is patchy. The quality of census information is highly variable. One of the main issues which require additional investigation and documentation is the unusual gender ratio reported from the last two censuses, showing that there are far more males than females in the Afar population. None the less, all indications are that the Afar population has grown by approximately 2 per cent per year between the two last censuses. There is some evidence that the resource base has deteriorated through qualitative changes in vegetation composition, due to bush encroachment and local over-utilization of woody species, but primarily the shrinking resource base has been blamed on the expansion of irrigated agriculture and the infestation by the invasive *Prosopis juliflora* tree in the Awash Valley.

Irrigation agriculture does not have a very long history in the Awash River Valley. It first started in the 1960s with a large-scale concession for cotton farming in the Lower Awash, followed by a number of farms in the Middle Awash, usually set up as joint ventures between the Awash Valley Authority and foreign companies. After the 1975 revolution and land reform, all farms were nationalized and put under state farm management. In addition, there were several new farms developed, particularly in the Middle Valley. In 1992, approximately 45 per cent of the total irrigation potential of the Awash, amounting to some 155,000 hectares had been developed (Ali Said, 1997:124). In general, irrigation farming in the Awash Valley was not very successful and it is reported that the farms under government management consistently ran at a deficit. Furthermore, it is reported, that many of the farms in the Middle Awash were poorly designed, with poor land levelling and drainage leading to salinization problems, loss of land and loss of productivity. In summing up the experiences, Ali Said states that

The performance of the irrigation schemes looks even grimmer when compared with the magnitude of initial investment cost in establishing the schemes. It is arguable that if these investment costs had been diverted to the pastoral sector, the benefits that could have been derived would have been far greater than for irrigation (Ali Said, 1997:127)

After the change of government in 1991, a number of irrigated farms, particularly in the Middle Awash, were returned to Afar clans on the basis of traditional claims. The Afar are organized into a large number of named clans that 'own' particular pieces of land, usually defined with a watering point on a river as its center. The seasonal pastoral movements in Afar are usually not very long (50 -100 kilometres), and members of a clan will normally come back to the dry-season water point and grazing reserve that is known as belonging to the clan, because of easy access and to strengthen clan solidarity. Mutual support between clan members in all matters is vitally important. There are no institutions for land management as such and pastoral land 'ownership' is largely about the territorial extent of the authority of clan leaders and their ability to mediate and settle conflicts. Clan members have precedence to water within their own clan territory but other clans are allowed to pass through or share in the available resources on the basis of negotiations with the clan 'owning' the land.

The change of ownership in the Middle Valley did not lead to positive changes in land use or improved performance of irrigated agriculture. The land taken over by the clans was rarely used by them for food production but was often directly rented out to agricultural entrepreneurs, usually from outside the region, on short-term leases. This has had consequences for the operation and maintenance of irrigation works and resource husbandry practices have suffered. The 'investors' usually have a very short time horizon in their operations and are more concerned with immediate returns from their investments than long-term management of the land. On top of the problems with poor design noted above, poor land

preparation, poor irrigation practices and labour problems, there were conflicts over ownership among the clans. All of this contributed negatively and reduced productivity on the irrigation farms to the extent that many farms were abandoned and left fallow.

With a few notable exceptions, income from the irrigation farms has not benefited the pastoralists of the area, either. It has in many cases caused increased social differentiation between a few clan leaders/elders who rented out the land (and kept as much of the rent as they could), and many common pastoralists who were denied access to their own land and received only very little compensation. Müller-Mahn et al. (2010:672-73) points out that that a small and relatively wealthy class of Afar emerged from these arrangements, which may be said to have resulted in poor land management as well as reduced clan solidarity. There are some exceptions. Müller-Mahn describe one case where some young educated Afar had taken over parts of the clan land and organized other clan members to actually work the land and make a solid profit that then was invested in further education and other welfare projects for clan members.

The irrigation farms themselves do not take up a lot of the land. The irrigation potential of the Awash River is estimated at between 150,000 to 200,000 hectares which is less than 2 per cent of the land surface of ANRS, but the strategic value to the pastoralists of the irrigation sites far exceeds the amount of land they occupy. First, irrigation farms often block access to the river itself, cutting the pastoralists off from water sources for their stock. Second, the irrigable land is located in the former dry-season pasture reserves of Afar pastoralists. Without access to these reserves the yearly herd movement cycle is disturbed and the wet-season grazing, away from the river, becomes useless as well. This means that although the amount of land that is occupied by irrigation actually is quite modest, there are far-reaching effects and repercussions of locating the irrigation projects in direct competition with pastoral grazing needs in the dry season. The cost to pastoral production in the Valley is correspondingly high (see Behnke & Kerven, 2013).

8. Reduction of pastoral resources

In addition to the restricted access imposed on pastoralist by agricultural development, an area much larger than that covered by irrigation farms has been invaded by *Prosopis juliflora*. This is an alien invasive species introduced into the Awash Valley in the 1980s. At the time it was widely regarded as a 'wonder tree' for land reclamation and sand dune stabilization in the drylands, since it would do well under very poor conditions. Conditions in the Awash Valley have probably been too good for it and *Prosopis* has spread rapidly and aggressively, growing into impenetrable thorny thickets, effectively removing large tracts of rangelands from Afar pastoralists.

8.1 Bush encroachment

Prosopis juliflora currently covers approximately 3,600 km² in Afar with a potential to spread to over 5,000 km² of suitable habitat (Tewodros Wakie et al, 2014:4-5). It has caused widespread vegetation changes, reducing the availability of a whole range of grassland species and indigenous trees from the areas invaded. Another estimate indicate that 70 per cent (or approximately 500,000 hectares in 2006) of all *Prosopis juliflora* in Ethiopia is found in the Middle and Lower Awash (Rettberg and Müller-Mahn, 2012:297). The spread of *Prosopis* has affected both pastoralists and farmers; there are reports that in extreme cases farmers have had to leave their farms, that pastoralist have to change the composition of their herds and that herd productivity has been reduced by as much as 85 per cent. Animal health problems as well as increased incidence of malaria in the human population have been reported; additionally the dense thickets prevent mobility and attract predators (see Yibekal Abebe Tessema, 2012:64-65). There is no doubt that *Prosopis* has caused severe problems in a number of local contexts, which in turn have had widespread consequences for the food security situation. With less accessible land available, the conflict over the remaining resources becomes more acute as well.

The positive aspects of *Prosopis* reported from other countries seem to be less relevant to the situation in the Awash. *Prosopis* is in these different contexts presented as a valuable source of timber, charcoal, firewood, honey, animal feed and gums that are used in food, pharmaceutical, chemical and manufacturing industries in many countries, and because of its excellent adaptation to harsh environments, it has become an important tree for people forced to live in marginal lands. There are reports from Haiti and India, for instance, that *Prosopis* is the 'tree of the poor' (see *Prosopis Society of India*, 1998). In Ethiopia it is not yet conceptualized in these terms, and although there is an increasing use of *Prosopis* for firewood and charcoal production, most people in the Awash Valley see it as a menace (Dubale Admasu, 2008:4).

Yibekal Abebe Tessema (2012) asserts that there is a lack of a coordinated strategy and policy towards *Prosopis* in Ethiopia, but that there none the less have been a number of small-scale efforts to control it. There are several different control methods that have been tried in various parts of the world – mechanical uprooting of the tree, either manually or with machines, applying chemical herbicides or introducing various biological pathogens and predators, or by burning. None of these methods have succeeded anywhere in eradicating *Prosopis* completely. There are therefore many arguments in favour of increased utilization of *Prosopis* as the best strategy for control and even as an option for economic development and poverty alleviation. Utilization schemes, through which cooperatives have been assisted to clear *Prosopis* manually and use the wood for charcoal and firewood, drying and crushing pods and seeds for animal feed products and then replanting the reclaimed land with cotton or food crops have been introduced by FARM Africa, in particular (FARM Africa, 2008). Studies by Tewodros Wakie et al (2012:10) have confirmed the 'converting *Prosopis juliflora* invaded lands into small-scale cooperative-owned cotton farms is a cost-effective control option' that will also provide new economic

opportunities for the community. Hence, the utilization strategy for *Prosopis* control should be pursued and supported more widely. One suggestion that has been made is that the utilization strategy would be highly useful in the context of PSNP activities since the conversion of *Prosopis* bushland to productive farmland would be a tremendous contribution to the assets-building objective of the PSNP.

There are some dangers arising from the utilization strategy, however, primarily related to biodiversity conservation, since charcoal production has been used in some cases as a cover to produce charcoal from more easily accessible but protected tree species (in particular *Acacia* spp). There is also some concern expressed that if cooperatives make a profit from *Prosopis*, they may have an incentive to let the tree return to their lands through coppicing, rather than to take the additional effort of removing stumps, which is the recommended action. This of course depends on how profitable alternative land use will be. The cotton farming strategy suggested by Tewodros Wakie et al must be evaluated and adjusted in light of prices and markets for various alternative agricultural commodities and there are no doubts crops with a higher market value than cotton available.

8.2 Border conflict

A third salient factor contributing to the reduction of pastoral resources available to Afar pastoralists is the protracted conflict between the Afar and the Somali Issa along the eastern border of ANRS. The conflict has been on-going for several decades (see Markakis, 2003 and Markakis, 2011:301-304). It seems to have started out as a comparatively simple resource conflict, with the dry-season pasture reserves of the Awash River Valley as the prize. But there have been political overtones to the conflict since the start: it is well known that in the thinking of many Somali nationalist politicians in the 1960s and 1970s the Awash River was presented as the natural border between the Somali lowlands and the Ethiopian highlands and maps to this effect were readily available at the time. Since the collapse of the state of Somalia this issue has become far less overt. The current resource conflict, however, which by implication also involves the wet-season pastures of the Alledeghi Plains in the borderlands between the Issa and the Afar, has been intensified by the events in the Awash Valley that closed off sections of the river frontage and dry-season grazing to pastoralism.

Several other layers have been added to the conflict as it has evolved (see Tadesse Berhe and Yonas Adaye, 2007). In addition to the pastoral resources involved, the conflict also concerns control over trading posts on the main Addis Ababa-Djibouti highway which runs through the area. The trading posts are obviously closely linked to the pastoral communities that surround them. The trading posts also concern control over the contraband smuggling routes coming out of Djibouti. Although the conflict only occasionally seems to affect the traffic on the road, there have been regular reports of firefights and casualties on both sides for many years. Blood feuds are common in both societies and some of the violence may be due to this particular form of revenge killings.

It is difficult to gain an overview and proper insight into the nature of the conflict because there is little information in the public domain on what goes on and which factors drive the conflict. The published research points to factors that are clearly relevant but researchers have not so far been able to present a fully coherent analysis of the conflict. The two antagonistic groups of course blame each other and it is difficult to find impartial and detached accounts of events.

There are all kinds of local suspicions that the Issa enjoy the tacit support of their fellow clansmen in the Djibouti, particularly when it comes to the economic aspects of contraband smuggling. From time to time there are assertions the smugglers enjoy the tacit support of Djibouti government civil servants and that well-connected business interests in Ethiopia also are involved in the contraband trade. Even if this could be the case, it is next to impossible to verify such assertions. There are apparently some difficult constitutional considerations involved as well, concerning questions like regional autonomy, the regional government's freedom of action and responsibility for local security on the one hand and federal responsibilities for peace and security on the other. The federal authorities have been most forcefully involved in the few cases where the conflict has closed the main highway, which is of vital interest to the national economy of Ethiopia. The federal government has been surprisingly tolerant, however, of the slow progress made by the two regional governments and the local peace committees created to resolve the issues. The latest hearsay (from 2014) say that the Afar regional government now has made a determined effort and succeeded in establishing control and authority over the truck stops and trading posts on the highway. The Issa communities have apparently accepted this outcome. This will obviously have consequences for at least one important aspect of the conflict, but whether this is sufficient or if there are other aspects that will continue to drive the conflict remain to be seen.

g. Alternative livelihoods: Settlement and pro-pastoralist policies

As pointed out above, irrigation agriculture and pastoralism need not be mutually exclusive activities. There are in fact examples from the Awash Valley, but also from other minor irrigation sites on smaller rivers elsewhere in Afar, that irrigation farming and pastoralism can be well integrated, providing an additional source of income for the community (Müller-Mahn et al, 2010). There is a question, however, about which kind of land-use would generate the best return on investments. As indicated above (Ali Said, 1997:126-127) this question was asked at a fairly early stage of the development of irrigation in the Awash Valley. A more recent study (Behnke, 2013:57-70) comparing returns from a livestock-based operation with the production of cotton and sugar on irrigated farms in the Awash found that the livestock operation was most profitable. The study draws a very cautious conclusion, however, and postpones the final recommendations on the choice of agricultural strategy.

The main issue driving the conflicts between pastoralists and the large irrigation development projects can basically be summed up as the lack of proper consideration of the rights and the needs of pastoralist, i.e. the lack of what Müller-Mahn refers to as pro-pastoralist policies.

In technical terms it does not seem very difficult to integrate the concerns and needs of pastoralists in the design of irrigation schemes. In connection with planning and construction of the new Tendaho sugar factory and the development of the sugar plantation, for instance, there has been a lot of publicity available (from the Ethiopian Sugar Corporation as well as from the WALTA information service) about how the concerns of pastoralists are well integrated in the plans. Out of the total planned area of 60,000 hectares, 10,000 hectares were to be set aside for 1-hectare irrigated plots to be distributed to settled pastoralists as compensation for the land appropriated and to provide new livelihood opportunities. The Sugar Corporation also indicated that it would provide technical services (in particular land preparation and irrigation services) and social facilities to the prospective settlers, like water, including livestock watering facilities, schools, a health station, a veterinary health station, a farmers' training center, a bakery and a mosque. Furthermore, Afar settlers were to be eligible to take part in the sugarcane out-growers scheme organized by the factory (thus securing a stable income) and would have access to factory by-products and residues like cane tops and molasses for livestock feed when the sugar plant starts working.

The Tendaho sugar factory has just started operations and it is too early to say how and to what extent these undoubtedly pro-pastoralist policies actually are implemented. The experience from settlement schemes elsewhere in Ethiopia, both under the current regime and under previous regimes, suggest these kinds of promises and obligations unfortunately and inexplicably become very difficult to meet as the project proceeds. So far, however, one should note that there is no question of coercion to settle, although formerly settled farmers who lost their land to the new sugarcane farm perhaps did not have much choice in the matter. At this stage, approximately half the land at Tendaho set aside for settlement has been developed and allocated to settlers to compensate them for the land taken up by the sugar scheme. Many, but not all, of the facilities promised by the Sugar Corporation are already in place and according to local information pastoralists are free to apply for land.

In this connection it is highly interesting that the Ethiopian Human Rights Commission has inspected the settlement/villagisation process in Afar and published a report on its findings (EHRC, 2013). While the report obviously subscribes to the political goals underlying the villagisation program, it is somewhat critical of several aspects of the process and procedures of implementation. The report points out that (previously settled) people who were displaced by the irrigation farm development were

compensated by land allocations but often felt that the monetary compensations failed to restore them to their former living conditions and that the balance between irrigated farmland and grazing resources were inadequate. Furthermore, some of the facilities promised were delayed, and in many cases there were delays in deploying qualified staff and operational support to e.g. veterinary stations, farmer's training centres and health posts. The Human Rights Commission also points out that the compensations were decided on the basis of legislation that may not be very well suited to the situation since ANRS does not yet have its own land use and administration legislation (EHRC,2013:80). More importantly, the Commission was unhappy about the level of public participation in the whole process and the lack of an adjudication body to receive and decide on complaints (EHRC, 2013:83). In its conclusions, the Commission is somewhat critical of the implementation of the villagisation policies in ANRS (p. 133), pointing out how delays in the provision of services (land allocation, land preparation, irrigation facilities, other social service amenities) prevents the program from achieving its stated goals. It should be noted that the criticism is directed at various operational aspects of the implementation process rather than at the program as such.

The ANRS is pursuing the national policy of offering settlement opportunities for pastoralists, but great emphasis is put on the question of voluntary settlement. In some cases and in some sites one may question how voluntary the process actually is, e.g. when land is appropriated for a public project like an irrigation farm without much consultation with local residents. On the other hand, it is an undeniable fact that the Afar pastoral economy needs to diversify and the local government is in fact providing opportunities for such diversification. A more open process of prior consultation would undoubtedly be an advantage and further thought must go into how the issue of pastoral mobility can be combined with the advantages, in terms of social services, of a sedentary lifestyle. But as long as the local government starts off with providing the services promised and allow the pastoral households a choice with regard to whether they want to settle or not and make use of the amenities, there can be little to criticize. The criticism of Ethiopian settlement policies, since the days of Haile Selassie, has been in very general terms that the process starts with a more or less forceful settlement of people who then have to wait for the promised services that are delayed or that never come.

An interesting example of the ANRS style of resettlement is found in the Awra woreda, where the federal authorities have provided generous funding for an agricultural scheme based on pump irrigation from groundwater sources. A review of the technical and economic aspects of this particular solution are outside the remit of this report, but with a shallow groundwater basin, adequate recharging of the aquifers and the availability of cheap and reliable electricity from the national grid, this may well be a sustainable approach. Irrigation and land preparation facilities have been provided, as have some of the basic social amenities (school, health post) and livestock watering. Although the siting of the project (in the middle of some of the best grassland of ANRS) may be debated, pastoralist household have been attracted by the services offered and have been allowed to work out their own solutions for how to combine pastoral mobility with settled agriculture. Again, the important aspect of this initiative is the opportunity for economic diversification offered. Since this particular settlement will be connected to the national electricity grid, there may be many additional opportunities in the future, such as development of agricultural processing. The provision of better education, which no doubt will become increasingly important in the years to come will also benefit greatly from access to modern facilities and stable electricity.

10. Conclusions

This report attempts to provide an analysis of some of the central features that resilience-building policies, strategies and programs must relate to in Afar. The central feature that emerges out of this analysis is that 90 per cent of the Afar population is still classified as pastoralist. This classification must be treated with some circumspection, however, since the commonly accepted definition of pastoralism refers to an adaptation in which 50 per cent of household income derives from animal husbandry and livestock products. In Afar however 472,229 people are currently enrolled in the Productive Safety Net Program which then provides a basic ration for half the year for a large proportion of the population of Afar. The question is if Afar pastoralism is viable without this level of public subsidy?

This report has not reviewed the projects that organize the PSNP labour inputs, nor has it examined the results achieved by the PSNP in terms of the livelihoods of PSNP participants. But since there are few options for technological inputs that will improve the resource base or the husbandry practices of Afar pastoralism, PSNP projects are most likely to be found in the non-pastoral sector.

The report asserts that attempts at restoring the resilience of the Afar pastoral system must restore some of the main adaptive functions of the Afar pastoral system. The report maintains that the Afar pastoral system has survived through time because it has from time to time been able to push the weakest and least viable households out of pastoralism. The conclusion that the best way to support pastoralism in Afar is to reduce the number of pastoralist that depend on it is perhaps counterintuitive, but none the less true.

There are limits to the human population that can be supported by the livestock herds in Afar, which again depend on, and are brutally limited by, the productivity of the Afar rangeland resources. Under the circumstances, there is little the human population can do to improve the productivity of the rangelands or the production from the livestock herds. The evidence from the literature reviewed all point out that the resource base is shrinking and that the population is growing. The economic buffer that has been available to the household, by exchanging livestock products for cheaper food in the market, seems to become exhausted, leaving the population increasingly exposed to food security failures. Afar pastoralism can provide a fulfilling way of life for quite a number of people, and there are no doubt many people who want to remain pastoralists. Even if we do not know precisely how many can be accommodated in this adaptation it is necessary to find a livelihood outside pastoralism for an increasing number of people.

The main conclusion that grows out of this analysis is the urgent need for diversification of the local economy. If resilience is measured in terms of the food security and welfare of the Afar population as a whole, it is necessary to shift the perspective away from pastoralism and look at whatever other income opportunities are available. At present a large proportion of the Afar depend more or less on food aid. PSNP operates on a five-year time horizon, so there is not much time to replace the subsidy from PSNP with income from other sources.

The most obvious alternative and/or supplement to pastoralism in Afar is irrigated agriculture. This is a solution that has been tried many times and that has failed many times in the lowlands of the Horn of Africa. The operation of large-scale irrigation schemes in the lowlands of the Horn is notoriously difficult and the history of irrigation in the Awash Valley is not encouraging. But there are none the less some examples of successful small-scale schemes which manage to combine pastoralism with food

production. The Afar all come from a pastoral culture, where animals are important, and there are a number of advantages to the individual in an area like ANRS to invest in animals, even if the main income may come from somewhere else. The success of the small-scale schemes may be that they are inherently pro-pastoral in the way they are formed, built, operated and maintained. The study has pointed to studies that underline that it is possible to combine irrigation agriculture with pastoralism, and that a main requirement is the strengthening of pro-pastoral policies on the part of the government.

The small-scale irrigation schemes that have received positive review should be the model for government diversification policies. Government policies have often emphasized settlement as an indispensable precondition for development and have concentrated on providing fixed-base facilities, whether for irrigation development or social services. It has been pointed out here that there are many advantages to settlement, but that in a pastoral setting like Afar, there also has to be concern for the mobility that is required. A pro-pastoral policy outlook has to promote the fundamental interests and requirements of the pastoralists and as long as there are technical solutions available (which there are) to accommodate these interest in combination with settlement these could become mutually reinforcing. Government settlement policies in Afar seems to have adopted at least part of this outlook, perhaps by default rather than by design, by starting in the right end of the settlement process. Government is in several instances putting in some of the basic facilities first, such as water, irrigation facilities and social services, offering additional resources like land and agricultural services to those who choose to accept them. This is different from the experiences from many other situations where the facilities and the services will be provided (with inevitable delay) after the settlement of people.

There are some examples of this classical settlement pattern, in connection with resettlement of people displaced by the development of the Tendaho sugar plantation. It is very interesting that the federal authorities, represented by the Ethiopian Human Rights Commission, have inspected this settlement/villagization scheme, from a rights-based rather than a technical perspective. The Human Rights Commission raised a number of critical remarks which no doubt have a greater political impact than technical reviews.

11. Recommendations

The recommendations arising from this analysis of the situation in Afar are in line with the main conclusions, that the two main development issues that resilience-building must address is diversification of the local economy and the creation of more clearly formulated pro-pastoral policies.

Pro-pastoral policies depend on understanding and respect for the pastoral way of life, from legislators as well as administrators and civil servants. A commonly heard complaint, and one that is echoed in many of the reports reviewed, is how the civil service in Ethiopia in general, often including some of the pastoral lowlands, fail to understand what pastoralism is all about and fail to respect pastoralists as rightful citizens of the country. Any attempt towards building pro-pastoral policies must start with clearing these misunderstandings. The newly established University of Semera has organized a pastoral training course, with the support of international organizations with long-standing interest and experience from pastoral societies and pastoral development elsewhere in Ethiopia and Africa. All civil servants and administrators in Afar need to know more about the situation of the pastoralists, which after all constitute 90% of the population in the region. The pastoral training course can, for instance, be combined with other service induction courses. It is recommended that all civil servants in Afar should attend the pastoral training course at an early stage in their careers.

Diversification of the local economy must primarily focus on the resources available within Afar, and although there are a number of development issues outstanding within the pastoral sector (primarily related to animal health and the livestock trade), the attention will no doubt continue to be on agriculture and the development of irrigation agriculture. The government is evidently prepared to spend considerable amounts of money for these purposes and it is up to the regional authorities to ensure that these interventions are planned and implemented with the best interests of the pastoralists in mind. The PSNP public works projects are often the first point of entry for household economic diversification. There seems to be a major need for better technical backstopping of such projects, with an emphasis on technical design and supervision of projects intended to exploit available local resources such as seasonal rivers for spate irrigation.

This report supports this strategy for diversification, and would like to point to the experiences of some of the small-scale irrigation schemes and how they are able to combine agriculture with pastoralism. Plans for agricultural development must always be reviewed for the consequences that they will have for the pastoral communities. Services should be made available before people settle, with a view to increase choice and invite the pastoral household to review and evaluate the advantages of a settled lifestyle and the consequences this will have, including concerns for continued pastoral mobility for parts of the household during parts of the year.

A number of reports have raised the need for a revision of the legislation concerning land tenure, land administration and land use. Under the current circumstances, the pastoral community has very little legal protection from competing interests. This process of revision must be started in the regional government, which as a first step should consider adopting the guidelines prepared by FAO concerning respect for free, prior and informed consent (FPIC) by local communities when it comes to land acquisitions and other initiatives touching on local land use and patterns of resource governance.

Land resources will be important to economic diversification, but consideration must also be given to other resources and opportunities, even if these at least initially are unlikely to employ very many people. Salt extraction is already a well-established industry in Afar, and exploration work is ongoing for a number of other mineral resources. The mining industry is bound to expand in Afar and the regional government should prepare, at an early stage, to get full advantage of these opportunities. These will include a wide-ranging services and trade sector, which already is important in the many small towns that have appeared in Afar, particularly along the main highway to Addis Ababa.

But the best way the regional government can prepare for these future opportunities is by providing the young generations of Afar with proper education and training. Education is an important priority in government policy and considerable advances are being made with regard to delivering improved education, also in the pastoral areas. None the less, additional attention to education, both in terms of enrolment and quality, and increased investment in education is probably the most generally useful and best way of building resilience in Afar.

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This paper has been prepared in conjunction with a project for resilience-building in Afar National Regional State, Ethiopia under the auspices of the Afar Region Disaster Prevention, Preparedness and Food Security Coordination Office and the Agriculture Knowledge Learning Documentation and Policy Project (AKLDP), Ethiopia which is implemented by the Feinsein International Center, Tufts University.

This paper provides an analysis of the situation in Afar National Regional State that the current project to strengthen and build resilience must take into consideration. It is the second part of an AKLDP resilience study. A mapping study has been carried out in ANRS, indicating the kinds of development interventions that are currently being supported by the regional government and its development partners. The mapping study was discussed at a regional resilience conference in Semera in September 2014.