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Ethiopia's Arid and Semi-Arid Lowlands: Towards Inclusive and Sustainable Rural Transformation

Country Study

Simone Rettberg, Gabriele Beckmann, Margitta Minah, Anja Schelchen



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The objective of the research project “Towards a Socially Inclusive and Environmentally Sustainable Rural Transformation in Africa” is to identify strategies, instruments and measures that will help to forge a more socially inclusive and sustainable rural transformation in sub-Saharan Africa. The project itself is a constitutive component of the Special Initiative ONE WORLD, NO HUNGER financed by the Federal Ministry for Economic Cooperation and Development (BMZ).

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The views and opinions expressed in this Discussion Paper are those of the authors and do not necessarily reflect the official position of the BMZ.

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Executive Summary

Background

Rural areas in Ethiopia are currently facing massive environmental and socio-economic challenges which put the livelihoods of smallholders and pastoralists at risk. In spite of the Ethiopian economy showing double digit growth rates, poverty and malnourishment are still widespread, especially in rural areas of the country which are home to about 80% of the population. Among the most vulnerable regions in Ethiopia are the arid and semi-arid lowlands (ASAL) located in the peripheral border regions of the country below 1,500 m (Figure 1). Large parts of the population there are mobile pastoralists whose livelihood is adapted to deal with droughts and floods, which seem to be occurring with increased severity. At the same time, the peripheral ASAL regions, bordering on Kenya, Somalia, Djibouti and Eritrea, are hotspots of violent conflicts and a target area for governmental interventions to expand commercial irrigation agriculture. Within only few decades, pastoralists have become increasingly dependent on food aid, due to widespread loss of resilience, resource degradation and subsequent food insecurity. Mobile pastoralists, sedentary agro-pastoralists and commercial investors increasingly compete for land and water resources, especially in areas where irrigation agriculture is feasible. Balancing competing land use and livelihood systems while at the same time protecting natural resources remains a major challenge for the Ethiopian transformation agenda with its major focus on increased agricultural productivity and commercialization.

Against this background, this study analyses current trends and future scenarios of rural transformation in ASAL regions until 2030 in order to offer strategic recommendations for a more inclusive and sustainable transformation. The empirical cornerstone for this study was the combination of a participatory actor-centred scenario building process in Addis Ababa (February 2016) with qualitative semi-structured interviews in two selected regions of the Ethiopian lowlands, Afar and Somali. This methodological approach allowed for a triangulation of data and a socio-spatially contextualized understanding of processes of rural transformation.

Analysis of current trends

The research outcomes indicate that profound, multi-dimensional changes are currently taking place in ASAL regions, significantly altering the characteristics of the pastoral economy and livelihood system. But the current processes of intra-rural transformation, indicated by significant shifts in land use, tenure systems and settlement patterns, are neither environmentally sustainable nor socially inclusive.

Within the last decades, inadequate policies that have sought to transform rather than enhance pastoralism have severely undermined its economic viability. Guided by a policy for voluntary resettlement of pastoralists along rivers, key communal rangelands have been increasingly a) converted into irrigated farmland, and b) enclosed, fenced and privatized. Livestock mobility, the key productive strategy in arid and semi-arid environments, has been increasingly restricted in the process. The loss of accessible dry season grazing areas has increased stocking rates on less productive pastures, fostering land degradation and decreasing productivity. The ecological in-

tegrity of arid and semi-arid regions is currently severely at risk, which poses an existential threat for rural inhabitants.

Against this background, livestock productivity and herd sizes per household (especially cattle) have decreased in most areas. In a context of an increasing impoverishment and governmental incentives for sedentarisation and agro-pastoralism, new settlement patterns have emerged. More and more previously mobile pastoralists are settling, in order to diversify their income and food sources, especially through engagement in irrigated agriculture (mainly maize) and precarious employment in towns. The increasing need to generate income as well as new forms of resource allocation through changing practices of land ownership has been linked to a commodification of natural resources. Communal land is turning more and more into a tradable commodity, with only a few benefitting from the production and sale of charcoal or fodder or lease arrangements with agricultural investors. The monetization of society signals a profound shift of social values from reciprocity and collective action towards more exclusive forms of social interaction.

In a context of dwindling pastoral resources, violent conflicts and internal displacements jeopardize regional security. Land use conflicts between the state and pastoral groups are worsening, especially in Afar Region, where in-migration of labour migrants from highland regions to work on large-scale government sugarcane plantations has recently expanded. The current government impetus for agro-industrial development, including the commercialization of the livestock sector with a focus on export trade, entails the risk of exclusion of poorer pastoralists and rising environmental costs. The resultant conflicts are as much about economic resources as they are about political recognition and representation. In spite of the coherent decentralization process (Ethnic Federalism), local public participation hardly takes place because of the local and regional dependence on central government agencies and grants, as well as the widespread political co-opting of local authorities, which have lost any legitimacy among the local population. Decentralization in Ethiopia is above all about de-concentration of resources rather than devolution of power. The crisis of political leadership and legitimacy is compounded by the weakening of customary institutions, particularly with regard to the management of natural resources and conflict.

Even though there are some improvements regarding access to transport, social infrastructure (health, education), and water supplies, the **most probable scenario for rural transformation** in 2030 shows a rather bleak picture. We see an intra-rural transformation from mobile pastoralism towards settled forms of agro-pastoralism and increasing numbers of destitute pastoralists and youths searching for employment in expanding small and medium towns within the ASAL regions. Pastures and dryland forests continue to deteriorate, especially in a context of insecure land rights and weakened customary institutions. Migration of young people looking for employment abroad is increasing, especially in Somali Region. New labour relations like contract-herding are on the rise as well, paralleled by new patterns of capitalist accumulation, an increasing dependence on product and labour markets and a shift from a horizontally organized society with strong social capital towards a vertically stratified society where increasing parts of the population depend on large social protection programmes. Governmental development priorities as indicated in its Growth and Transformation Plan (GTP) will continue to be guided by interests to generate official revenues and employment from rural commercialization (mining, livestock export trade and plantation economies) excluding the majority of poorer pastoralists who lack capacity to engage in markets.

Major influencing factors for rural transformation

Even though continuing high population growth rates and the increasing temporal and spatial variability of rainfall have contributed to mounting pressures on natural resources and a heightened vulnerability of (agro-) pastoralists, these are not the main drivers of structural transformation. Rather, our analysis indicates that governance structures relating to land tenure, social capital and conflict have played and will play the major role for structural transformation in pastoral areas within Ethiopia. Governance relates to institutionalized modes of social cooperation to produce and implement collectively binding rules, or to provide collective goods such as public health, clean environment, social security, and infrastructure.

ASAL regions constitute economic and political frontiers where borders are porous and sovereignty is contested. They present areas of limited statehood where reciprocal networks based on social trust provide an alternative to the provision of public goods by the state. Unfortunately, the top-down rule of successive regimes has been marked by increasing efforts to destabilize and undermine customary governance structures. The partly violent conflict between the Ethiopian state, which has for centuries been ruled by highland elites from Amhara and Tigray, and segmentary socio-political entities of pastoralists who have long rejected state control, is at the root of the current economic and political crisis. A substantial proportion of the pastoral population still perceives the current Ethiopian People's Revolutionary Democratic Front (EPRDF) government as an 'alien intruder' into their homeland, appropriating resources (land, oil and minerals) and undermining local livelihoods.

It is highly probable that the government will increase its efforts to consolidate power in these geo-strategically and economically important regions (transit corridors to ports for export trade, 'unexploited' resources, relative land abundance compared to highlands). A key question will be how to resolve the inherent contradictions between the decentralized administrative structure which formally recognizes ethnic diversity as well as the right for self-determination of nations and nationalities and the centralized developmental state model relying on an independent state bureaucracy.

Strategic recommendations

The major strategic recommendation proposed in this study points towards the necessity for a hybrid approach focussing on an intra-sectoral transformation towards diversified trans-local livelihoods in which livestock production continues to play the major role. This approach supports various complementary pathways as pastoralists are increasingly heterogeneous. Strategic interventions should be geared to slow the rate at which poor households feel pressured to abandon livestock-keeping, while at the same time boosting the income of those who remain. This strategy builds on certain assumptions:

- a) Under conditions of continuing population growth, a major challenge will be the creation of additional non-agricultural employment opportunities. A growing number of youths and impoverished herders are leaving the pastoral sector and options for out-migration remain limited. Labour absorption capacities within pastoralism and agriculture will not be sufficient to meet the growing labour demand.

- b) Pastoralists can benefit from increased productivity of livestock and land as well as from improved conditions to engage in growing domestic and global livestock markets.

Against this background, it is recommended to direct long-term investments into the following key areas:

Governance – Customary institutions – Conflict: Major improvements in various aspects of governance at local, regional and local levels are central, especially in terms of 1) a better recognition and empowerment of customary institutions, which play an essential role for a sustainable natural resource management and conflict resolution, 2) improved land tenure security, 3) strengthened capacities and better accountability of political representatives and extension agents at local and regional levels, and 4) a differentiated and coherent policy for (mobile) pastoralism. The AU Policy Framework for Pastoralism in Africa, the first pan-African policy initiative on pastoralism, stresses the importance of an increased political commitment to pastoral development and the full integration of pastoralism in national and regional development programmes (African Union, 2010). Also a recent UN resolution (2/24) on “Combating desertification, land degradation and drought and promoting sustainable pastoralism and rangelands” (May, 2016) emphasizes that pastoral tenure security and healthy grassland and rangeland ecosystems are critical for the achievement of the Sustainable Development Goals (Agenda 2030 for Sustainable Development). Creating a political space for pastoralists to express their needs and visions and to demand their rights as citizens will be decisive for resilience building, poverty reduction, peace building and thus the socio-political stability of the country. In this regard, customary institutions should be capacitated to be legitimate and competent partner to local and regional governmental stakeholders in dialogue, consultation and negotiating new agendas for an inclusive transformation of ASAL regions. The sustainability of any external investment within the pastoral sector depends crucially on a supportive governance structure.

Sustainable pastoral intensification and livelihood diversification: A careful intensification of the extensive pastoral land management system, in the sense of an optimisation of diverse range of environmental and economic benefits, recognizes that environmental conditions do not allow for an industrialized livestock production where rangelands mainly present holding grounds for commercially-fattened stock. “Major increases in productivity could be possible within the pastoral sector, but a different interpretation of intensification is required: one in which inputs of labour and social capital are recognised and the diversity of benefits from the system is respected” (McGahey 2014, p.35). Targeted improvements in feed, veterinary health and natural resource management have to be introduced under conditions of protected extensive grazing opportunities. Long-term investments will be necessary to strengthen the resilience of currently impoverished pastoralists and decrease their dependency on social assistance (PSNP). Natural resource management will be of the utmost importance to sustain and rehabilitate the pastoral livelihood base and to reduce the risk of land-use conflicts. A dual approach is called for: 1) the re-extensification of the production system through an integrated landscape management approach (including rangeland restoration, water harvesting), which allows for livestock mobility and improved access to dry season grazing areas, and in parallel 2) an intensification through improved provision of inputs. This intensification needs to go along with targeted support for livelihood diversification into non-pastoral activities which will increase resilience significantly.

Promotion of employment, education and skills: Future investments in education/skills should address the diverse demands of the increasing numbers of those leaving the pastoral sector involuntarily, of educated but often unemployed youths and those who remain mobile. Increasing the level of formal and alternative education especially for women and girls, building additional skills and capacities and supporting the creation of additional employment opportunities will be a major future challenge in ASAL areas currently characterized by high levels of illiteracy and strong population growth. Increasing the demand for skilled and unskilled labour on urban labour markets and improving the employment supply will be decisive for an inclusive transformation, given the limited labour opportunities within the agricultural sector. Education and skills can open up opportunities for alternative non-pastoral livelihood activities. This will also improve the political and economic bargaining power towards currently better-educated groups within Ethiopia.

Investments will increase options for livelihood diversification into non-pastoral/agricultural activities and urbanization, a trend which will continue. It should be supported in a way that different livelihood activities inside and outside the agricultural sector complement each other and provide an enhanced buffer against the various risks that pastoralists face (droughts, floods, volatile prices, violent conflicts etc.). Support for diversification has to avoid trade-offs between different land uses, so that e.g. the introduction of irrigated small-scale farming should not undermine access to rangelands for pastoralists.

The ongoing trends and the most probable scenario for 2030 call for a strategic reorientation which needs to take account of the diversity of livelihood systems on a national level, and of heterogeneous social, economic and agro-ecological conditions within the ASAL regions. There is no blueprint intervention package suitable for all pastoral areas or pastoralism in general. The fact that pastoral societies are increasingly stratified in terms of wealth, available assets and livelihood strategies requires multi-dimensional and contextualized strategies. The failure of past interventions in lowlands had much to do with the copying of approaches from highland farming areas to lowland systems, distorted pre-conceptions about 'irrational' structures of local decision-making, and a lack of knowledge about power relations and the future aspirations of pastoralists. The creation of an institutional culture of mutual learning, respect and knowledge-sharing between state institutions and rural inhabitants has to be promoted, taking into account existing differences (e.g. mind-sets of policy-makers vs. pastoralists) and joint interests.

Finally, against the background of various inter-sectoral interdependencies of the main driving factors for rural transformation in ASAL areas, sectoral approaches are bound to fail. The coordination and cooperation between sectors will be of utmost importance to avoid contradictory objectives and interventions. A trans-sectoral, integrated and long-term effort on a landscape level is needed in order to strengthen pastoral livelihoods in a socially inclusive and environmentally sustainable way.

Key words

Structural change; rural development; social inclusion; environmental sustainability; pastoralism; livestock; scenarios; trend analysis

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Abbreviations

ADLI	Agricultural Development-Led Industrialisation
AfDB	African Development Bank
AGP	Agricultural Growth Programme
ASAL	Arid- and Semi-arid Lowlands
ASSP	Agricultural Sector Support Programme
ATA	Agricultural Transformation Agency
AU	African Union
BMZ	<i>Bundesministerium für wirtschaftliche Entwicklung und Zusammenarbeit</i> (German Federal Ministry for Economic Cooperation and Development)
CAADP	Common African Agriculture Development Programme
CBO	Community Based Organizations
CIDA	Canadian International Development Agency
COMESA	Common Market for Eastern and Southern Africa
CPP	Country Programming Paper
CRGE	Climate Resilient Green Economy
DA	Development Agent
DFID	Department for International Development
EPRDF	Ethiopian People's Revolutionary Democratic Front
ESC	Ethiopian Sugar Corporation
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GER	Gross Enrolment Rate
GIZ	Gesellschaft für Internationale Zusammenarbeit GmbH
GTP	Growth and Transformation Plan
HABP	Household Asset Building Programme
HDI	Human Development Index
IDP	Internal Displaced Person
IRC	International Red Cross
KfW	<i>Kreditanstalt für Wiederaufbau</i> – German Development Bank
MoA	Ministry of Agriculture
MoARD	Ministry of Agriculture and Rural Development
MoFA	Ministry of Federal Affairs
MoFED	Ministry of Finance and Economic Development
MoWR	Ministry of Water Resources

NORAD	Norwegian Agency for Development Cooperation
ONLF	Ogaden National Liberation Front
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PCDP	Pastoral Community Development Project
PIF	Policy and Investment Framework
PSNP	Productive Safety Net Programme
REDD	Reducing Emissions from Deforestation and Forest Degradation
RTF	Rural Transformation Center
SEWOH	<i>Sonderinitiative Eine Welt Ohne Hunger</i> (Special Initiative One World, No Hunger)
SHARE	Supporting Horn of Africa Resilience
SLE	Seminar für Ländliche Entwicklung (Centre for Rural Development)
SLMP	Sustainable Land Management Programme
SME	Small and medium enterprises
SNNP	Southern Nations, Nationalities, and Peoples' Region
SOE	State Owned Enterprises
SSA	Sub-Saharan Africa
TFR	Total Fertility Rate
TLU	Tropical Livestock Unit
TOP	Transitioning Out of Pastoralism
TPLF	Tigray People's Liberation Front
TVET	Technical Vocational Education and Training
UN	United Nation
UN OCHA	United Nations Office for the Coordination of Humanitarian Affairs
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEA	United Nations Environment Assembly
UNHCR	United Nations High Commissioner for Refugees
URRAP	Universal Rural Road Access Programme
USAID	United States Agency for International Development
USE	Underpin, Sharpen and Enhance
VRP	Voluntary Resettlement Programme
WFP	World Food Programme
WHO	World Health Organization
WOAH	World Organization for Animal Health

1 Introduction

1.1 Research framework

This study is part of a larger research project implemented by the Centre for Rural Development (SLE), Humboldt-Universität zu Berlin, dealing with rural transformation in Sub-Saharan Africa. It is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) as part of its special initiative "One World, No Hunger" (SEWOH) which was launched in 2014. Through this initiative, the BMZ intends to make a significant contribution to eradicating global hunger and malnutrition.

This research project aims to develop an understanding of current processes of change in rural areas in order to identify suitable strategies and instruments for the promotion of a socially inclusive and environmentally sustainable rural transformation. In this context, three empirical country studies were implemented (Ethiopia, Zambia, Benin) which contribute to one field of action of the SEWOH initiative titled 'Structural transformation in rural areas'. Applying a comparable qualitative methodological approach, all country studies worked on the same research questions dealing with major trends and future scenarios of rural transformation until 2030. In order to provide a conceptual and methodological foundation for the country studies, two desk-studies were conducted in the context of this research project (Berg et al., 2016; Rauch et al., 2016).

Rural areas in Ethiopia are currently facing massive environmental and socio-economic challenges which put the livelihoods of smallholders and pastoralists at risk. In spite of the recent double digit growth rates of the Ethiopian economy, poverty and malnourishment are still widespread especially in rural areas of the country which host about 80 % of the total population. One of the most vulnerable regions within Ethiopia are currently the arid and semi-arid lowlands (ASAL) located in the peripheral border regions (Figure 1)¹. Large parts of the population are mobile pastoralists whose livelihood is adapted to deal with droughts and floods, seemingly occurring with an increased severity. At the same time, the ASAL regions are hotspots of violent conflicts on various scales and target area for governmental interventions to expand commercial irrigation agriculture. In this context, pastoralists have become increasingly dependent on food aid due to widespread loss of assets, resource degradation and subsequent food insecurity within only few decades.

Mobile pastoralists, sedentary agro-pastoralists and commercial investors increasingly compete for land and water resources, especially in areas where irrigation agriculture is feasible. Balancing out competing land use and livelihood systems and at the same time protecting natural resources remain major challenges for the Ethiopian transformation agenda, with its major focus on increased agricultural productivity. Against this background, the question arises under which con-

¹ It is important to note that agricultural livelihoods in Ethiopia are highly diverse and so are its associated rural transformation processes. In contrast to other country studies, this report focuses on pastoralists and agro-pastoralists only, and thus, does not describe average Ethiopian livelihoods. Pastoralists and agro-pastoralists make up about 10% of the Ethiopian population (USAID & MOARD, 2010).

ditions mobile pastoralism can continue to present a viable livelihood in the future and what kind of structural or gradual transformations are needed to strengthen its resilience.

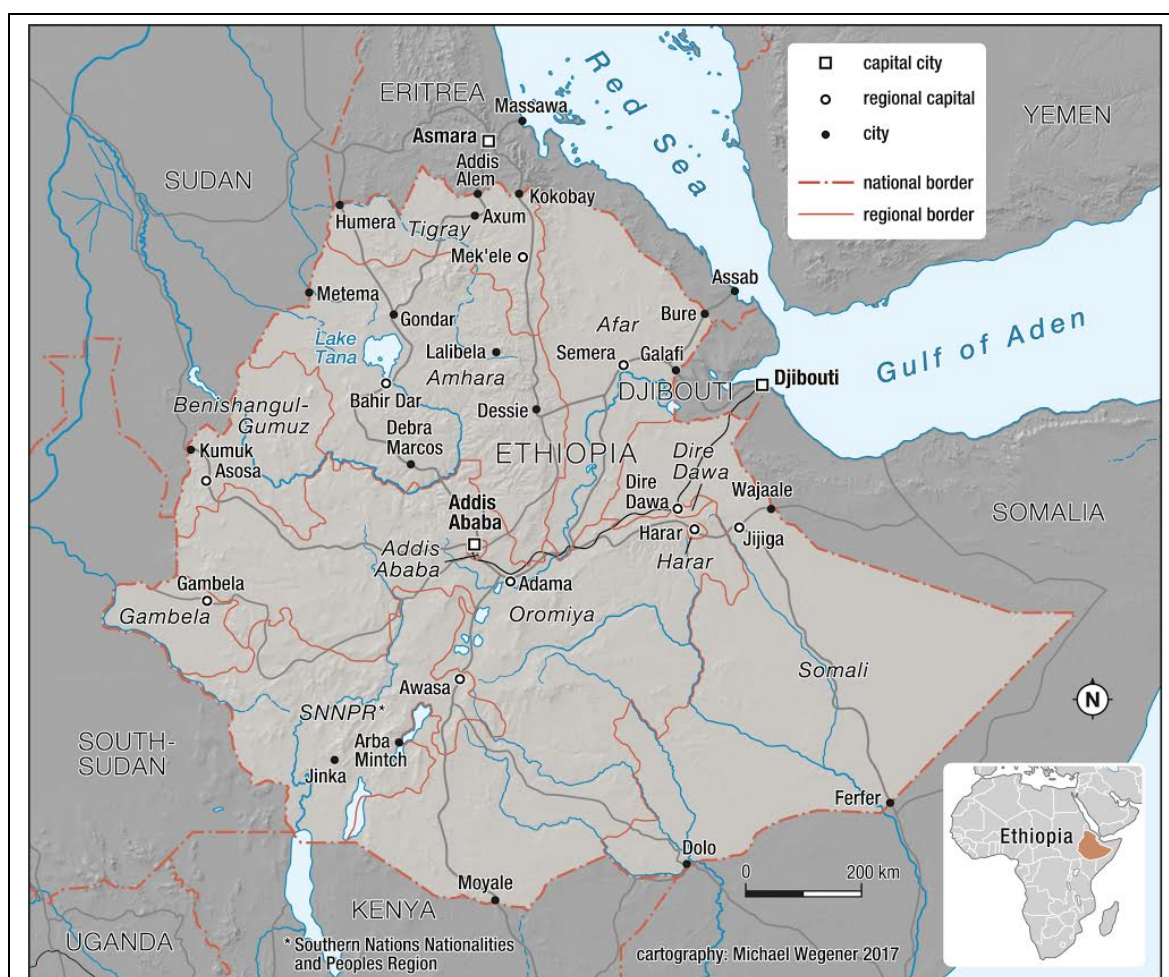


Figure 1: Physical map of Ethiopia

Source: elaborated by Michael Wegener (2017)

The main proposition is that the currently observable multi-dimensional trends and the most probable scenario of change in rural areas of ASAL regions are neither sustainable nor inclusive, so that a strategic reorientation is needed. This reorientation needs to take account of the diversity of livelihood systems on a national level, and of heterogeneous social, economic and agro-ecological conditions even within the ASAL regions which require multi-dimensional and contextualized strategies and interventions.

1.2 Objectives and leading questions

This research project aims to identify and analyse current trends and future scenarios of rural transformation in ASAL regions until 2030. The final objective is the development of strategic

recommendations that contribute to a socially more inclusive and environmentally more sustainable rural transformation.

The following research questions were developed:

- Which trends characterize past and present processes of rural change and what are the main influencing factors and impacts of these changes?

This question aims at the identification of major trends in ASAL regions over the past 30 years. It is assumed that an historical understanding of past trends (economic, institutional, political, environmental, social) is an essential foundation for the development of scenarios until 2030. Also, factors for rural change and their multi-dimensional impacts will be discussed.

- To what extent can current changes be considered as socially inclusive, environmentally sustainable and transformative?

This question aims at an assessment of past and ongoing trends regarding their sustainability, social inclusiveness and transformative character. It is assumed that a) the majority of current trends in rural areas are neither inclusive nor sustainable, and b) only few trends contribute to a fundamental multi-dimensional transformation of the society.

- Under current conditions, what is the most probable scenario for processes of rural transformation until 2030?

This question aims at the identification of major influential factors which will have a strong transformative impact on rural socio-environmental systems and livelihoods in the coming 15 years. This scenario will be developed based on subjective perceptions of local stakeholders concerning the probability that current observable trends will continue with a high degree of certainty.

- What is an optimistic scenario for the transformation of ASAL regions until 2030? Which main intervention areas can be identified which have a medium- and long-term strategic orientation towards inclusivity and sustainability?

Finally, a normative scenario will be developed which is directed towards social inclusion and environmental sustainability. Assuming that various stakeholders share this normative orientation, we ask what measures are necessary to move in that direction. Based on this, context-specific strategies on various scales will be developed, indicating which interventions could support a strategic reorientation.

1.3 Conceptual background: Rural transformation

Rural transformation is understood as a “long-term, multidimensional process of change affecting the basic livelihoods characteristics of people in rural regions, taking into account their interaction with societal and global dynamics” (Rauch et al. 2016, p.5)². It emerges through a complex

² An introduction to the concept of rural transformation and a general analysis of transformation processes in sub-Saharan Africa is discussed in detail in Rauch et al. 2016.

interaction of various dynamic processes on different levels. The specific form and outcomes of these transformative processes are open, allowing for the identification and analysis of socially and spatially heterogeneous pathways of change.

This broad definition of rural transformation differs from the conventional, narrower understanding of structural transformation which focusses on sectoral shifts in employment and value added, as observed in industrializing countries of Europe a century ago (Timmer & Akkus, 2008; Berdegue et al., 2014). The latter understanding depicts a normative model of economic transition from a rural -agrarian to an industrialized-urban society, linked to economic growth and increased well-being. As Rauch et al. (2016) argue, this understanding runs the risk a) of obscuring different, currently observable processes of rural transformation in sub-Saharan Africa (SSA) and b) of limiting the discussion of pathways of transformation in rural areas to catch-up industrial development, although the industrialisation in Europe emerged under different historic conditions. Furthermore, processes of transformation can be inequitable and unpredictable, and tend to have winners and losers (Davies et al. 2015, p.332). The cumulative effect of current trends in rural areas need to be evaluated in order to assess the degree to which these trends constitute part of a long-term transformation process. They cannot be assessed in isolation. A multi-dimensional perspective makes it possible to assess the transformative character of ongoing changes, many of which might not be conceived as transformative in the above sense because they lack the amplitude, the long-term character, or the multi-dimensionality to profoundly alter the structural foundations of society.

The social impacts of observed trends in rural areas are assessed by paying attention to related processes of inclusion and exclusion. The concept of social exclusion involves a relational conceptualization of poverty and focuses on processes leading to social inequality, including specific configurations of social relations shaped by unequal patterns of participation, resource access/entitlements, and political/cultural recognition. Exclusion highlights the multi-dimensional aspects of poverty and links deprivation to group-based disadvantages and discrimination, while social inclusion refers to the capabilities and structural conditions of a person or social group to participate in political, economic, social and legal terms in society (de Haan, 2011).

A second analytic dimension for the assessment of transformative processes of rural change relates to the concept of environmental sustainability. Many of the current trends in rural areas exert varying pressure on water, soil, forests, ecosystems and biodiversity, threatening the resilience of complex socio-environmental systems. A sustainable use of natural resources refers to use patterns which meet basic human needs of current generations without destroying or degrading the natural environment so that resource needs of future generations can be met (WCED, 1987). An environmentally sustainable rural transformation is not only a technical challenge but also a political question, because root causes for the degradation of natural resources and the measures to be adopted are partly contested between different social groups³.

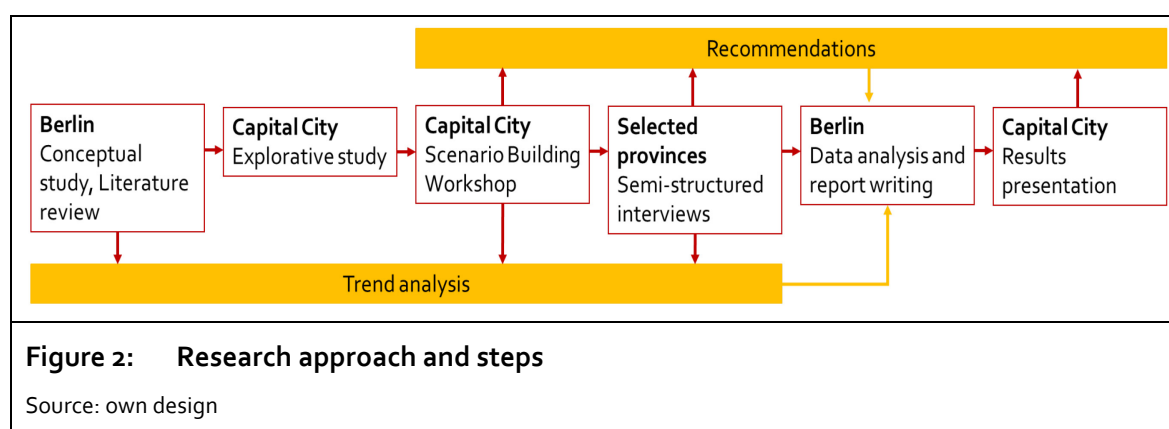
3 See Annex 3 and 4 for criteria for socially inclusive development and a sustainable resource use system.

2 Methodology

2.1 Qualitative approach

The empirical cornerstone for this study was the combination of a participatory actor-centred scenario building process in Addis Ababa (workshop, February 2016) with qualitative semi-structured interviews in two selected regions of the Ethiopian lowlands (Figure 2). This methodological approach allowed for a triangulation of data and a deeper, socio-spatially contextualized understanding of processes of rural transformation.

Scenarios are multi-dimensional descriptions of possible futures. Unlike forecasts they acknowledge uncertainty about future developments⁴. The five-day scenario building workshop (Annex 1) was conducted with a group of stakeholders from various disciplines and backgrounds (academia, policy, civil society, development practice). Drawing on a wide range of knowledge types, this workshop resulted in the identification of trends and major influencing factors of rural transformation and the development of rich storylines/ narratives, in which participants envisioned a pessimistic and a desirable scenario of rural transformation. All main steps of the scenario exercise were protocolled (Annex 1) and the workshop proceedings were shared with participants.



In order to underpin, sharpen and enhance (USE) the workshop results, 53 semi-structured interviews and focus group discussions were carried out in Afar and Somali Region (see Annex 2). The interviews focused on: a) validating the workshop results obtained at national level; b) illuminating local perspectives concerning major trends, impacts and influencing factors, as well as perceptions of future risks and opportunities for rural transformation. Access to a range of local key stakeholders (e.g. regional government representatives, clan elders, women's groups) was facilitated through Afar and Somali research assistants, who also acted as translators when necessary. After data analysis in Berlin, research results and preliminary recommendations for future inter-

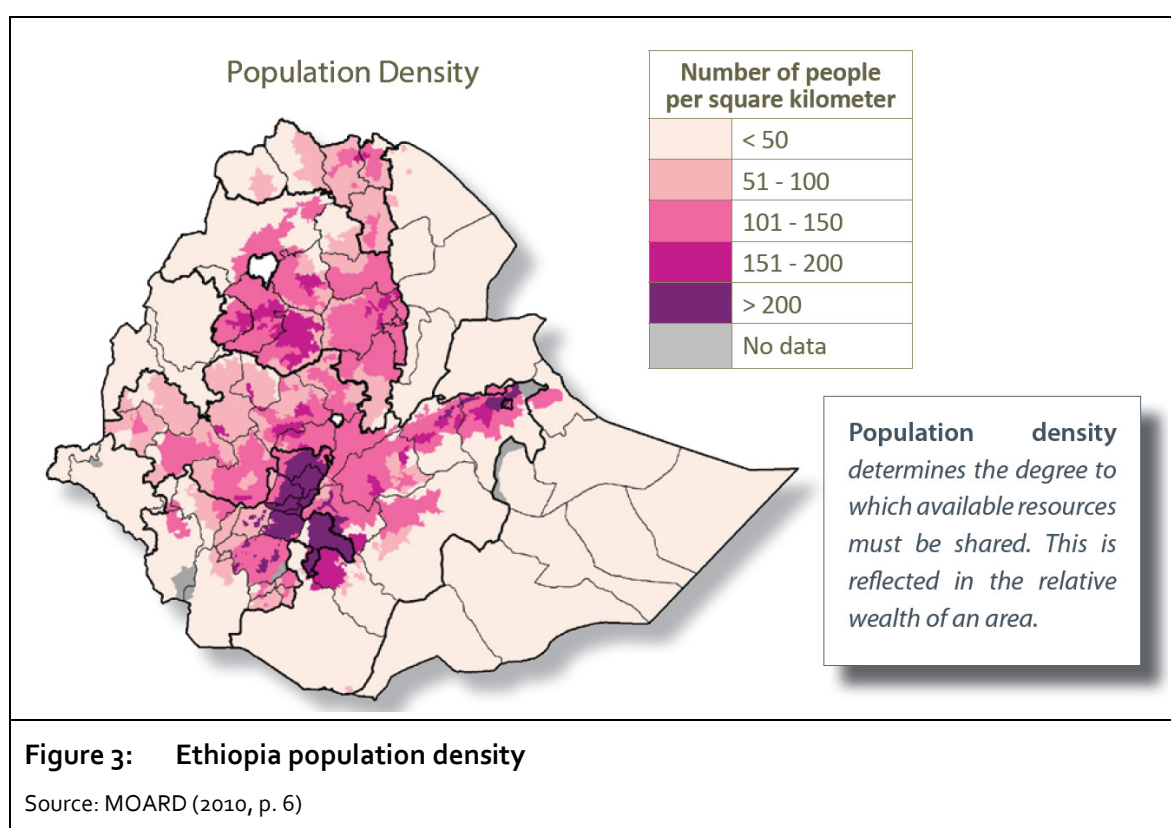
4 A more detailed description of the scenario-building method can be found in Berg et al. (2016), which was written in the context of this research project.

ventions were discussed during two expert-meetings in Addis Ababa (including ministries, donors, participants of scenario workshop).

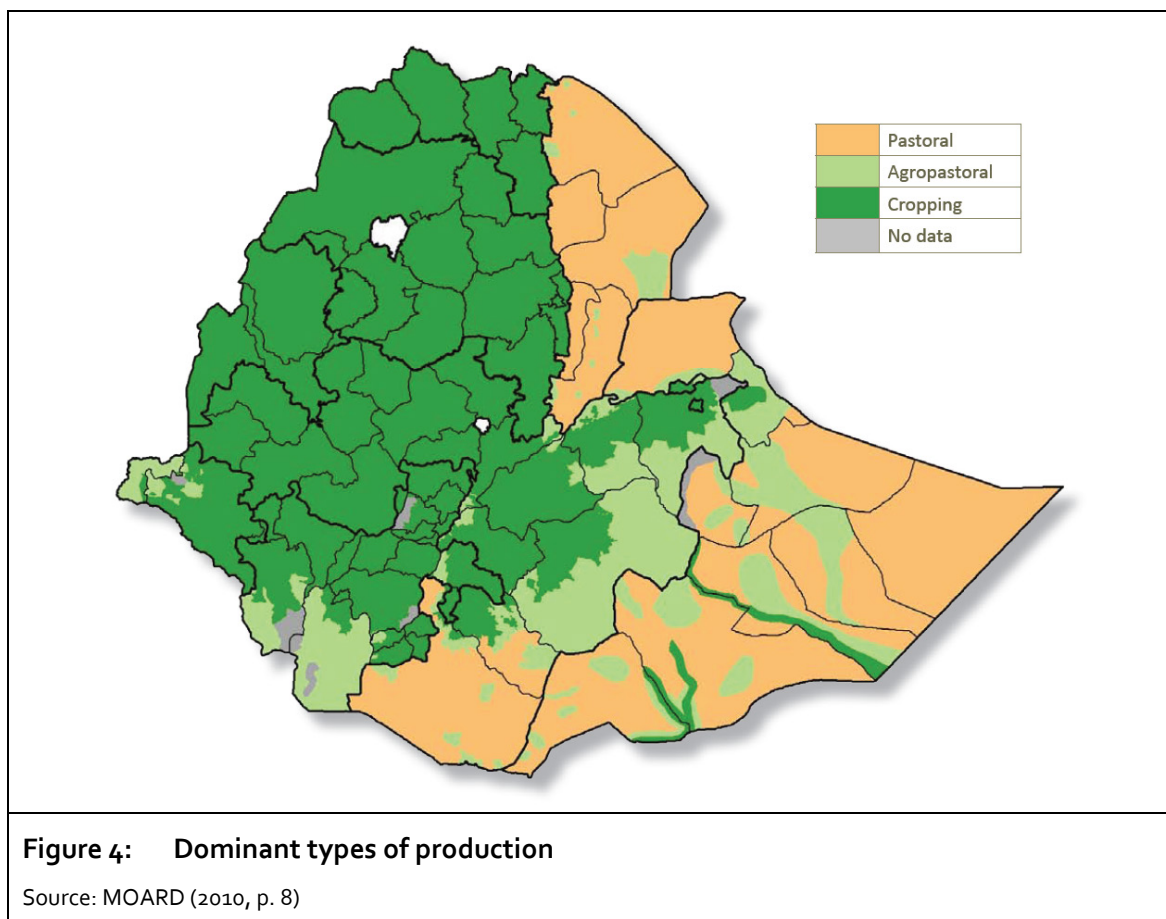
2.2 Regional selection

This study analyses processes of rural transformation in peripheral arid and semi-arid lowland regions of Ethiopia (areas below an elevation of 1,500 metres above sea level) which are mainly inhabited by mobile pastoralists and agro-pastoralists. This choice was based on the observation that pastoral livelihood systems in Ethiopia are in a rapid process of profound transformation, linked to increasing levels of poverty and chronic food insecurity, but with little long-term strategic support.

In contrast to densely populated highland areas with shrinking average farm sizes for the peasantry, ASAL areas are characterized by low population density (Figure 3) and relative land abundance. They make up 61% of the Ethiopian surface area, but comprise only 10% of the national population. They stretch over four Regional States in the eastern and southern parts of the country: all of Afar and Somali Regional States, the southern parts of Oromyia (Borana), and some parts of SNNP (Southern National Nationalities, and People's) Region (MOARD, 2012). They border on the arid areas of Eritrea, Djibouti, Somaliland, Somalia, and Kenya.



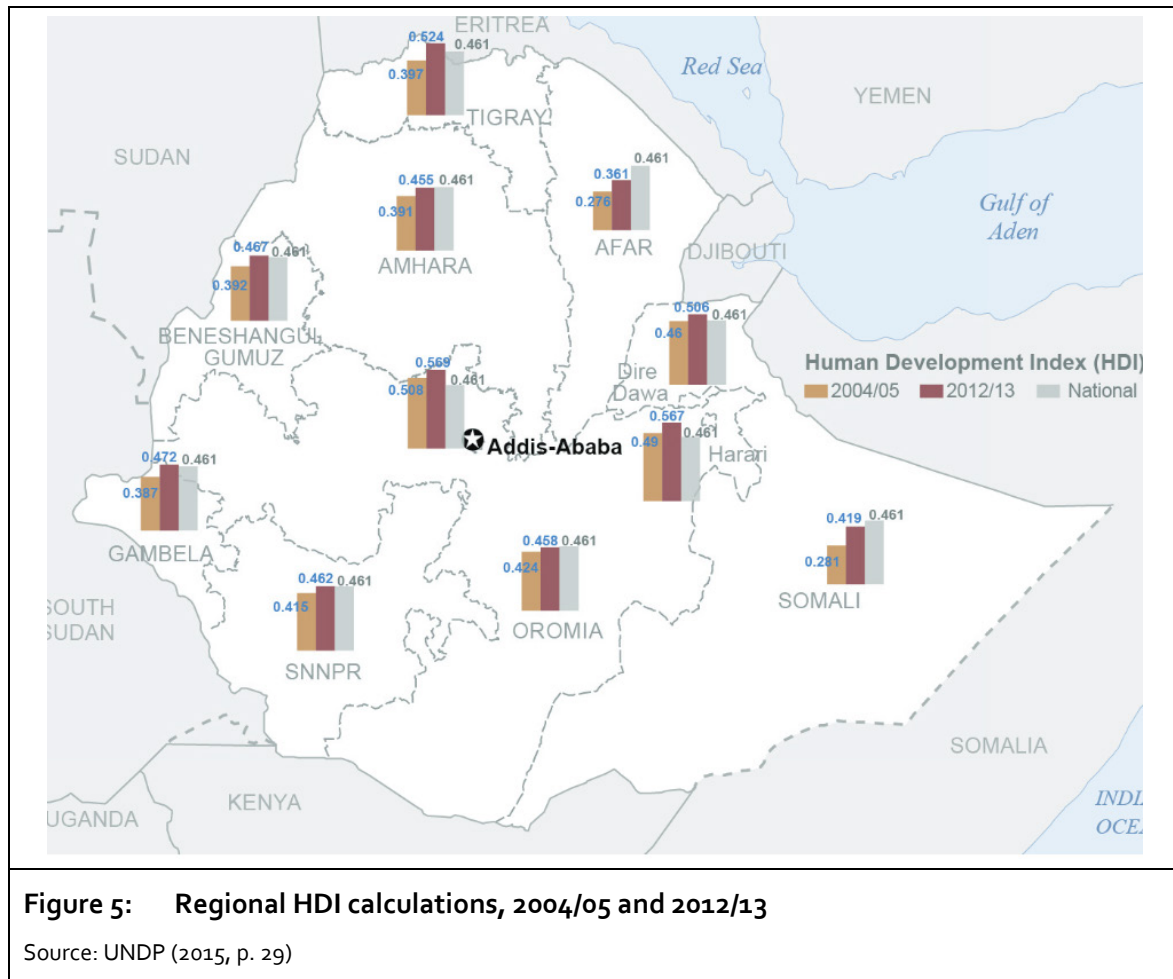
Livestock is the key economic asset of people in these regions with 22% of the country's cattle population (10.36 million head), 40.7% of sheep (13.6 million head), 60% of goats (18 million head), and 100% of camels (2.5 million head) (MOARD, 2012, p.3). Only limited areas along major perennial rivers are currently also used for farming (agro-pastoralism) within ASAL areas (Figure 4). Rain-fed agriculture is not viable in most areas.



Pastoral livelihoods tend to be misunderstood by governmental stakeholders and its economic and environmental contribution has not been fully acknowledged in national development policies (AU, 2010; Little et al., 2010a; Catley, Lind & Scoones, 2013). It is also suggested that the contribution of ASAL areas to the national GDP is significantly underestimated due to major gaps in basic data concerning livestock activities (Little et al., 2010a). The main policy documents concerning structural transformation in Ethiopia, the First and Second Growth and Transformation Plan of the Ethiopian Government, don't address the potential role of mobile forms of pastoralism at all.

The two selected areas for the regional case studies within the ASAL regions, Afar and Somali Region, currently record the lowest regional Human Development Index (HDI) compared to other regional states of Ethiopia (Figure 5). Afar and Somali are also highly vulnerable to climate change due to the combination of high exposure to recurrent natural hazards (droughts, floods), political insecurity, and weak governance (Busby et al., 2014). Between 2002 and 2012, four

major droughts affected the ASAL areas in varying degrees of intensity (Ministry of Agriculture, 2012, p. 2).



In spite of the generally high levels of poverty and vulnerability in Afar and Somali, the impoverishment of the rural population has been more severe in Afar Region, which is currently the poorest and less developed region all over Ethiopia. Furthermore, the two regions differ in certain aspects which are assumed to be critical for rural transformation: the relevance of trade within local livelihoods, and the extent and forms of internal and external migration, of urbanization, and of large-scale investments in rural areas. The impacts of these factors on processes of rural change will be considered in the following chapter, which highlights the major recent trends that have led to the current lamentable situation in ASAL regions.

3 Trend analysis

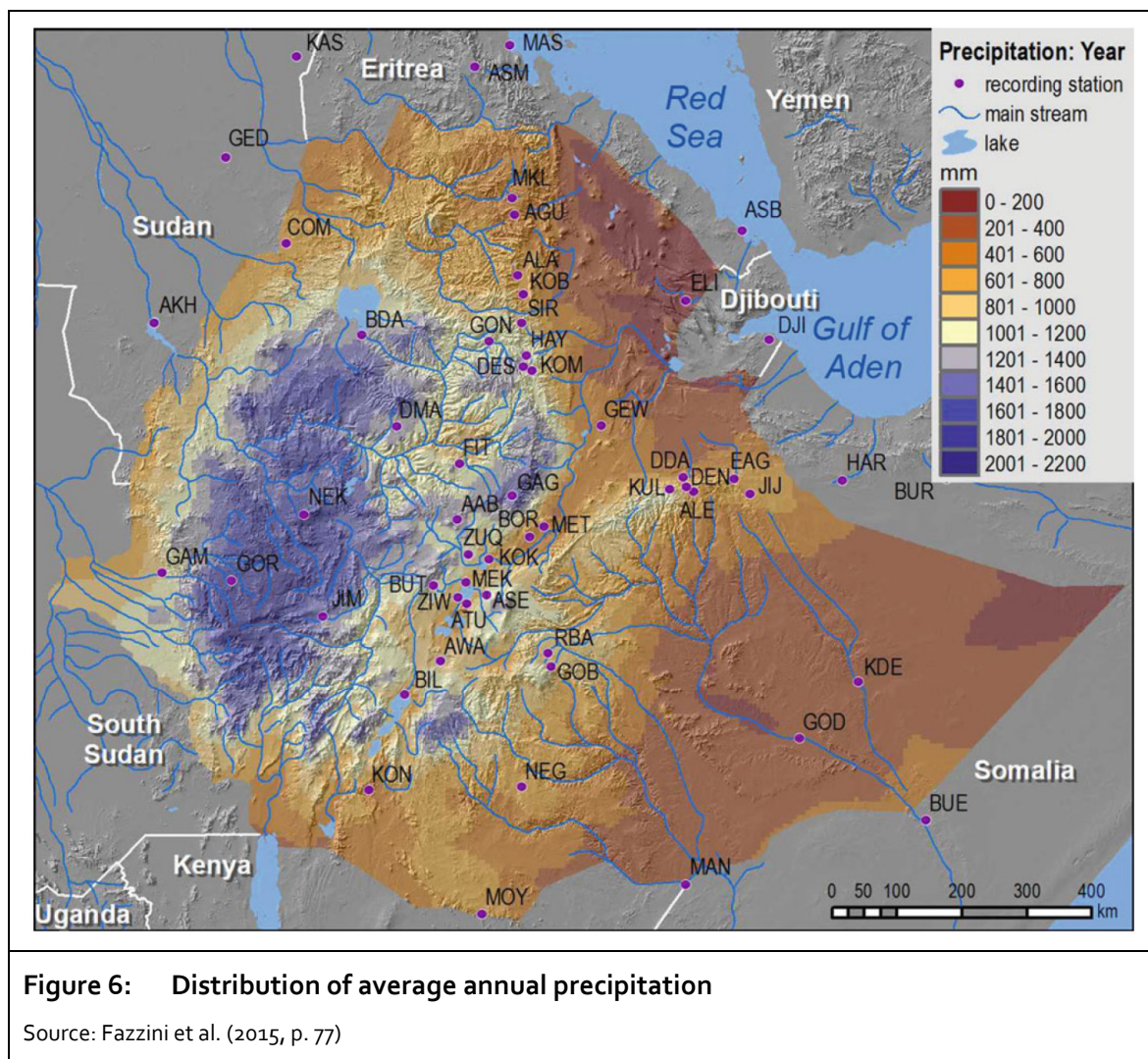
This chapter identifies recent environmental, institutional, economic, and social trends of rural change in ASAL regions. If not mentioned otherwise the investigation relates to the past 25 years (1991 – 2016). Having outlined the ongoing trends, we will assess the major influencing factors and whether the observed changes have an overall transformative influence on pastoral economies and livelihood structures.

3.1 Environmental dynamics

Shifting patterns in the accessibility and availability of natural resources are closely linked to processes of rural transformation. Natural resources provide the livelihood base for a growing rural population. With currently rising food demands on national and international level, two ways emerge to increase the production of food: a more intense use of existing natural resources, or an extension of the area cultivated (Rauch et al., 2016, p.43). Both options raise environmental and social risks if context specific conditions are not sufficiently considered.

ASAL regions are characterized by climate uncertainty due to spatially and temporally highly variable rainfall. Mean annual precipitation varies between 0 and 600mm in ASAL regions (Figure 6) and maximum temperatures can reach up to 50°C (in northern parts of Afar) resulting in potentially high rates of evapotranspiration. Rainfall is concentrated in few high intensity storms during the two major rainy seasons, and drought is a recurrent phenomenon. The extensive and opportunistic use of communally held land rangelands, characteristic for mobile forms of pastoralism, is the best-adapted land use system under these unpredictable climatic conditions (Krätli, 2015; Little, 2013). The careful selection of livestock itineraries and the temporally restricted use of rangelands reflects pastoralists' expert-knowledge concerning the sustainable use of fodder (grass and leaves) and water resources. Mobile pastoralism is characterized by an extraordinary adaptability to highly volatile weather conditions. The resilience depends on the combination of two key factors: a high mobility of livestock in order to access spatially dispersed rangelands which offer seasonally differentiated high-nutrient fodder and water resources; and secondly, functional customary institutions for natural resource management in which collective action and resource sharing (social capital) are of major importance to spread risks (Niamir-Fuller, 1999). Both factors are increasingly undermined, as will be shown below.

Participants in the scenario building workshop stressed the importance of changes in the natural resource endowments and entitlements as major contributing factor for current and future processes of rural transformation in ASAL regions. Of the 10 influencing factors which were selected as most important for rural transformation (see chapter 5) three had a direct relation to environmental dynamics: 1) weather variability, 2) sustainable use of natural resources, 3) resilience against shocks and stresses.



The availability, accessibility and quality of natural resources has changed significantly under the influence of political, demographic and environmental factors on different scales. These changes contributed to a massive transformation of land use patterns. **Major trends regarding natural resources in ASAL regions are:**

- The productivity and accessibility of critical key pastures, mostly located within riverine floodplains, has significantly decreased.
- Less-palatable woody plant species (exotic and native) have spread invasively, especially in riverine floodplains, taking over some of the prime rangeland.
- Soil salinity and water pollution have increased parallel to the expansion of agricultural plantations along main rivers.
- Deforestation has increased, especially around towns and permanent villages.
- Groundwater tables are sinking due to increasing water demands.

3.1.1 Rangelands, soils and forests

Degradation of rangelands

Degradation of vegetation and soils poses a massive problem for the arid and semi-arid lowlands where different types of savanna, grasslands and deserts cover the major part of the landscape (Kassahun et al., 2008; Pricope et al., 2013). Rangeland degradation manifests in an altered grass species composition and a general loss of biodiversity and vegetation cover resulting in a persistent reduction of biological and economic productivity. Most affected are seasonally flooded plains which offer the most beneficial pastures during dry season and drought and, at the same time, the highest irrigation potential. Here, nutrient-rich palatable grasses, the main feed source for grazers like cattle and sheep are increasingly out-competed by invasive plant species (*Prosopis juliflora*, *Parthenium hysterophorus*, *Lantana camara*, *Acacia melifera*, *Acacia nubica*) or the grassy floodplains are converted into irrigated farmland. Especially *P. juliflora*, intentionally introduced to the lowlands as ecosystem engineer for soil and water conservation in the 1970s, has invaded large areas of prime grazing land of Afar Region (Rettberg & Müller-Mahn, 2012; Ayanu et al., 2015).

Commonly observed forms of soil degradation include sheet, rill, gully and bank erosion, which removes the top soil and leads to a loss of nutrients. Most problematic is the increasing numbers of gullies, especially along the escarpment zone bordering the highlands. As rainwater gets channelled in gullies, water infiltration on the rangeland plains has significantly reduced, while the occurrence of floods has increased. Increasing deforestation in bordering highland regions has led to more severe floods in the lowlands causing losses of livestock, and the destruction of farms among agro-pastoral communities living along the foothills.

Increasing soil salinity

Soil salinity is a major problem for agricultural production in arid and semi-arid areas where evapotranspiration rates exceed precipitation. Concerning the study area, salt affected soils are prevalent in the Awash Valley and the Wabi Shebele River Basin of Somali Region. Following the establishment of large scale irrigated farms in these areas, salinification worsened due to poor drainage systems and inappropriate water management practices. Increasing salinity is now one of the major reasons for decreasing agricultural productivity on irrigated cotton and sugarcane plantations along the Awash River (Asfaw et al., 2016) and among small-scale agro-pastoralists cultivating maize and vegetables. Various pastoralists also reported that drinking water from wells has become increasingly salty. Under current conditions of an ongoing expansion of irrigation farming in lowland areas, some interviewees expect soil salinity to become a major problem in the future, jeopardizing sustainable agricultural production (Int. 9).

Increasing deforestation

Trees and dryland forests play a major role for livestock and pastoralists, e.g. as source of fodder for camel and goats, stabilizers for soil, as shade, and as sources of income (e.g. collection of gums and resins). As indicated by Worku et al. (2014), dry forest income contributes up to 63% of the total income of very poor households in certain zones of Somali Region. Customary laws among Afar and Somali people prohibit the cutting of trees. When deemed necessary, branches

are collected as feed for emaciated animals or lactating cows. This is done in a way that ensures the regenerative capacity of the plants. Within the last decade, deforestation of indigenous trees has increased, especially around the growing villages and towns where the demand for household energy sources and for material for house construction have increased. Most interviewees blame migrants from Highland areas as well as war returnees from Somalia who cut trees to sell firewood or charcoal. They are partly employed by local Afar or Somali charcoal traders and landlords who increasingly disrespect customary institutions for the sake of individual profit (Datona, 2014).

3.1.2 Surface and groundwater resources

Increasing water supply and demand

The naturally limited supply and the spatio-temporal variability of water resources in ASAL regions is a severe constraint for rural inhabitants. Within the past 40 years, especially since the drought of 1973, many non-pastoral actors have focused their efforts on water-development, with positive and negative effects (Nassef & Belayhun, 2012). In Somali Region, some interviewees indicated that household water access has improved over the past 30 years due to the construction of deep wells and *birkets* (water harvesting structure mostly privately owned) (Int. 42). Through recent major government investments in the marks of a water-led development strategy, water supply coverage has further increased within the last years. In 2014/15, rural water coverage reached 84% all over Ethiopia. However, this is less than the targets set in GTPI (Table 1), and it can be assumed that the figure is even lower in pastoral areas, due to the mobility of the population. Many pastoral households keep on using traditional water sources, especially for the watering of animals, because they lack money to pay for water, and many boreholes are not functional. Most water delivery approaches tend to be designed for sedentary communities and neglect water demands by mobile herds of livestock. Permanent water points have been developed in areas previously used only temporarily for grazing, but year-round use results in pasture degradation, conflict, and the spread of human and livestock disease (Gomes, 2006).

Table 1: Water related targets in GTP I		
	Baseline 2009/2010	Target 2014/15
Potable water coverage (%)	68.5	98.5
Urban potable water coverage (source within 0.5 km)	91.5	100
Rural potable water coverage (source within 1.5 km)	65.8	98
Reduce non-functional rural water supply schemes (%)	20	10
Developed irrigable land (%)	2.5	15.6
Power generating capacity (megawatt)	2,000	10,000
Source: adapted from Calow, Ludi, & Tucker (2013, p. 30)		

The ambitious governmental goals for an intensification of agriculture and development of hydropower set out in the GTP with the vision of becoming a middle-income country and building a Climate Resilient Green Economy (CRGE) translated into the construction of various large scale dams in lowland regions. The rising agricultural water off-take from a large-scale sugarcane plantation in Tendaho, Afar Region (built in 2009) resulted in increased water scarcity for local pastoralists and agro-pastoralists and disturbed discharge patterns and the floodplain ecology. The chairman of the Afar Pastoralist Council reports:

"Before, people from rural areas directly went to Kallo (flood plain, Assayta) when drought came. Now, when they come here during drought there is no more water, no more grazing land, everything is occupied by sugarcane. After the sugar came the conflict started, especially between the pastoralists and the sugarcane people, the government. All the farmers who have a plot of land along the river don't get any water and the crops dried. Farmers don't get enough water to irrigate as all the water coming from upstream is diverted to the sugarcane plantation." (Int. 4, Assayta, 2016)

The increasing agricultural water demands to irrigate a command area of 24,000 ha have left downstream communities with insufficient water to irrigate their plots. It also affected clans coming to the river during the dry season for grazing of livestock.

As the availability of surface water resources in lowland areas is limited to a few perennial rivers, future hopes for agricultural expansion focus on an improved exploitation of groundwater resources. According to the 'Strategic Framework for Managed Groundwater Development' published by the Ethiopian Ministry of Water Resources (MoWR) in 2011, groundwater availability is assessed as good in most parts due to the accessibility of shallow aquifers. However, groundwater salinity poses a problem in many areas. Groundwater quality and levels are not monitored systematically, so that there is a lack of data at a regional level. Nevertheless, the Ethiopian government sets high hopes in the future exploration of large aquifers in the lowlands. The areas where most unused groundwater is suspected and partly already explored are in the lowlands of Amhara, Tigray, Afar and Somalia (MoWR, 2011). But it is not certain if the long-term exploitation of aquifers will be sustainable and financially feasible. Decreasing ground water tables were reported in interviews with pastoralists and political representatives in Afar and Somali Region. In some cases, newly built water pumps did not work anymore because they no longer reached down to the water table (Int. 12).

Increasing water pollution

Water pollution due to pesticides, fertilizers and insecticides, and the disposal of industrial waste has become a growing concern among pastoralists who use the river water for human consumption, for watering of their livestock, and for irrigation. Most affected by the harmful consequences of this agro-industrial contamination are communities living in Zones 1 and 4 of the Awash Basin as the upper part of the river catchment, located in the highlands, is highly developed by commercialized farms and industries. Severe health problems and increasing mortality rates have been reported after consumption of the water (Int. 21). A heavily polluted, hypersaline lake (Lake Beseka) located next to the Metahara sugarcane plantation in the Awash Basin, recently spilled over due to over-irrigation. Its proximity to the Awash River (3 km) caused significant concerns for negative impacts on downstream users in Afar Region. Treatment costs of water utili-

ties have risen sharply, although this actually reflects the indirect costs of irrigated agriculture (Parker et al., 2016). Also of concern are the high salinity and acidity levels of the groundwater, which decreases livestock and crop productivity. Water quality in lowland areas of Afar Region is additionally hampered by high natural fluoride concentrations in the groundwater, in some locations exceeding the recommended maximum concentration for human consumption and irrigation of 1.5 mg/l (WHO). The fluoride levels in the waters of the Ethiopian Central Rift Valley are amongst the highest in the world, putting some 8 million people at risk of developing skeletal or dental fluorosis (Rango et al., 2012).

3.1.3 Main factors influencing environmental degradation

Governmental policies for agricultural development

Within the past decade, the Ethiopian government has increased its efforts to exploit the natural resources of the lowlands by expanding irrigation agriculture as well as mining. A dominant discursive element among political stakeholders in this regard is the notion of the 'untapped resources' of the lowlands, of abundant land resources, minerals and an underused irrigation potential, especially from groundwater aquifers. The conversion of communal dry season pastures into agricultural land has gained momentum with globally rising food prices since 2008 and the increasing national demands of a growing population. This caused the exclusion of livestock from prime pastures and subsequent overstocking in less productive areas, leading to disturbed spatio-temporal migration patterns of livestock.

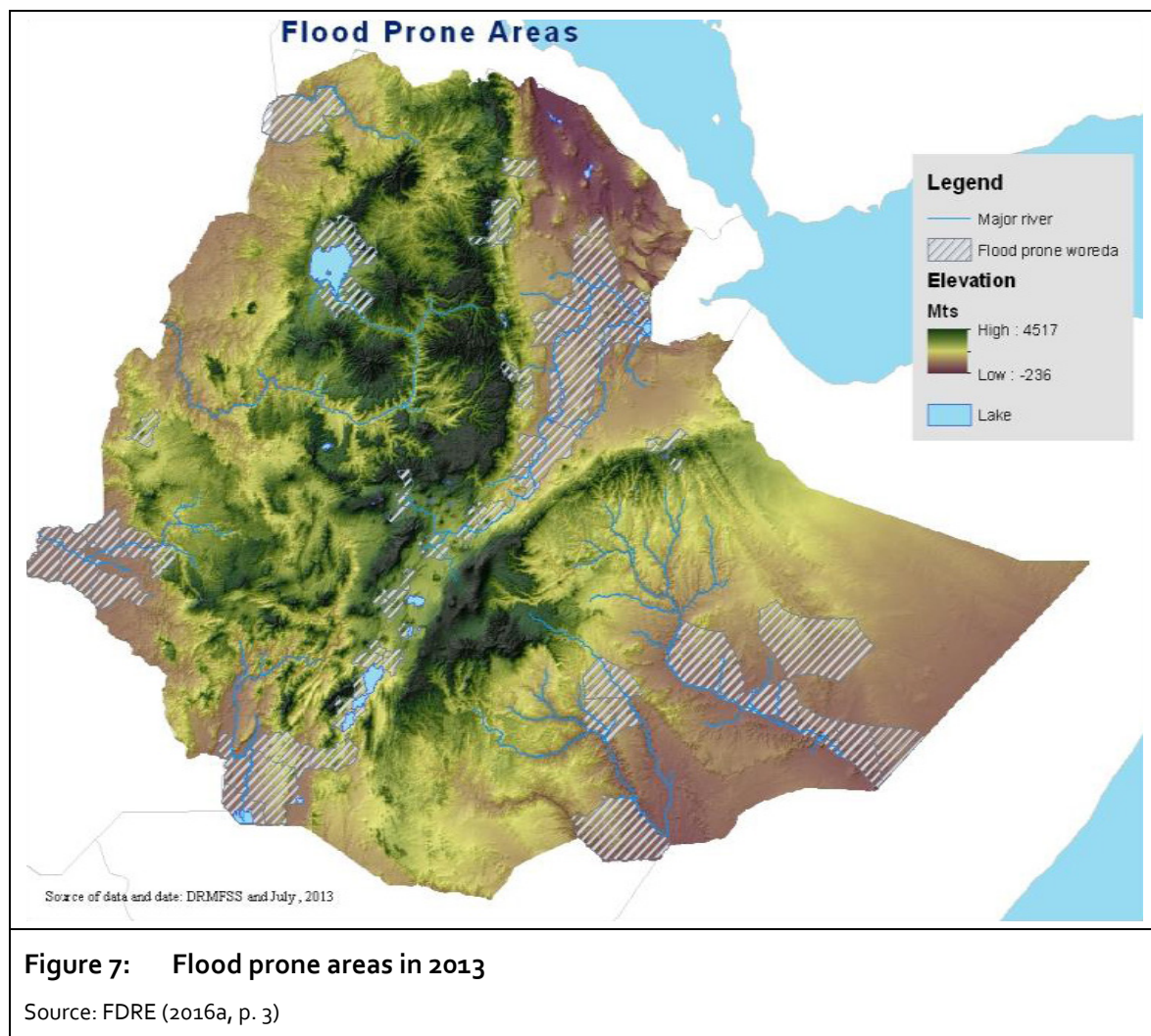
Water-led development (or basin-development programme) is the guiding policy of governmental interventions directly targeting the rural population. It has been implemented in Afar and Somali Region since 2010/11. The construction of deep wells and water pipelines have been major interventions in this regard. The improved provision of water is the main strategic entry point to create incentives for the voluntary settlement of pastoralists and their subsequent shift towards agro-pastoralism (Int. 1). It aims at a major transformation of land use and settlement patterns in ASAL regions through villagisation and the establishment of irrigated farmland. The sedentarisation of pastoralists has contributed to overstocking and deforestation around towns and villages. The government push towards sedentarisation is embedded in a dominant discourse among governmental stakeholders in which the mobility of pastoralists is seen as a source of conflict and overgrazing.

It is also assumed that ASAL regions contain substantial energy resources, including gas, oil and geo-thermal sources, as well as minerals like salt, gold and potash. Gold and potash are already exploited by international companies (Australia, USA) in the northern part of the Afar Region, while salt mining in the Danakil desert is controlled by investors from Tigray. Russian oil explorations are ongoing in the Middle Awash Region (Zone 3) with the prospect that large pasture areas will be converted if oil is found. Various oil explorations are also ongoing within the Somali Region. A Chinese company just started large gas explorations in the Somali Region, in the hope of meeting the growing energy demands in China.

Increasing climate variability

Climatic trends in Ethiopia indicate a significant increase in seasonal mean temperature since the early 1980s (Niang et al., 2014, p. 1206). Interviewees in Afar and Somali Region also stressed the increased occurrence of droughts, with a higher variability of rainfall (frequency, intensity, duration) contributing to the disappearance of nutrient-rich native grasses and increased livestock mortality rates. It seems that the climate is becoming hotter and more variable, but model predictions of future climate trends diverge due to profound uncertainties (Ericksen, 2012; Headey et al., 2014). At the same time, more floods are reported and the associated costs are on the rise. Drought and floods are normal phenomenon in arid and semi-arid regions (Figure 7) which affect reproduction rates of livestock and agricultural output significantly. As observed during the field study, the drought in 2016 had severely reduced the amount of water in the Awash River, jeopardizing small-scale farming activities as well as the large-scale sugarcane plantations, whose command area had to be reduced from 24,000 ha to 8,000 ha (Int. 9).

However, climate change is not the dominant factor influencing environmental degradation, as is sometimes suggested in the mainstream discourse (Int. 32). As pointed out by Flintan and Cullis (2010, p.7), “the lack of a coherent approach to decision-making in the rangelands has done more to undermine former levels of rangeland productivity than cyclical droughts could ever achieve”. It is assumed that future climate change linked to higher rainfall variability will increase the role of pastoralism for food production in ASAL regions given the higher adaptability of mobile pastoralism to climate challenges compared to sedentary farming systems.



Demographic changes

Ongoing sedentarisation by pastoral drop-outs and labour migrants from highland regions contributes significantly to overgrazing and deforestation around permanent settlements. In a context of a growing population, the demand for charcoal and firewood is rising, given that alternative energy sources are not available. Increasing land scarcity, population pressure and resource degradation in the highlands of Amhara and Tigray is pushing the agrarian population to migrate to lowland areas (Pankhurst & Piguët, 2009). High population growth rates in lowland areas of Afar and Somali Region (see 3.4) put additional pressure on remaining natural resources.

Several political representatives and development organizations attributed rangeland degradation primarily to human population growth and herd sizes above the carrying capacity of pastures. Even though the validity of the carrying capacity paradigm and notions of equilibrium, climax and succession have been questioned for semi-arid and arid rangelands (see text box below), overstocking as a driver of degradation has remained a dominant discursive element among policy-makers (Little, 2013; McGahey et al., 2014).

Equilibrium versus non-equilibrium ecosystems

Contrasting models come to different conclusions about the extent to which livestock populations drive vegetation change. The conventional carrying-capacity paradigm builds on an equilibrium model of ecosystems which stresses the impact of biotic factors on plants, e.g. grazing intensity. In contrast, the non-equilibrium concept emphasizes the importance of rainfall variability as a critical driver of rangeland dynamics. In the late 1980s, some scientists concluded that it was rainfall variability, not overgrazing, that controlled the number of livestock in semi-arid and arid rangelands (Behnke et al., 1993; Ellis & Swift, 1988). Where rainfall variability is high, the potential for degradation is considered to be relatively low because livestock populations collapse in periods of drought, enabling vegetation to recover. In contrast, if rainfall variability is less pronounced, livestock pressure may remain high even in drought periods, with ongoing grazing and browsing on the available plant biomass increasing the potential for degradation.

Nevertheless, as Behnke and Mortimore (2016, p. 18) state, there are some exceptions in the correlation between increasing aridity and reduced grazing impacts. For example, large floodplain areas are insensitive to heavy use during periods of food scarcity. The continuous availability of reliable feed sources mitigates the effects of a highly erratic climate and sustains large herds which might lead to a damage of vegetation in adjacent areas. Long term resource degradation in arid environments may also occur under conditions of increasing intensification and commercialisation in settled ranching models (impact of feed supplements, improved access to water, and veterinary health) unless rangelands are given periodic phases of rest. The highly propagated fenced systems of rotational grazing do not always lead to reliable production increases in plant or livestock production (Briske et al., 2008), especially if seasonality and spatial heterogeneity of available resources are not taken into consideration (Salomon et al., 2013).

Weakening of customary rangeland governance

Pastoralists in the Afar and Somali Region stated that customary institutions which regulate the use of natural resources, e.g. through prohibition of the cutting of trees, are becoming weaker (see 3.2). In Afar, interviewees claimed that the practice of *desso*, exclusive clan-based grazing reserves to regulate the grazing intensity and secure access to fodder during the dry season, has recently been prohibited by government officials. At the same time, elders and clan leaders who are responsible for the enforcement of the regulations are not as respected as in the past, especially by the younger generation. The government is undermining the clan leaders, but is not able to replace these culturally embedded institutions (Int. 32).

The increasing fragmentation and privatization of communal rangelands displaces pastoralists from valuable grazing areas onto less productive pastures and limits the mobility of livestock. People in Harshin (Somali Region) used to move three times a year, including across the border to Somaliland during the dry season (Int. 32). Now they are stuck in their place, surrounded by enclosures. Under these conditions, uncontrolled, intensive grazing without appropriate rest of rangelands has increased.

3.1.4 Main impacts

The increasing degradation of rangelands puts the base of pastoral sustenance at risk as the direct consequence has been **decreasing pasture and livestock productivity** due to feed shortages. Milk production and herd sizes per household have diminished, leading for the majority of pastoralists to **chronic food insecurity**, impoverishment, and dependence on food and cash transfers (PSNP). The increasing scarcity of good quality rangeland fosters the process of **rangeland fragmentation**, where individuals or groups of people enclose patches of good pastures for exclusive use (e.g. for fodder production).

The rising proliferation of *birkeds* and boreholes carries the risk of **unsustainable stocking practices** because livestock and people tend to be concentrated around the newly drilled boreholes. The emergence of permanent settlements around the new water supply structures also increases processes of deforestation (Somali Regional State, 2012).

Increased competition between different user groups for access to increasingly scarce land increases the risk of **violent conflict** (Int. 42). The eviction of pastoralists from their dry season grazing areas has raised the tensions between pastoralists and the government-run irrigation plantations. Two pastoralists were killed when their livestock entered the plantation to feed on sugarcane during the drought in 2016. Violent conflict also contributes to rangeland degradation when pastures cannot be accessed due to conflict risk. The violent exclusion of southern Afar pastoralists by rivaling Issa clans was one of the main reasons for severely limited mobility and overgrazing of remaining dry season pastures (Rettberg, 2010).

In a nutshell

The degradation and increasing scarcity of critical rangelands is closely linked to policies aimed at the expansion of land used for irrigation agriculture and sedentarisation. In the process, pastoralists and their livestock become increasingly displaced onto less productive land which significantly undermines the resilience of pastoralists. The degradation of rangelands, the increasingly restricted mobility of livestock and poverty foster unsustainable practices of natural resource management, leading to a vicious cycle of degradation. This process is exacerbated by high population growth rates and an increasing variability of rainfall.

3.2 Institutional dimension

The most visible institutional changes in sub-Saharan Africa within the last 25 years were the turn to democracy and the decentralization of government structures and public services. This is also true for Ethiopia, where a revolutionary movement took power in 1991 after a 17-year civil war against a Marxist-socialist military regime (*Derg*). Adopting a developmental state model, the victorious post-socialist elite of the Ethiopian People's Revolutionary Democratic Front (EPRDF) embarked on a mission to consolidate its political power all over the country, including the peripheral lowlands, and to integrate Ethiopia in a global neo-liberal economy. The institutional

reform processes retained the major role for the state in reaching these objectives. Most reforms have been designed and controlled by the state without a colonially inherited model or “benevolent pressure” from international donors (Agegnehu & Dibu, 2015). Opposition forces were deemed as obstructions to political stability and to reaching the ambitious economic targets, especially in the aftermath of the contested elections of 2005, following which the late Meles Zenawi ruled through a single party system (EPRDF).

Institutional aspects, especially the lack of legitimacy and accountability of the political leadership, were also named as key influencing factors for rural transformation in ASAL regions by participants of the scenario-building workshop. Of the ten most important factors identified, four were closely related to the institutional dimension. They referred to governance, social capital, security of land entitlements and conflict (see section 3.6). **Major institutional trends which will be explored in more detail below relate to:**

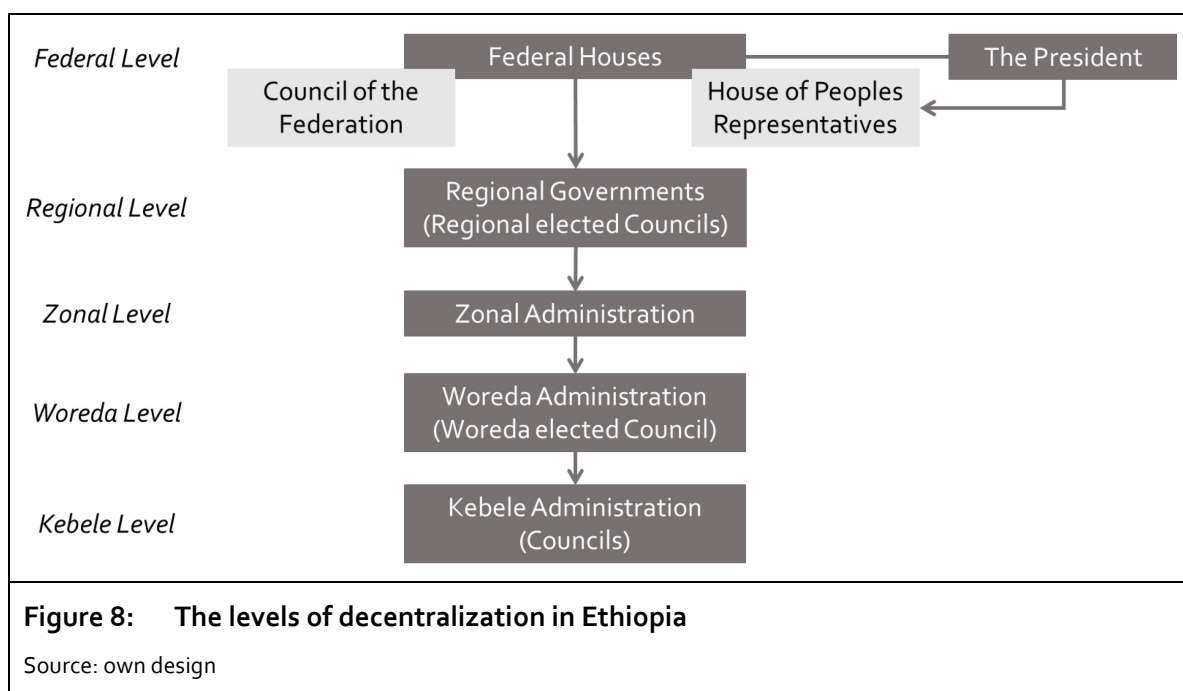
- the decentralization of governmental and state competencies and public funds linked to the emergence of ethno-territorial conflicts.
- the shrinking power of customary institutions particularly with regard to the management of natural resources and conflict.
- a shift from communal towards private land tenure regimes linked to increasing fragmentation of rangelands and land use conflicts.
- the persistence of governmental policies and interventions in pastoral areas with a bias towards settled forms of agriculture in spite a new focus on livestock.

3.2.1 Ethnic federalism, decentralization and devolution of power

The Ethiopian democracy is estimated to be weakly competitive and classed as electoral authoritarian (Riedl & Dickovic, 2014; Smoke et al., 2013). Apparently in contrast to this situation, the decentralization process in Ethiopia is one of the most coherent cases in Africa (Riedl & Dickovic, 2014; Arriola & Lyons, 2016). Immediately after the fall of the *Derg*, the EPRDF enacted a Transitional Charter (1991) which introduced the principle of ethnic federalism. This marked a fundamental institutional reversal of over a hundred years of ethnic homogenization through violent conquest, assimilation and coercion for the sake of consolidated central state power. In the late 19th century, King Menelik had embarked on a process of centralist nation-building over an immense territory whose multilingual and multi-ethnic inhabitants had autonomous political structures and rules. Successive highland-based regimes of Haile Selassie (feudal imperialism) and the *Derg* (military socialism) tried to create a sense of ‘Ethiopianness’, of national unity and identity, shaped by the dominance of the Amharic language and Christian Orthodoxy. These ideas were not shared by many of those being annexed by the Abyssinian powerholders, including the inhabitants of the Muslim pastoralist peripheries. They opposed their subordination under foreign rule and were only partially incorporated into the state (Donham, 2002).

For the first time in the history of the Ethiopian state, ethnic federalism offered lowland groups like Afar and Somali the prospect of self-administration. This right was institutionalized by the new constitution (1995), which created a federal government of nine regional states with internal

boundaries defined along ethno-linguistic lines (Kefale, 2014). During the transitional phase (1991-1994), regional governments were established and executive, legislative and judicial competencies were devolved to the regional level (Figure 8). The regional governments are responsible for social and economic development of their regions. Accordingly, new institutional arrangements were created, including a council, an executive committee, a judicial administration office, a public prosecution office, an audit office, a police and security office, and a service and development committee. The regional level gained the theoretical possibility of raising its own tax revenues (not often employed), they received fiscal transfers from the central state, and had the right of domestic borrowing.



Beginning 2001, local *woreda* (district) governments were created within the regions (Figure 8). The decentralization of a range of service functions to the *woreda* level was laid out in the Interim Poverty Reduction Strategy Paper (2000). The *woredas* receive regional grants to fulfil their executive responsibilities and tasks, e.g. the provision of social services such as health, education, road and water supply services, and the collection of taxes and user fees from the local residents (Agegnehu et al., 2015). The *kebeles* are the smallest administrative unit below the *woreda*. On the ground, they often operate like local agents of *woredas* because of their limited capacities and uncertain resources (Smoke et al., 2013).

Notwithstanding its coherent structure, the regional governments are until now characterized by varying capacities and often poor performance (Smoke et al., 2013, p. 22). They depend highly on the central state because capacities to raise taxes are limited and the tendency to provide specific earmarked grants restricts the scope for regional or local decisions. The problem of weak human resources on regional and lower administrative levels was highlighted by many of our respondents, especially in the Afar Region.

Stringent fiscal and administrative decentralization in Ethiopia is not identical to a strong participation of the local levels of government in policy formulation. Major sector reform programmes such as the civil service sector reform and the National Capacity Building Programme are mainly defined by the central government and its ministries and agencies (Smoke et al., 2013, p. 22). The House of Federation with representatives from different nationalities within Ethiopia, is mainly responsible for approving and defining how federal resources are distributed among the regional states and intergovernmental relations. But the House of Federation is hardly involved in contributing to and approving sector policies from a regional or local perspective (Smoke et al., 2013). As a result, the regional and local conditions are not fully taken into consideration in policy formulation in Ethiopia. As the ASAL regions are peripheral areas, their matters and specific context conditions have low chances to get through to the level of policy formulation for reasons of polity (the structure of the political institutions) and politics (i.e. power structures and interests of the incumbent government).

The problem of weak political representation is also reflected on the regional level. The regional councils are composed of directly elected members representing each *woreda*. But this does not necessarily mean that *woreda* councillors transmit local needs and demands upwards to the regional level. Since 2005, the EPRDF has started massive recruitment of new party members (en-cadrement) among local authorities, especially in peripheral areas, in order to secure their political presence and dominance all over the country (Arriola & Lyons, 2016). Party membership rose from 760,000 in 2005 to 4 million in 2010. The trend for increasing co-optation and membership of local leaders in the ruling party leads to high upward but low downward accountability, decreasing the legitimacy of local political leaders.

Decentralization in Ethiopia was explicitly expected to have an impact on the reduction of poverty and on shaping the rural transformation by improving rural service delivery. As already mentioned, the decentralization to the *woreda* and *kebele* levels was initiated in the course of poverty reduction strategies at the turn of the millennium and was accompanied by massive external financial support for social services. Studies show that the overall delivery of services improved significantly after decentralization (Alemu, 2015). Decentralization has been fundamental for the implementation of affirmative action programmes for government budget allocation and preferential higher education enrolment for regions like Somali and Afar (Khan et al., 2014). Nevertheless, these regions are still far from being fully integrated in the Ethiopian economy (see section 3.3). Sharp regional differences in the improvement in the delivery of social services are due to lacking capacities of regions and *woredas*, due to financial mechanisms that are not functional, and the lack of clear and appropriate roles and responsibilities (Alemu, 2015).

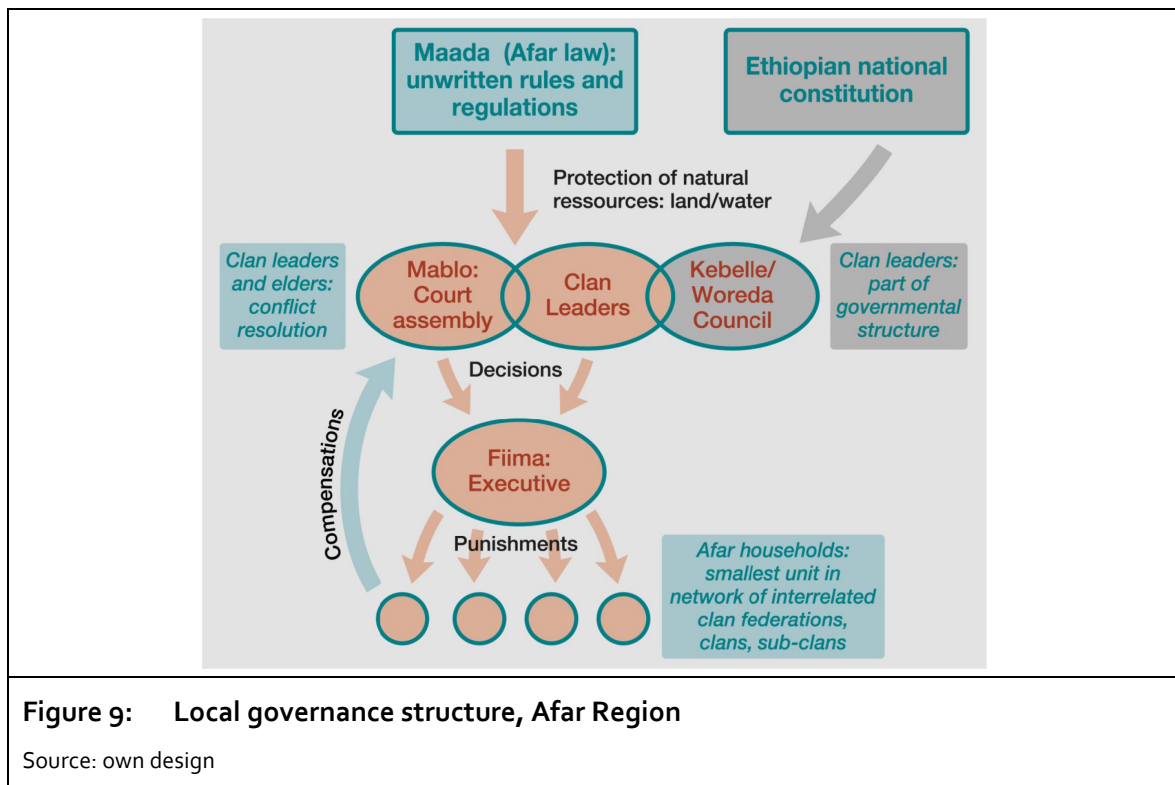
Decentralization in Ethiopia has led to more legal decision-making power at the regional and district levels, but on the other hand, it has increased penetration of government institutions on the local and regional levels as never seen before. The low human resources and skills as well as the fragile legitimacy of local political leaders and local government staff due to party-related clientelism thwart effective local governance. Lack of downward accountability and of local participation in planning and service delivery have been additional problems (Arriola & Lyons, 2016; Riedl & Dickovic, 2014; Garcia & Rajkumar, 2008). Against this background, decentralization in Ethiopia is above all about deconcentration of resources but not about devolution of power (Chinigo, 2014).

One of the major impacts of the decentralization of power on ethnical grounds have been escalating ethno-territorial conflicts as political competition for access to budgets and power has increased (Hagmann & Mulugeta, 2008; Rettberg, 2015). At the same time, decentralization in the context of ethnic federalism contributed massively to a reduced mobility of pastoralists. Sedentarisation and the establishment of permanent settlements have become major clan-based strategies to make territorial and financial claims (Int. 32, 42) and to receive food aid.

3.2.2 Weakening of customary self-governance and land tenure

Crisis of local leadership: An important trend in ASAL regions is the decreasing power and legitimacy of local regulations for the use of natural resources (primarily land and water) and local conflict resolution mechanisms. This process is accompanied by the growing importance of market institutions, commodification of services and natural resources, as well as weakening of values of internal solidarity that in the past were rigidly monitored and socially sanctioned, thus maintaining social coherence and trust relations among the rural population, particularly the pastoralists. The increasing presence of the state and its agencies on the local level through decentralization is one of the main causes of a decline in validity and legitimacy of local customary institutions. Hagmann and Mulugeta reported in 2008 that pastoralists had still a clear preference for customary conflict solution, because these were “... *deeply embedded in social norms, rituals and often involve(d) the negotiation and compensation of blood compensation*” (Hagmann & Mulugeta, 2008, p. 27). Today, customary institutions and authorities suffer from increasing ambiguity in many areas. Workshop participants reported that customary institutions are being eroded in many places because of the doubling with “modern” formal institutions and authorities. Many of the newly nominated *kebele* leaders are clan leaders at the same time (Figure 9), which places them in a loyalty conflict. They receive governmental salaries and are increasingly pushed to participate in official development programmes, initiatives and awareness raising campaigns and to mobilize their clans in line with the government’s vision for rural development.

The co-option of local leaders has impaired trust in local leadership. The predominant assessment of our Workshop participants and respondents in Afar and Somali Region was that the omnipresence of the state has weakened local capacities to regulate conflicts and the use of natural resources. In fact, the Ethiopian state tries to selectively appropriate customary institutions, authority roles and reconciliation mechanisms (Hagmann & Mulugeta, 2008). Unfortunately, it is the state and not the local population that decide on the best ways to administer the use of land and water or ways to re-establish conflict resolution mechanisms.



Continuing insecurity of land tenure: Land ownership is legally vested in the Ethiopian state so that land cannot be sold or exchanged. Regional governments are responsible for land administration of areas below 5,000 ha. Governmental land claims appear artificial to most pastoralists, who have been using the rangelands for centuries. Land in pastoral areas is held and regulated in common, mostly on clan-base. These customary land rights have been ignored by successive Ethiopian regimes (Mulatu & Bekure, 2013). The establishment of cotton plantations in the Awash Basin since the 1950s meant a substantial loss of highly productive drought grazing areas which were claimed by certain Afar clans, but the claims were not acknowledged and no compensation was paid (Rahmato, 2008). The Ethiopian Constitution (1994) recognized customary rights of pastoralists to free land grazing and the right not to be displaced from their own lands without their wish. Nevertheless, the risk of being displaced remains, because the Constitution allows the State to give land to private investors on the basis of payment which will be determined by law (Gebeye, 2016). Also, the Land Administration and Use Policy (Proclamation No. 49) enacted by the Afar Regional State in 2009 reaffirms the power of the state to expropriate land. Mulatu and Bekure (2013) argue that the regional policy will fail to secure communal land rights and pastoral mobility unless customary institutions are allocated more powers and duties in resource governance and conflict resolution.

In the absence of legal protection of land rights and respective enforcement mechanisms, large tracts of land have been appropriated by investors or the state for agriculture, mining or wildlife protection. Regional politicians are benefitting from these land deals which undermines their legitimacy even more as they are blamed for selling their homeland. Within the last 20 years, land has increasingly become a commodity in a context of increasing land scarcity, the monetization of the society, changing values, the erosion of customary institutions and increasing poverty. Communal pastures are increasingly turned into a “privatized” and exclusive good, indicated by

the increase of semi-private and private fenced enclosures, especially around settlements (Napier & Desta 2011). This shift implies a change from a highly inclusive to a highly exclusive institutional set-up and the loss of margins for local resilience, especially in times of drought and scarcity. As less-powerful pastoralists are excluded from previously used communal pastures, the risk for land use conflicts between and within clans is rising. In contrast, communal and cooperative enclosures reduce the risk of conflict and also benefit vulnerable groups.

Community-based organizations beyond the clan: There are no clear trends in the formation of civil society and independent community based organizations (CBO) in the ASAL regions. In Somali, the local culture seems to be less favourable to self-organization beyond clan or family structures in the context of growing economic and socio-cultural individualization. But in Afar, expert interviews confirmed that organizations such as small local cooperatives fit in better because “sharing” and horizontal association is an essential part of the local culture (Int. 15, 19). While there is no clear trend for new institutional arrangements of self-organisation, some examples of recent local community based organizations show that this is a viable strategy to enhance local economy even in very poor areas (Int. 6, 15). Only a few such organizations exist in ASAL due to external initiatives and initial funding (relatively low cost), but they are highly appreciated by the local population because they allow people, especially women with low formal education, to start up small business activities (Int. 6).

3.2.3 Governmental policies

Legacy of anti-pastoralist policies: All pastoral policies since the mid-20th century have been framed in a development discourse of modernization and economic growth. They have been designed by politicians from highland areas who were familiar with agricultural societies, but had little knowledge about the specifics of pastoral livelihoods. Successive policies were based on agrarian assumptions about boosting agricultural productivity that were transferred to pastoral areas (Gebeye, 2016). These policies aimed to capture the economic value of some of the most productive rangelands which were either portrayed as unused or overused wastelands. Overgrazing and land degradation were attributed to presumably destructive and unsustainable land management practices of pastoralists, framed as the ‘tragedy of the commons’ (Hardin, 1968). Governmental interventions were mainly pursued for the sake of national growth and domestic food supply. On one hand, commercial irrigation agriculture linked to the establishment of large dams expanded massively (see section 3.3). On the other hand, various large-scale, externally funded, livestock development programmes were implemented in lowland areas during the 1970s and 1980s which focused on the commercialization of the livestock sector. As noted by Desta (2006, p.15), *“the impact of these projects on human livelihood was minimal because of top-down approach, lack of understanding of the functioning of semi-arid and arid pastoral systems, and an underestimation of the power of traditional institutions and utility of indigenous knowledge.”* Also, resettlement schemes began to be implemented at this time.

The change of regime in 1991 has not resulted in major structural changes in pastoral policies. These continue to be shaped by an agricultural bias and a focus on voluntary settlement along the riverbanks, with major detrimental trade-off effects on pastoralist livelihoods (Gebeye, 2016). In spite of some positive developments concerning policy support for pastoral areas since 1991, weak implementation and contradictory policies have been major problems (Little et al., 2010a).

The desired transformation of pastoral areas has above all been conceived as a shift from a) extensive and mobile forms of pastoralism towards settled, more intensive forms of agro-pastoralism, and b) from a dispersed settlement structure of mainly temporary camps towards a more urbanized society with small pastoral towns. These objectives were also indicated in the pastoral policy adopted in 2002.

Currently, government policies are guided by an explicit transformation agenda in which agriculture is the main economic pillar. The current agricultural strategy differentiates between three regions through the implementation of several Flagship Programmes:

1. High potential mixed crop-livestock areas, rainfall sufficient (e.g. Arsi, Humera): focus on commercialisation of agriculture through Agricultural Growth Programme (AGP)
2. Mixed crop-livestock areas, rainfall deficient, vulnerable (large parts of the highlands): focus on improved management of natural resources through Sustainable Land Management Programme (SLMP)
3. Lowland grazing, recurrent droughts, vulnerable: focus on social assistance through Productive Safety Net Programme (PSNP)

The newly (2011) established Agricultural Transformation Agency (ATA), a think-tank chaired by the Prime Minister, reflects the governmental intentions to transform agriculture substantially. Nevertheless, in 2016 ATA still lacked a department working specifically on the needs and potentials of pastoralism. The same neglect holds true for the national five-year development plans which guide the Ethiopian transformation agenda, as well as all economic sector policies and interventions since 2005. The first five-year plan, the "Plan for Accelerated and Sustained Development to End Poverty" (PASDEP), was a result of the Ethiopian poverty reduction strategy at the turn of the millennium. PASDEP was followed by the "Growth and Transformation Plan" (GTP I, 2010 – 2015) which has been replaced recently by GTP II (FDRE, 2016) which is a slightly modified version of GTP I with a stronger focus on commercialized forms of agriculture and high-value commodities.

The development vision of the Ethiopian government is guided by the classic modernization paradigm, based on mechanisation, up-scaling, rationalization and preparing the ground for profitable investments all over the country (see section 3.3). A differentiated and coherent strategy for pastoral areas is still lacking. In the frame of GTP I and II, governmental interventions in ASAL regions have been geared to enhance agro-industrial development and the industrial production of livestock for export trade. In 2015 the Ministry of Livestock was established and a Livestock Master Plan was elaborated. Previously, the livestock sector had been subsumed under the Ministry of Agriculture. At the same time the Ministry of Federal Affairs was renamed the 'Federal Affairs and Pastoral Area Development'. The recent changes in institutional set-up have created some hope for substantial change, but it remains to be seen if lessons have been learnt from past failures.

3.2.4 Transforming the lowlands: Villagisation and land certification

Voluntary resettlement and villagisation: Resettlement has been a main strategy of past Ethiopian regimes to alleviate food insecurity in certain areas and quell political unrest. In 2010 the government introduced its plan for villagisation envisaging the settlement of 1.5 million people in four regions by 2013: Afar, Somali, Gambella and Benishangul-Gumuz. The major aim of is to shift the livelihoods and production schemes from pastoralist to agro-pastoralism and to provide social services. Currently there are 25 villagisation centres in five zones of Afar region. Under GTP II it is planned to settle 70,000 households in Afar Region, but the feasibility of this objective under the current conditions is highly in question. Generally, villagisation efforts in Afar and Somali have neither been successful nor sustainable and they have received widespread criticism from different sides. Mostly impoverished pastoralists settled voluntary as they had been promised a package of assistance until their first harvest, including irrigable farmland, seeds, simple tools, and access to social and water infrastructure. But the majority of locals feel cheated by the government because its announcements have not been accomplished. Devoid of the promised employment opportunities, lacking services and with a largely non-functional infrastructure, many of the new settlers have left the settlements again (Int. 8).

Land certification: An essential form of structural change is taking place in land property rights in Ethiopia which is also shaped by government policies. The Ethiopian government has implemented one of the largest, fastest and least expensive land registration reforms in Africa (Deininger et al., 2011). Land certification tries to improve security of communal land rights and give legal power to customary landholders. The first certification programme has been beneficial to smallholder farmers in terms of conflict prevention, investments, and accessibility of land (participation). The effects of the certification programme have mainly been studied in highland regions (Deininger et al., 2011). In ASAL, especially Afar, the current process of land titling is linked to the villagisation programme. In 2015 about 4,160 land utilization certificates had been given to the 16 *woredas* of Afar, those with some agricultural potential. In most of these *woredas*, the villagisation programme is also being implemented so that 8,000 households have settled so far (Int. 24). In order to get access to a land certificate a person has to be at least 18 years of age, resident of the respective *kebele* and engaged in agriculture. The size of distributed land for rain-fed agriculture is between 1 and 10 ha, while irrigated land size differs between ½ and 5 ha. Certificates are issued once all *kebele* land has been registered and verified. The inclusiveness and sustainability impacts of land certification are still to be investigated.

Basin development programme and water-centred development: The development of major river basins (Awash, Wabi-Shabelle, Omo, Nile) located mainly in lowland areas, has become a major goal during the past 15 years. The rivers are seen as enormous resources for the generation of hydro-electric power, (for internal use and export) and large-scale irrigation for agro-industrial use, e.g. for sugar cane and food crop production. These programmes do not consider the high environmental risks (salinization) and social or new poverty risks, e.g. in the case of the Awash river, whose banks are highly important as grazing areas of last resort for pastoralists in times of drought (Fratkin, 2014).

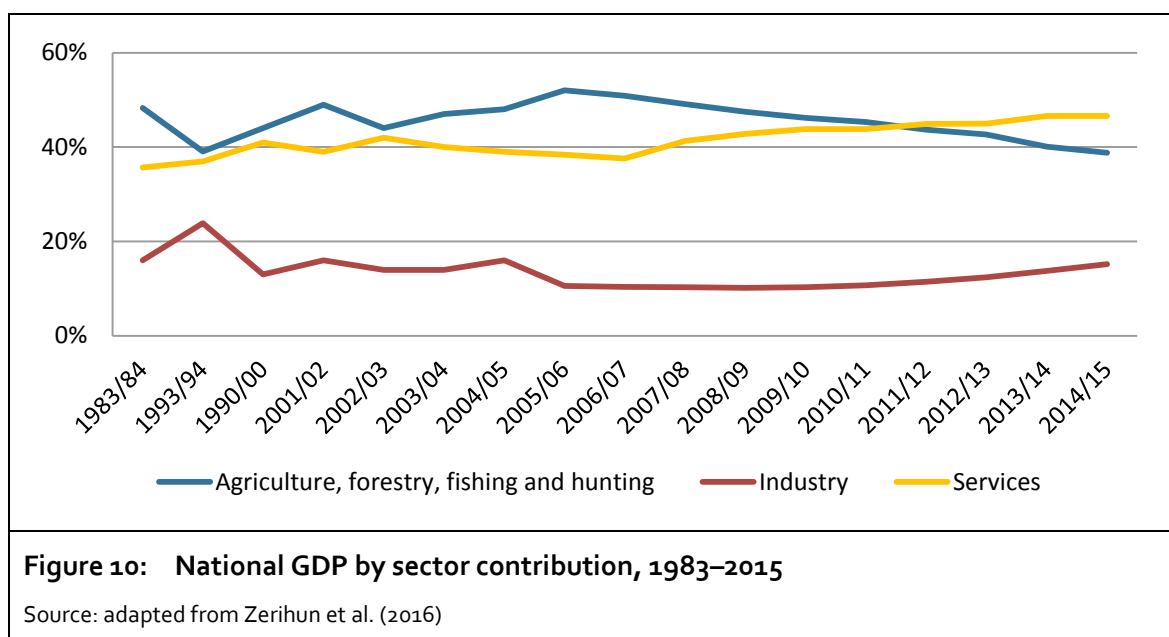
In a nutshell

The transformation agenda of the EPRDF is based on ideas of up-scaling, large and medium scale irrigation, and the use of modern technology in high inputs. This strategy is perceived as an authoritarian approach to developing lowlands by major parts of the population of ASAL regions such as Afar and Somali. The environmentally appropriate and rational culture of pastoralism is not acknowledged by the central government. Despite the coherent decentralization process, the local population hardly participates, and because of the local and regional dependence on central government agencies and grants as well as the widespread political co-opting of local authorities, these have lost the trust of the local population.

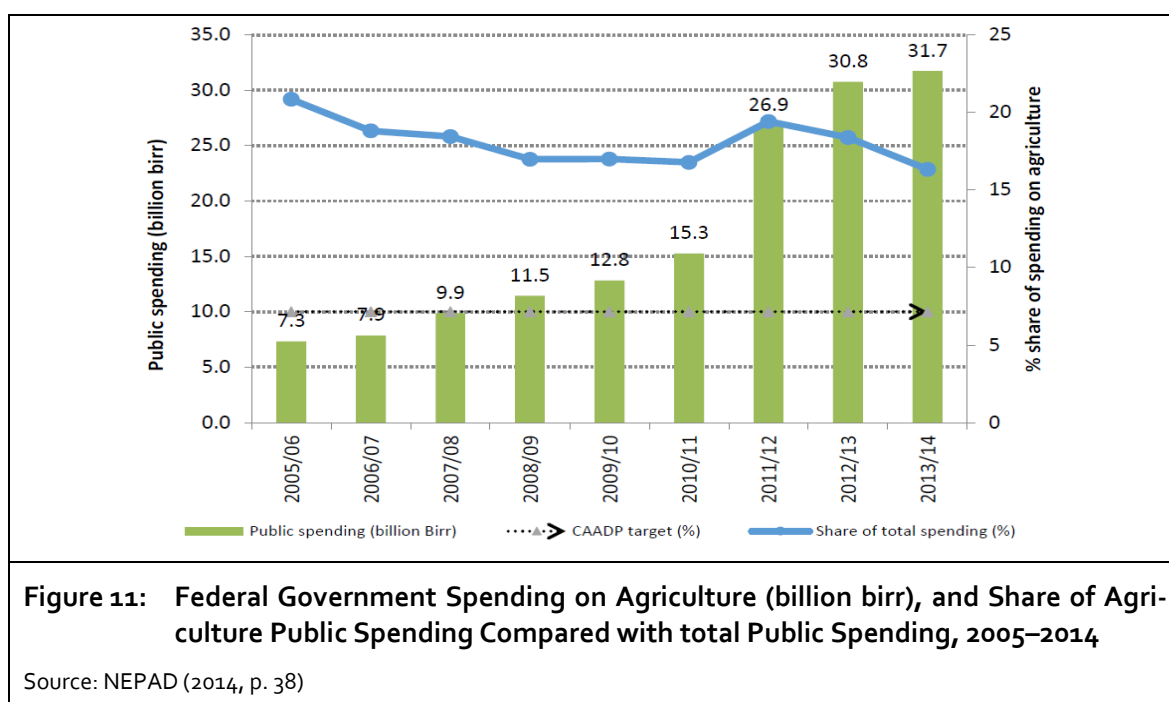
Decentralization and the privatization of communal land have invalidated local traditional authorities and mechanisms for the administration of natural resources and conflict resolution. Individualistic choices, and the market orientation of the few who are better off destroy the former arrangements of social solidarity. ASAL regions have lost the strengths of their customary institutions but have not yet gained any significant benefits from the transformation agenda of a penetrating state and governmental structures.

3.3 Economic dimension

Ethiopia has one of the fastest growing economies worldwide, with continuing double-digit growth rates since 2006. During the 2004/5-2013/14 period, real gross domestic product (GDP) in Ethiopia grew at an average annual rate of 10.7%, while most of this growth related to increases in the construction and services sectors. The agricultural sector grew at an average annual rate of 7.6% over the same period, exceeding the CAADP (Common African Agriculture Development Programme) growth target of 6%. It was the largest contributor to GDP until the service sector took over in 2010/11, and contributed over 80% of all exports. As indicated in Figure 10, in 2014/15 the agriculture, services and industry sectors accounted for 38.8%, 46.6% and 15.2% of real GDP, respectively (Zerihun, Wakiaga, & Kibret, 2016). Manufacturing industry stagnated at a low level.



While most nations in sub-Saharan Africa neglected the development of rural areas over the past 20 years, the Ethiopian government consistently invested in the agricultural sector which provides the livelihood base for more than 77.3% of its population (2013). In 2013/14, crop production represented 32% of GDP and grew at an average annual rate of 8.8%, while livestock production contributed 10% to real GDP and grew by 6% on average. Livestock and livestock products, as well as food crops, were the leading contributors to agriculture-sector growth in 2014/15 (Zerihun et al., 2016, p. 3). Ethiopia is one of the few countries that has met and surpassed the Maputo declaration to spend 10% of the national budget on agriculture, indicating strong commitment to agricultural development (Figure 11).



In spite of national growth rates, a general decline in poverty, improvements in food security (39.24% reduction in the Global Hunger Index from 1990 to 2013), and in human development, the structure of the economy has remained virtually unchanged since 1991 when the socialist military regime (*DERG*) was replaced by the current EPRDF regime. Rahmato (2014, p. 34) points out that while there has been a “reduction in the number of people living below the poverty line in recent years, the same data indicate that there has been an increase in the severity of poverty in the same period, which means that the poor are worse off in 2012 than they were in 2005”. Ethiopia is still one of the poorest nations worldwide. In the Human Development Index, Ethiopia ranked 174th out of 187 countries in 2014 (UNDP, 2015) and large parts of the population depend on food and cash transfers. Poverty concentrates in rural areas where the large majority of people are involved in mixed farming (mostly smallholders who combine rain-fed farming with live-stock) or pastoralism⁵.

Agricultural growth and improvements in food security have been distributed unevenly over the rural areas of Ethiopia. The region with least improvements in food security and poverty reduction is the Afar National Regional State, where the proportion of children under 5 who were stunted even slightly increased between 2005 and 2014 (USAID, 2015, p. 3). Contrary to the overall trend, pastoral regions of Afar and Somali did not experience agricultural growth, whereas it was particularly strong in Amhara and Tigray. Although safety nets were introduced, this did not result in any significant improvements in poverty reduction (World Bank, 2015a, p. 58-59).

In the following, observable long term shifts of the economic livelihood base are outlined for the arid and semi-arid lowland regions of Ethiopia, where the extensive production of livestock plays a dominant role. Of ten factors which were given major importance for influencing rural transformation during the scenario building workshop, two factors directly related to economic aspects: 1) shifts in livestock/crop productivity and 2) access to transport and infrastructure. Productivity was considered to be a rather passive factor as it was mainly influenced by other factors, while access to transport and infrastructure was more balanced in its active and passive role (see section 3.6.1).

Major economic trends in ASAL regions are:

- Decreasing productivity of livestock
- Decreasing size of accessible communal key pastures
- Increasing livelihood diversification and growing importance of income generation through non-pastoral/agricultural activities
- Commercialization of land and livestock
- Increase of rural infrastructure
- Increasing wealth disparities

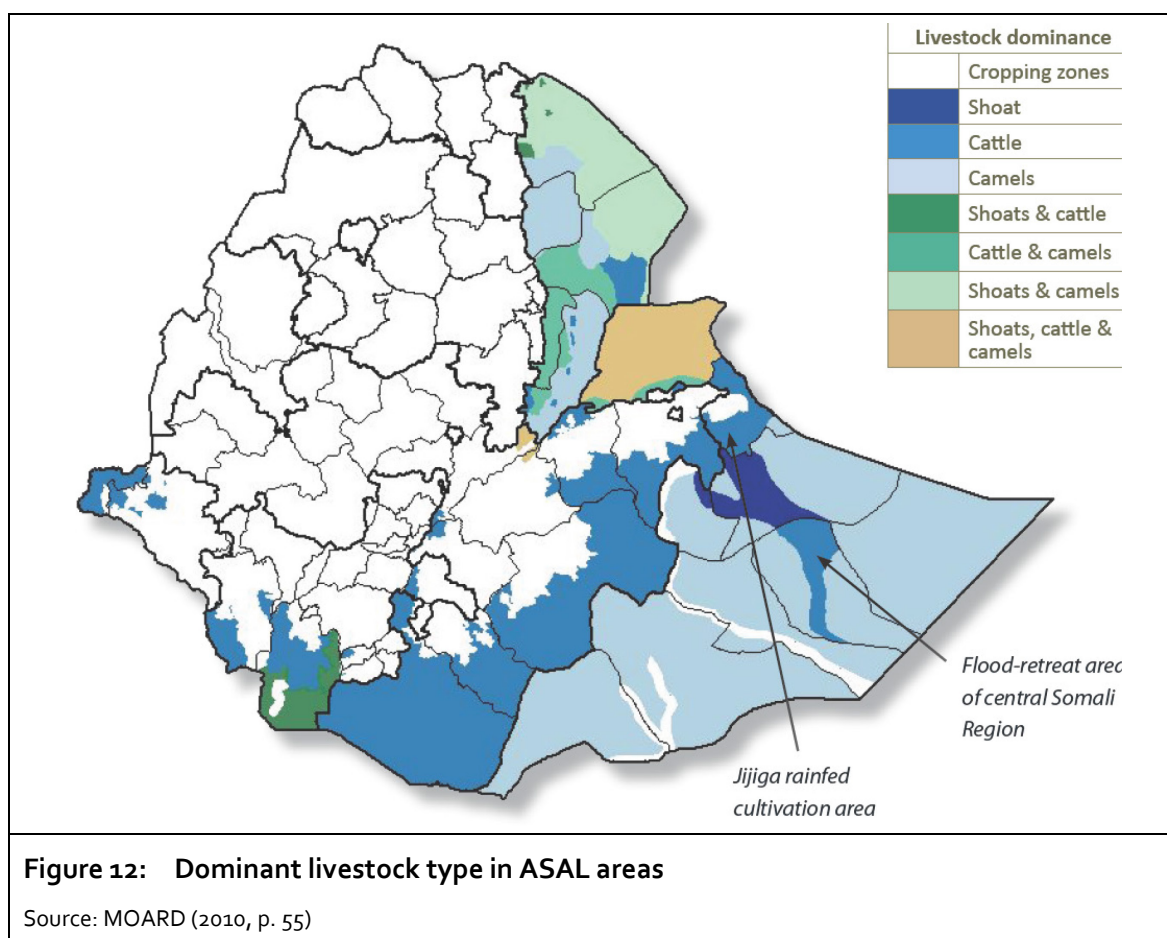
5 Data from national poverty assessments tend to give a distorted picture regarding pastoral poverty; indicators developed for highland farming areas are transferred to pastoral settings without considering economic and cultural indicators of poverty like livestock holdings and sales.

3.3.1 Key productive asset: livestock

Ethiopia has the largest livestock population in Africa. Cattle, sheep and goats are held in lowland and highland regions, whereas camel only inhabit pastoral areas. The largest absolute number of livestock can be found in the densely populated cropping regions of the highlands (especially Amhara, Oromyia), while the per capita number of livestock is higher in pastoral areas⁶. Pastoral areas contain approximately 30% of the national population or 9.3 million cattle, 52% or 12.4 million sheep, 45% or 8.1 million goats and close to 100 % or 1.8 million camels (Catley, 2009, p. 2). Data on livestock populations in pastoral areas are highly unreliable due to seasonal and annual fluctuations and the mobility of livestock. Somali Region is known for its large camel populations which dominate livestock holdings in most parts (Figure 12), while cattle play a greater role in Oromyia and parts of Afar Region.

Livestock holdings constitute the main asset for pastoralists concerning household food security, income generation and 'social capital', the latter referring to customary institutions of reciprocity and horizontal exchange, which are of major importance for the support of poorer clan members (Davies & Bennett, 2007; Sabates-Wheeler et al., 2013). The exchange of livestock among clan members is a main strategy to buffer shocks and to provide social insurance.

6 Pastoralist systems are characterized by low stocking rates in relation to land area, compared to higher stocking rates per unit of land in mixed crop-livestock systems typically found in sub-humid, humid or highland climates. Pastoral systems are typified by stocking rates below 10 tropical livestock units (TLU) per hectare. A TLU aggregates different classes of livestock and equals an animal of 250kg live weight.



Comparing costs and benefits of mobile pastoralism with irrigated cotton and sugarcane production, Behnke and Kerven (2013) argue that mobile pastoralism is economically more efficient than other agricultural production systems under arid and semi-arid climatic conditions. Pastoralists employ relatively low-intensity and low-external-input strategies to harness high value products provided by dryland ecosystems.

Decreasing livestock holdings per capita: Livestock numbers and species composition per household vary between pastoral wealth groups (poor, medium, rich) and with the spatial context. Climatically-induced instability of diversified livestock holdings is characteristic in areas where droughts are normal and livestock builds up and declines according to cyclical patterns of rainfall ('boom and bust'). Even though there is no reliable data on overall trends in herd size in pastoral areas, various case studies indicate that per capita holdings have significantly declined in recent decades (Desta & Coppock, 2011; Müller-Mahn et al., 2010). Absolute cattle numbers have fallen significantly while camel holdings seem to have increased relatively. Decreasing herd sizes not only destabilize the pastoral economy but also the society, because livestock play an important social role, e.g. for bride money, as compensation paid during a conflict, and for forging of clan alliances.

Decreasing livestock productivity: The productivity of livestock (milk production) depends mainly on the temporal availability of feed and veterinary health facilities. Natural feed availability varies significantly between dry and wet seasons. With the ongoing degradation of rangelands

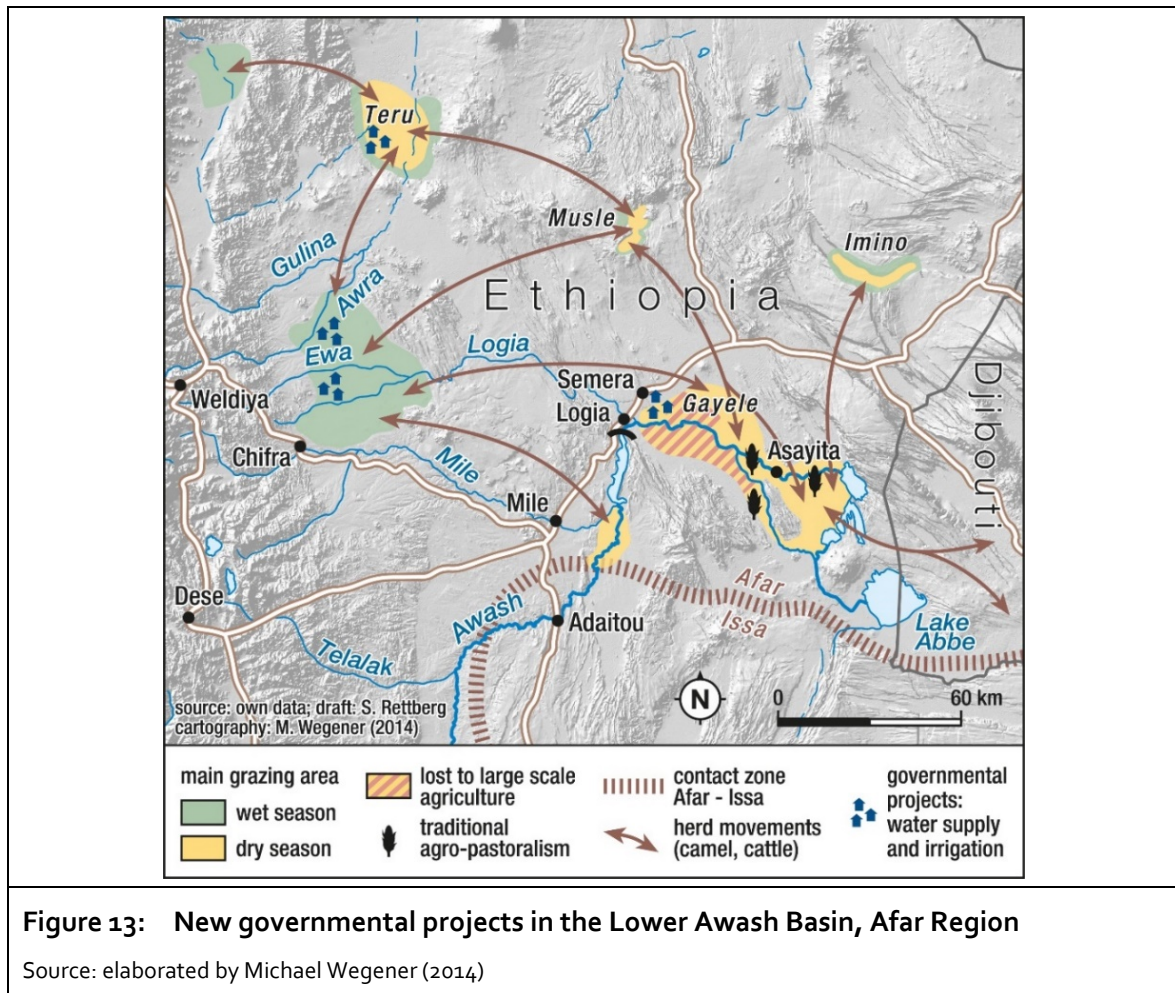
and increasingly restricted livestock mobility, the naturally constrained productivity of pastures and species diversity are decreasing even more contributing to less nutritious feed for livestock. Various case studies and interviews with pastoralists point towards reduced milk yields over recent decades (e.g. Desta & Coppock, 2004; Rettberg, 2009). This has major negative impacts on food security and incomes. Therefore, food consumption in pastoral households depends more and more on grain either bought in local markets (through the sale of livestock) or acquired through food aid. The increasing dependence on food commodity markets has completely shifted nutritional patterns from milk to grain, leaving pastoralists more exposed to food price volatility (Headey et al., 2014). Most affected by decreasing productivity and reproduction rates have been cattle, which are less drought resistant and depending on nutrient-rich grasses. Therefore, people have coped by shifting the composition of their livestock holdings towards drought-resistant browsers – camel and goats.

3.3.2 Land use change

Decreasing size of key pastures: Land use in pastoral lowlands has been profoundly altered through the expansion of commercial agriculture. In the process, critical dry season pastures along rivers, also used as drought retreats, were turned into irrigated farmland. Most affected by this expansion has been the Awash River Basin of Afar Region. Through the governmental construction of two large dams along the Awash River 90,000 ha of riverine rangelands have been turned into farmland of commercially operating plantations for the production of sugarcane (Müller-Mahn et al., 2010). Figure 13 indicates the loss of the highly valued dry season grazing areas (*kallo*) caused by the establishment of Tendaho Sugarcane Plantation in the lower Awash Basin of Afar Region. Whilst returns per hectare may be greater than under pastoralism, entire rangeland ecosystems are rendered less productive through the loss of essential resource patches. Davies and Hatfield (2007) cite an example from Kenya, arguing that the conversion of the scarce main wetland systems directly affects 2–3% of the landscape but undermines productivity of the livestock system on most of the remaining 97% land. Therefore, the opportunity costs of the irrigation schemes often outweigh the benefits (Behnke & Kerven, 2013). In most cases, land conversion took place without significant compensation payments to local clans claiming customary ownership of the land. This erosion of pastoral resource entitlement is currently the most critical trend for the future of pastoral development. The land conversions for irrigation agriculture which undermine the pastoral production system and which are implemented in a top-down manner have significantly increased local land use conflict between (agro-)pastoralists and the state.

Disturbed patterns of livestock mobility: Movement of livestock is the key production strategy and is guided by customary institutions on a clan-base. It is essential for the seasonal regeneration of pastures; it improves livestock productivity and hence milk production for local consumption and herd reproduction (Little et al., 2008). During the dry season, pastoralists make use of rangeland resources around perennial rivers or deep wells. In the rainy season, they move to areas with fresh vegetation and leave the rivers, which pose threats of flood, waterborne diseases, and malaria. Interviews with pastoralists in Afar indicated that the period during which herders and livestock move away from their residential area to distant pastures tends to increase (from a few months to over a year). Also, the distance travelled in search of pasture has increased among

some clans. One pastoralist stated: "Compared to the past, people become more sedentary now because there is not much livestock to talk about. Only the young men and able-bodied people go with the animals. We are becoming more sedentary, but our animals go further than in the past." (Pastoralist, Afar, 2014)

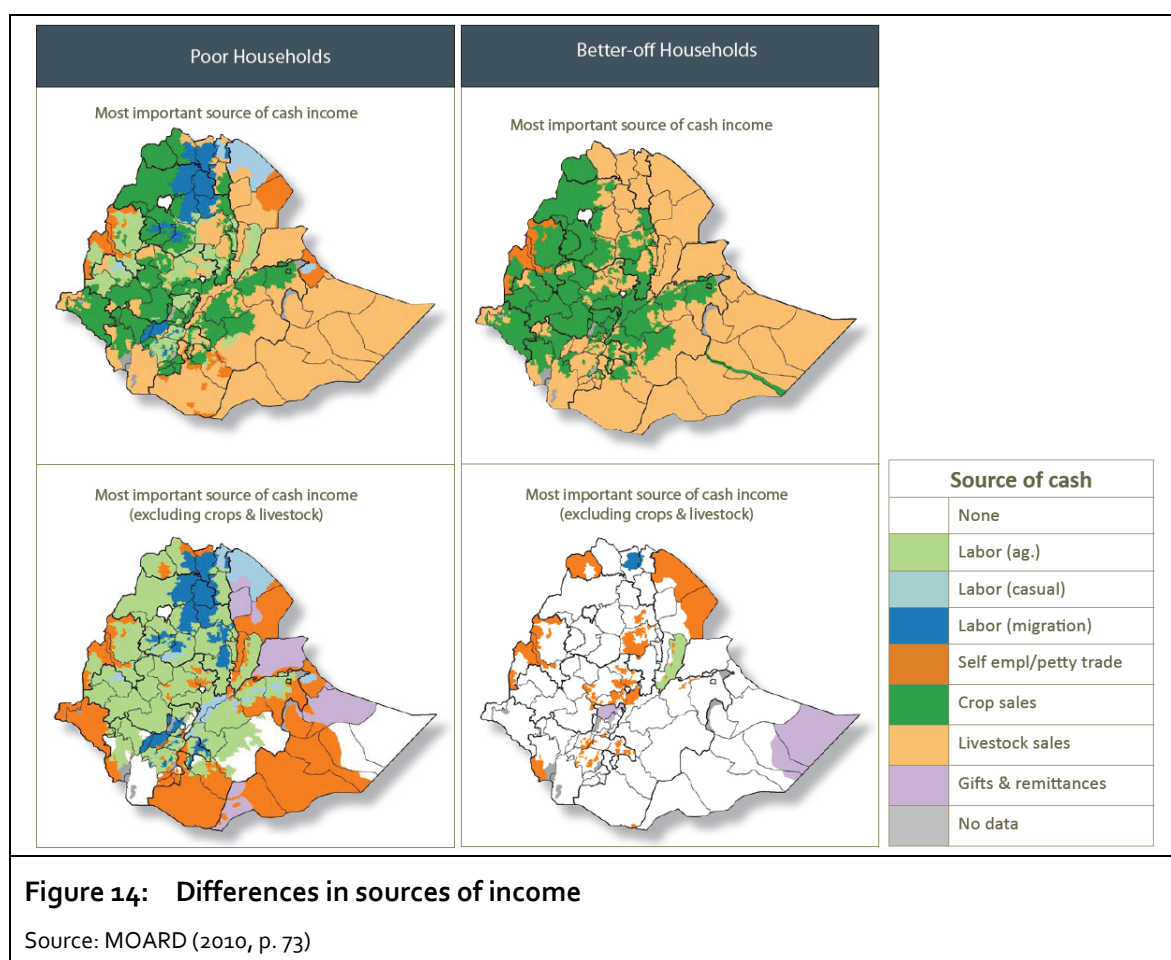


Emergence of land markets: The increasing scarcity of land triggered the emergence of local land markets. This indigenous commodification of communal land driven by local clans (Korf et al., 2015) has become a major local strategy of territorialisation for economic as well as political ends (Rettberg, 2015). In the Middle Awash Valley, degraded communal land with irrigation potential is increasingly leased out by local clans to agricultural investors (Rettberg, 2010). Land which was previously considered as 'gift of Allah' and used as communal pasture has become a marketable commodity. This has created a small wealthy elite among the rural population but also offered some employment opportunities for impoverished herders as day labourers on the new farms. Private investors cultivate between 10 to 100 ha, mostly cotton.

3.3.3 Diversification of livelihoods

Diversification of income and food sources: Mobile pastoralism is generally associated with better standards of living than non-pastoral livelihoods in ASAL rangelands (Little et al., 2008). Nevertheless, it is increasingly difficult to find 'pure' pastoralists because most pastoral households have diversified their livelihoods in order to make up for growing deficits in food and income (Devereux, 2006; Müller-Mahn et al., 2010; Rettberg, 2010). This pressure to generate additional income has especially increased for poorer segments of the society. Often households split between urban and rural settlements in order to benefit from complementary activities in trans-local livelihood systems. Some are subsistence activities while others generate income. Households combine various activities, of which the sale of livestock and livestock products (especially milk) present the dominant and most remunerative source of income for both poor and better-off households (Figure 14). Livestock sales on secondary markets have increased significantly with the increasing chronic food shortages and the rising need to generate income.

The current transition towards subsistence-oriented agro-pastoralism (mostly maize and sorghum) is poverty-driven but is also incentivized through governmental initiatives (e.g. villagisation programmes). Other non-pastoral activities relate to low-paid daily labour (e.g. construction sites, commercial farms), petty trading, or the sale of firewood and charcoal. With the increasing diversification, the economic role of women has increased significantly as they are the ones mainly involved in non-pastoral income generating activities.



Increasing relevance of non-pastoral activities: Major groups taking up non-pastoral employment include youths (skilled and unskilled) and destitute/ impoverished pastoralists. Most destitute households (no livestock) also share resources with clan related livestock owners and still consider themselves pastoralists (Int. 45). Informal employment is high and opportunities for formal employment in the manufacturing and service sector are limited. In towns, an informal service sector has developed in which some youths have found employment, e.g. they provide local transport with imported motorcycles (*bajaj*). Afar and Somali record the highest and constantly increasing share of people working in the urban informal sector. The low levels of unemployment for Afar and Somali should be viewed with caution as many refrain from registering as unemployed (Table 2).

Table 2: Urban employment and underemployment by region, 2009–2012												
	Labour force participation rate				Proportion of persons working in informal sector				Unemployment rate			
	2009	2010	2011	2012	2009	2010	2011	2012	2009	2010	2011	2012
Ethiopia total	59.7	59.5	60.3	62.5	36.5	34.1	36.5	31.7	20.4	18.9	18.0	17.5
Afar	54.1	52.0	59.6	68.1	45.1	40.0	41.1	51.1	14.6	13.4	17.4	11.3
Somali	51.5	45.0	46.8	54.6	54.6	46.5	53.5	54.4	20.2	13.5	17.2	14.5

Source: adapted from CSA (2012, p. 6)

A special situation exists in Afar Region where most of the urban work is performed by migrants from highland regions who have dominated the urban economies since the 1970s. Also, commercial farms in Afar employ predominantly labour migrants from highland areas for better paid jobs. The Tendaho Sugar Factory currently employs a minimum of 4000 workers, of which 80% are seasonal employees, mostly from highland areas (Int. 9). This has caused frustration among the local community as one Afar living near the plantation reported:

"There are many people who came and they are the ones occupying the land now. They were brought in by the government and live in the newly constructed houses. They have the good jobs.... The Afar community is not satisfied with their presence but they have stopped fighting because the government has started killing people. If you go against this, the government will take you to prison." (Int. 8, Dubti, 2016)

Afar only get low-paid jobs as guards as they lack agricultural skills and qualifications required by recruiting agencies. This has nurtured the perception that the state excludes them from economic development. Like other state-run sugarcane enterprises, the Tendaho company has started to establish growers' unions among local communities for an outgrower-scheme, but so far none supply sugarcane (Int. 9).

Against the background of limited non-pastoral employment opportunities and the preference of many to remain in pastoralism, livestock production provides the main economic base for the

majority of people. Within the pastoral sector, new labour relations emerge, e.g. contract herding and wage labour. The practice of absentee herd owners employing herders is growing. Nevertheless, there is little capacity to absorb more labour productively within pastoralism as the output per area of land is constrained by aridity, altitude, or temperature (Davies et al., 2010).

3.3.4 Infrastructure investments

Expansion of transport and telecommunication network: One of the major changes in rural areas has been the increase in public expenditures and infrastructural investments. Through the governmental Universal Rural Road Access Programme (URRAP) many new asphalt and gravel roads were built which increased opportunities for transport and access to markets and which stimulated the establishment of new settlements (Int. 18). Market access is a widely-accepted indicator in poverty assessments. It is believed that inadequate access to markets is a major problem among pastoralists and that the ability to produce for sale will reduce poverty. Therefore, the improvement of access to and availability of livestock markets has been a major focus of intervention among donors and governments. But the establishment of markets did not always result in increased sales. Marketing is challenged by the fact that the best grazing locations for camel and cattle are often in very remote areas far away from market centres, while fodder markets and watering facilities are not well developed in these centres. There is a spatial disconnect between mobility, production requirements and fixed livestock markets (Little et al., 2014). Livestock is usually led to market on foot along preferential itineraries in order to reduce body weight loss.

Apart from roads, various new railway lines are under construction and there are plans to create a 5000 km trans-African railway network by 2020. During the opening ceremony (October 5th 2016) of the Chinese built 750 km railway line between Addis Ababa and Djibouti, which crosses the southern tip of Afar and Shinille Zone of Somali Region, Prime Minister Desalegn said that the train *“will speed up the development of our country’s manufacturing industry and it will provide huge benefits to the industrial parks and modern farms that will be built in the future. It will give employment opportunities for our citizens”* (quoted in The Guardian, 5.10.2016). This might have detrimental impacts on towns in Afar Region which are almost all located along the road between Addis and Djibouti. These towns depend to a large degree on a so-called truck-stop economy (hotels, restaurants, prostitution, fuel stations, contraband) as currently 90% of overseas goods are transported on this road.

Also, access to updated market information, on conflicts and diseases has improved significantly with an extended mobile phone network and improved access to information and communication technology (ICT). But connectivity tends to be better near towns so that timely price information benefits mainly urban based traders while herders in remote areas often lack network access.

Increase in water-supply infrastructure: Water supplies for household consumption and irrigated farming have been increased substantially through the construction of deep wells and water pipelines in the water led development programme (MoWR, 2011). Again, these new water schemes reflect the government’s vision of a settled agro-pastoral population, while neglecting pastoral needs, e.g. for investments in water harvesting schemes along livestock routes. All the

more, many interviewed pastoralists reported that they do not use the new wells because they lack purchasing power to pay for the water or for the fuel that is necessary to run the pumps.

3.3.5 Commercialization and trade

Growing livestock trade: Live animals and livestock products from lowland areas have contributed significantly to national and international markets within recent decades. Pastoralists supply animals to various domestic markets through sales to traders. The demand in urban centres is increasing due to population growth and rising purchasing power among some consumers. Aklilu and Catley (2014) assume that 40-50% of cattle and goats supplied to domestic markets originate in pastoral areas. The relevance of pastoral livestock for export trade is even bigger. Livestock exports from Ethiopia underwent a 5-fold increase between 2005 and 2011, with exports valued at 211 million US dollars in 2010-11. Total livestock exports from Somaliland doubled in 2008 and exports of camels trebled the following year which can be related to the growing informal supply from Ethiopia (Catley & Aklilu, 2013)⁷. It is estimated that 90% of exported live animals (camel, cattle) and chilled meat (goat, mutton) derive from pastoral areas, including formal and informal marketing channels (Catley, 2009). Main supply area for camel is the Somali Region, while Borana is of major importance for cattle exports. The mixed farming highland areas mostly supply meat for local consumption. Cross-border trade in Afar and Somali benefits from the geographical proximity to international ports in Djibouti, Somaliland (Berbera) and Puntland (Bosaso) and markets in the Middle East. Export trade is mainly aimed at meeting the increased demand for meat in the Middle East, with Saudi-Arabia being the major importer of Ethiopian livestock.

Table 3: Formal live animal and meat exports				
Year	Live animals		Meat	
	Number	Value (USD 1,000)	Amount (tons)	Value (USD 1,000)
2005/06	163,000	27,259	7,717	15,598
2006/07	234,000	36,507	7,917	18,448
2007/08	298,000	40,865	5,875	15,471
2008/09	150,000	77,350	6,400	24,480
2009/10	334,000	91,000	10,000	34,000
2010/11	472,041	148,000	16,877	63,200
2011/12	800,000	207,100	17,800	78,800
2012/13	680,000	150,000	16,500	68,000

Source: adapted from Catley & Aklilu (2013, p. 87)

⁷ These numbers show only formal exports. It has been estimated that informal exports from the Northern Somali region alone are between three and six times larger than the official data for total Ethiopian livestock exports (Pavanello, 2009, p. 25).

Livestock trade for export is increasingly influenced by global economic and political forces (Little et al., 2015). The Saudi Arabian import ban (2001) on livestock due to animal health and sanitary and phytosanitary rules of the World Organization for Animal Health (WOAH) hurt traders and pastoralists significantly.

Most abattoirs are located in highland areas and fodder and supplementary feed is mainly sourced from the highlands, indicating the low involvement of ASAL regions in livestock value chains. About 60% of the animals are butchered in the backyards of households without using the abattoir facilities. The recent establishment of an abattoir in Jijiga, Somali Region points towards the intention for further commercialization of the livestock sector, which is also considered as a strategic sector in GTPII (FDRE, 2016). The growing Ethiopian leather and footwear industry (with substantial support through Foreign Direct Investment from Turkey) might benefit from increased supplies of domestic leather, even though broad-based impacts on impoverished pastoralists are questionable.

The growth in livestock trade volume under conditions of an increasing scarcity of land tends to increase the fragmentation of rangelands. High population and grazing pressure around market centres contributes to decreasing pasture productivity. Therefore, traders and wealthy pastoralists increasingly fence communal areas to provide fodder for their livestock, a trend which is very obvious in Somali and Borana (Napier & Desta, 2011). This is a more intense production system which is close to the 'Western' ranching model, with significant ecological side-effects as mobility is restricted. It also entails an increasing demand for supplementary feed.

Formalization of cross-border trade: Trade between lowland regions and bordering countries has historically played a major role for pastoralists and has become informalized with the creation of national boundaries. Livestock from Afar and Somali Region are trekked on foot over the borders and traded to the ports of Djibouti, Berbera (Somaliland) and Bosaso (Puntland) while consumer goods (food, textiles, cloths) are imported. Unofficial trade and illegal cross-border sales were estimated at USD 138 million per year, i.e. about 38% of all livestock sales (Davies & Hatfield, 2007). Other studies estimate that informal trade makes up 50 to 70% of all animals exported (Majid, 2010; Little et al., 2015). The recent interventions to formalize and control cross-border trade are aimed to increase official livestock exports and foreign exchange earnings through national export taxes and import duties. This has placed significant constraints on poorer pastoralists and other actors involved in the trade (Int. 32). With the tightening of border controls, it has become difficult to import cheap food items, electronics and textiles from Djibouti. The introduction of a new licensing system and the establishment of 14 new customs points has mainly benefitted the few better-off traders and pastoralists who have extended connections and can create their own routes to move animals across the border (Eid, 2014). As Little et al. (2015) argue, trade policies of COMESA and other bodies have had little impact on cross-border trade in livestock as it is mostly national agendas and border officials who opt to relax or tighten up controls on cross-border trade.

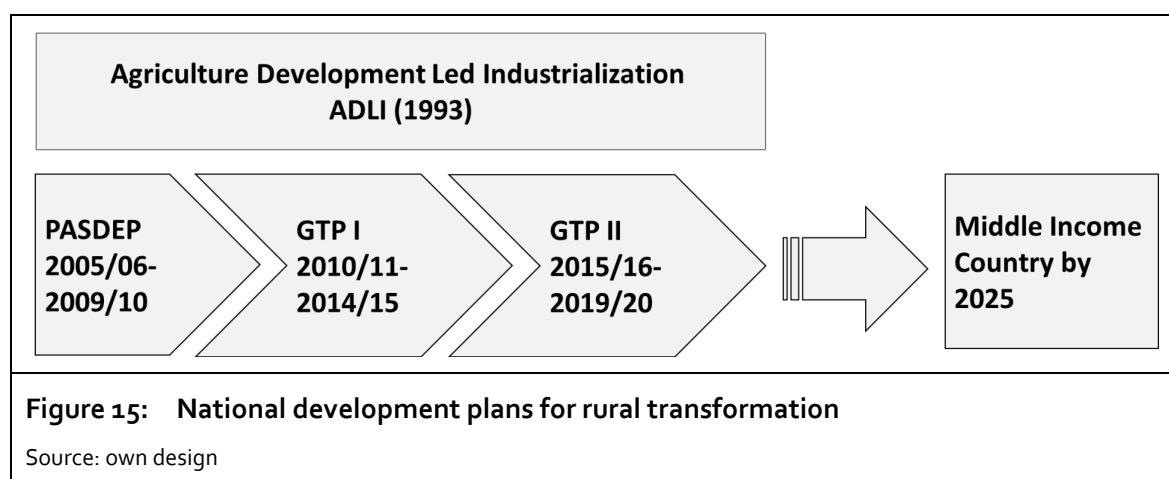
Increasing wealth differences: Evidence suggests that poorer pastoralists benefit the least from growing export markets. Those who can respond most actively to expanding national and international markets are richer herders, traders and service providers such as financial service providers and transporters. Therefore, social polarization and increasing inequalities between poorer

and wealthier pastoralists tends to increase, characterized by an asset redistribution from small to large herd owners (Aklilu & Catley, 2009). This challenges the dominant policy narrative which posits a linear relationship between 'better access to export markets' and 'poverty alleviation'. The assumed potential for poverty reduction through commercialization often fails to take into account that poorer pastoral households first need to build up herds before more commercially-oriented market engagement becomes feasible (Aklilu & Catley, 2009).

3.3.6 Main influencing factors

Governmental development agenda: Economic shifts are closely linked to development strategies of the Ethiopian government and state-led macroeconomic planning. In 2001, Ethiopia shifted from a revolutionary democracy (after 1991) to a developmental state ideology drawing on East Asian development models (especially South Korea, Taiwan and more recently China). As such, the state has kept a great deal of centralized control over the strategic sectors of the economy like telecommunications and banking, indicated by a large proportion of State-Owned Enterprises (SOE) and party-linked holding companies (endowment companies), with little room for manoeuvre for the private sector.

Since 1991, the guiding economic development strategy of the new EPRDF regime has been the Agricultural Development-Led Industrialisation (ADLI) which builds on development theories from the 1960s. It assumes that (smallholder) agriculture needs to be developed first to facilitate demand for industrial commodities and inputs for industrialization (World Bank, 2015b, p. 24). Investing in industries with most linkages to rural areas is a characteristic element of this strategy.



GTP II is the third five-year national development plan intended to guide the country to become a middle-income and climate-resilient green economy by 2025 (Figure 15). With slight modifications, it follows the pathway taken with GTP I, which incorporated a transformation strategy seeking to double agricultural productivity, improve rural infrastructure (roads, railways, telecommunications) and increase the share of industry in the economy (MoFED, 2010).

Over the past decade, efforts to complement ADLI with light manufacturing have increased (with a focus on leather, textiles, agro-food processing). The government promotes light manufacturing through the establishment of export-oriented industrial parks and rural transformation centres (RTF) in order to attract foreign direct investments (FDI) and to support small and medium enterprises. It is planned to double the share of the industrial sector of the GDP by 2025, with ambitious targets set for the manufacturing sub-sector (increase from 4% to 18% by 2025). The main strategy to achieve this is a cluster-approach: the establishment of integrated agro-industrial parks within growth corridors. The identification of two potential corridors in Afar and Somali Region is linked to their strategic location within transport corridors to outlet ports in Djibouti Ville and Berbera (Somaliland), the existing urban agglomerations like Jijiga and Loyia, agro-industrial investments (Tendaho Sugar Factory) and the fact that these areas are relatively more secure than other areas in the Afar and Somali Region.

Ethiopia has also significantly increased the number of extension workers (so called development agents) and achieved one of highest extension agent-to-farmer ratios in the world (see also section 3.4). The penetration of the so-called 'development army' has also been discussed as part of a larger political project to control the rural population through patronage and clientelism (Berhanu & Poulton, 2014).

Major strategic objectives in agriculture outlined in the Policy and Investment Framework (PIF) refer to an increased agricultural productivity and accelerated rural commercialization (FDRE, 2010). The current expansion of commercial irrigation agriculture, especially in less populated lowland areas, has to be seen in this context. The regional GTPs of Afar and Somali Region confirm the government objectives to expand irrigated farming areas and agricultural productivity. So far, not much land has been leased out to foreign investors in the pastoral lowlands of Afar and Somali Region, where the government remains the main investor. For the period 2010-2015, the government of Somali Region planned to increase the cultivated land from 348,500 ha to 650,500 ha (almost double) and the production from 3,120,350 to 20,182,500 quintals⁸ by 2014/15, an almost 7-fold increase (BOFED, 2013). These official targets could not be reached, mainly due to mismanagement and technological problems.

The economic value of rangelands and extensive pastoralism tends to be greatly underestimated by political stakeholders on national and regional levels. So far, all agricultural policies (also under the previous regimes of Haile Selassie and the *DERG*) failed to support mobile pastoralism, which was mainly regarded as an economically inefficient production system in need of transformation towards settled forms of agro-pastoralism. Since the 1960s, commercial large-scale farming has expanded in the Awash River Basin, displacing Afar and Kereyu pastoralists from their prime grazing areas (Fratkin, 2014; Rahmato, 2008).

Rising demand for foreign currency: The cultivation and processing of sugarcane has been one of the top priorities within the framework of the Ethiopian Growth and Transformation Plan I (2011-2015) and II (2016-2020). Sugarcane partly replaced cotton cultivation, which was previously dominating commercial farming in lowlands. The state owned Ethiopian Sugar Corporation (ESC) plans to expand areas under sugar cultivation from currently 96,000 ha to 325,000 ha and

8 One quintal equals 100kg. It is the commonly used metric for agricultural yields within Ethiopia.

to make Ethiopia one of the ten largest sugar producing countries worldwide by 2023. At the same time, new processing factories are being constructed and old ones revitalized. It is anticipated that a gradual expansion of processing capacity and acreage will lift sugar production so that imports become obsolete and net export capacities will expand. For the end of GTP II, annual production shall be lifted to 42 million quintals, which would be a tenfold increase of the current production (3.7 million quintals in 2015). As indicated on its website, the ESC plans to earn USD 1.3 billion from the export of 12,220,000 quintals fine sugar and 17,740,000 quintals raw sugar. At the same time, it is hoped that significant additional employment will be created. Of the ten sugar factories in Ethiopia (2016), four are located in the ASAL areas of the Middle and Lower Awash Valley and one is in the Omo Valley.

Under conditions of an increasing demand for livestock products on national and international markets, the Ethiopian government also moved the livestock sector to the top of its agenda after decades of neglect and underinvestment. In GTP I, the government established an export goal of two million head of livestock per annum by 2015, which is about four times the amount exported in 2012 (USAID, 2013, p. 9). The government has also projected earning a total of USD 1 billion from the export of livestock and livestock products in 2015. As contribution to GTP II, a Livestock Master Plan was elaborated in 2015 by the Ministry of Agriculture and International Livestock Research Institute (ILRI) (Shapiro et al., 2015). It sets ambitious targets for the development of selected livestock value chains—crossbred dairy cows, red meat-milk and feedlot, and poultry – which are found in the officially categorized major production zones in Ethiopia (lowland grazing, highland mixed crop-livestock rainfall deficient, highland mixed crop-livestock rainfall sufficient). The 2020 targets aim to increase meat, milk, and egg production by 58%, 83% and 828% (!) respectively above the 2012/2013 totals. Davies et al. (2010) stress that milk processing and marketing would be of higher economic value than meat. Markets for milk are still scarce, despite the value of milk being 2-4 times greater than meat in pastoral areas of the region (Davies & Hatfield, 2007).

Conflict: Violent conflict in the form of mutual raiding between pastoral groups in order to build up livestock herds partly influences the pastoral economy. The influx of small automatic weapons to the Horn of Africa has affected livestock productivity by turning large expanses of productive, but insecure, rangelands into 'No-go-areas' (Little et al., 2008, Rettberg, 2015). Some of these conflicts have been connected to territorial displacement, which induces a spatial redistribution of animals in more secure areas leading to an increased livestock density. Conflict-induced restricted livestock mobility is one of the major causes of resource degradation and decreasing livestock productivity in certain areas. In Somali Region, the ongoing violent conflict between the Liyu police, a paramilitary force formed in 2008, and the Ogaden National Liberation Front (ONLF), a rebel movement of Ogadeen is fighting for self-determination, has resulted in a trade embargo in some zones and a massive displacement of civilians.

3.3.7 Impacts

While people experienced phases of acute drought-induced food insecurity in the past, **chronic food insecurity and dependence on external food and cash transfers** has now become normality for most. This trend differs from the general trend in Ethiopia where food deficits tend to decrease on average.

The Productive Safety Net Programme

In 2005, the Ethiopian Government launched the Productive Safety Net Programme (PSNP) which provides long-term support (5-year-cycles) to chronically food insecure rural *woredas*. PSNP, which is supported by USAID, is part of Ethiopia's intentions for Graduation, aiming to lift the very poor out of poverty and make them food self-sufficient. The programme, which is one of Ethiopia's flagship reform programmes, marks a structural change from temporary emergency relief to regular assistance. It is the main component of the government's Food Security Programme (FSP), which also includes the Voluntary Resettlement Programme (VRP) and the Household Asset Building Programme (HABP). The latter focuses on access to credit for the households targeted through PSNP. It is mainly a public works measure, with selected beneficiaries contributing labour (e.g. soil and water conservation) and receiving food and cash transfers for up to 6 months of the year. Food insecure households without labour capacity are eligible to receive direct transfers. PSNP currently provides assistance to 7.9 million people all over the country. It covers all *woredas* in the Afar Region, providing transfers to almost half a million people, about one third of the population (Helland, 2015). In Somali Region, about 50% of all *woredas* receive transfers. Evaluations of the programme stated that Graduation so far has not happened, indicated by the increasing number of recipients (Devereux & Tibbo, 2013). PSNP and HABP represented 78% of total expenditure in support of food and agriculture between 2006 and 2012.

The conversion of critical dry season pastures into irrigated farmland has restricted the mobility of livestock, one of the key factors for the high resilience and sustainable resource management of pastoralism. The **loss of mobility** is linked to overstocking, environmental degradation and falling livestock productivity and production. The decline in livestock holdings has resulted in a **broad-based impoverishment** because livestock is the key economic asset and herd size is the main wealth indicator among pastoralists. In order to cover for food deficits, the **need to generate income has risen** substantially. An increasing number of destitute households, the so-called 'drop-outs' or TOPs (transitioning out of pastoralism) are settling permanently around towns or near large-scale farms in order to engage in non-pastoral income generating activities.

In a nutshell

Mobile pastoralists are increasingly excluded from mainstream development. They pay the price for the government's endeavours to generate foreign currency and to realize its plan for agro-industrial development. In this context, land use conflicts between the state and pastoral groups worsening. These conflicts are as much about economic resources as about political marginalization.

The economic viability of mobile pastoralism has been constrained by inappropriate policies that have sought to undermine rather than enhance it. Especially, the policy-driven shifts in

land use have led to decreasing livestock productivity and impoverishment. Mobility, the key productive strategy, has become increasingly restricted in the process. The current commercialization of pastoralism with its focus on livestock export trade risks of the exclusion of poorer pastoralists and entails hidden environmental costs. Horizontal and vertical social differentiation is increasing.

3.4 Social dynamics and differentiation

New patterns of migration, urbanization, sedentarisation and value change are the most important social trends identified. Demographic dynamics, shifting settlement patterns and changing life aspirations, especially of the young generation, influence rural transformation because they influence the sustainable use of natural resources and employment demands. Until the early 1990s, Ethiopia was one of the largest sources of refugees and migrants in Africa (Carter & Rohwerder, 2016). Since then it has become the largest refugee-hosting country in SSA (733,000 refugees in 2015). Internal migrations (forced and voluntary) have been another characteristic element of rural change, from rural to urban areas and between rural areas.

In the scenario workshop, participants identified “in-migration” as one of the major factors influencing rural transformation, which they perceived as more important than natural population growth. Recent trends within the social dimension are also driven by shifts in the political-institutional landscape as will be seen below. **Major social trends relate to:**

- Continuing natural population growth
- Increasing migration flows
- Increasing sedentarization and growth of towns/villages
- Increasing relevance of rural-urban linkages
- Shifting gender roles and social stratification
- Value changes and the increasing relevance of ‘modernity’

3.4.1 Demographic dynamics

Population growth: With about 99 million inhabitants (2016) Ethiopia is the second largest country in Africa. Estimated population figures (2013) for the Afar and Somali Region are 1.6 million (Afar) and 5.2 million (Somali) (FDRE, 2012). The annual national population growth rate of 2.5% has slightly decreased (by about 0.1%) in the last 10 years (World Bank, 2015a). It is expected that within the next 15 years the annual growth rate will continue to decline. Still, projections show that by 2030 the total population will increase by nearly a third (UNDESA, 2015). High levels of demographic growth translate into an estimated 2-3 million young people entering the domestic labour market each year.

Relatively much of this expected population growth will be in the pastoral lowlands, especially of the Somali Region, the region with the highest total fertility rate (TFR) of 7.1 compared to a national average of 4.8 in 2011. Studies also indicate that TFRs in Afar and Somali Region have been increasing between 2005 and 2011, contrary to a decline in other regions (Teklu et al., 2013). Conducive factors for this are the practice of early marriage, cultural values favouring large families, improvements in maternal health, and low levels of education.

Increasing in-migration: In-migration to the lowlands refers to a) inter-regional migration from highland areas and b) cross-border migration from neighbouring countries (Eritrea and Somalia). Since the 1960s, the Awash Valley of Afar Region has been the destination for labour migrants from Tigray and Amhara looking for employment on the newly established large-scale cotton farms (Rahmato, 2008). This form of rural-rural migration has taken place in relation to increasing impoverishment due to resource pressures and droughts in densely populated, increasingly degraded highland areas (see Int. 1, 25, 35). Rural to rural migration has been the predominant form of migration in the past compared to rural-urban migration (in 2008 47% to 27%, respectively).

Many of the incoming migrants settled permanently and started small businesses in the emerging urban settlements or close to irrigation plantations. Therefore, more than 50% of the urban population are currently non-Afar who dominate the urban business sector (Little et al., 2010, p. 21). In contrast to Somali Region, where people are traditionally more trade-oriented and where urban businesses are mostly owned by Somalis, Afar pastoralists have so far not engaged significantly in urban-based businesses or trade. As has been reported by some interviewees, migrants from highlands are also increasingly entering towns in Somali Region where they engage in manual work disregarded by locals. Many of them also use Somali Region as stop-over in transit to Europe.

In the past, migrants were well integrated into Afar society, which has the culture to 'adopt' incoming groups after some time. But the rising numbers of incoming labour migrants in a context of increasing impoverishment is viewed with scepticism. The Muslim Afar fear that migrants might outnumber them in the future with negative economic and cultural impacts. The Tendaho Sugar Factory plans to create 50,000 jobs in the coming years, of which the majority will be taken by outsiders. Even now, most of the workers on the farm are from highland areas. Additionally, many fear that the mostly Christian migrants, who partly engage in prostitution and drink alcohol, might undermine their religious and cultural values.

In-migration in Afar also relates to incoming refugees from Eritrea, mostly of Afar origin. Afar and Somali Region host the highest number of refugees within Ethiopia with major refugee camps⁹. A large proportion of these refugees come from neighbouring countries of Eritrea and Somalia, which for decades have been stuck in political turmoil and war. Recent data indicates that their numbers have been increasing over recent years. Somali Region currently hosts 260,000 refugees, of which 40,000 are living in Jijiga, a town with around 100,000 inhabitants

9 Many refugees coming to Ethiopia are on their way to Europe, so that in September 2016 Britain, the European Union and the World Bank announced a plan to create 100,000 jobs in Ethiopia to prevent a secondary outward migration of refugees. Two industrial parks will be established issuing work permits for the employment of 30,000 refugees (Retrieved November 22, 2016, from www.bbc.com/news/world-africa-37433085).

(Carter & Rohwerder, 2016). UNHCR counted 27,370 Eritrean Afar refugees in 2015, many of them have lived in the Ethiopian Afar Region for more than 10 years.

The increasing in-migration of highlanders and cross-border refugees has partly created land use conflicts, especially in Somali Region. In 2009/10 six new refugee camps were established along rivers in the Liban Zone after the influx of a new wave of Somali refugees from Somalia. This resulted in a conflict between the hosting clans and the refugees (Int. 50). Many of the refugees are actually returnees who had fled Ethiopia during the Ogaden War (1977/78). Upon return after 1991 they partly came into conflict with those who had begun to use their land in the meantime. Hosted refugees were also named as one of the main sources of environmental degradation during interviews (especially deforestation). Subsequently, the population in river basins has grown substantially, leading to conflicts between the increasing number of river basin resource users (Gedi, 2005).

Internal displacements and resettlement: Resettlement policies have been a common trait of successive Ethiopian regimes in response to food scarcity (Pankurst & Piguet, 2009). Internal displacements in the context of the ongoing governmental villagisation programme (see section 3.2.4), which offers voluntary resettlement, have a tremendous effect on pastoral livelihoods. The government aimed to resettle 1.5 million people by 2013 in four regions – Gambella, Afar, Somali, and Benishangul-Gumuz (Fratkin, 2014). Under the water-led development strategy, the government has started to settle spatially dispersed pastoral clans through the provision of basic infrastructure (water, health, education) and the promise of distributing agricultural land to the new settlers. Mobility and settlement patterns of nomadic pastoralists are shifting from highly mobile, dispersed camps to permanent villages near the newly built social infrastructure (see below). But the services provided are often inadequate or not functional (Int. 8, 31, 32). Support to work the land was not provided and environmental degradation around the villages increased so that many households have left the settlements again.

A further type of intra-regional migration refers to conflict-induced internally displaced people (IDPs), which presents a significant challenge in both regions. Violent clashes between the Ogaden National Liberation Front (ONLF), fighting for self-determination, and the Ethiopian government have led to recurrent displacements in conflict areas. The continuing large number of refugees and IDPs in Somali Region has spurred the growth of towns within the last 30 years. Also, clans in southern Afar have been displaced from large areas in a violent conflict with the neighbouring Issa-Somali pastoralists (Rettberg, 2010).

Out-migration/Human trafficking: Regular outward migration in Ethiopia is relatively low compared to other countries in SSA. Ethiopia has a negative net migration rate (-0.22) which has not significantly changed over the past ten years (CIA, 2015). Nevertheless, irregular numbers of migrants might be higher, and under an increasingly oppressive political climate these numbers might be on the rise.

Out-migration from ASAL regions is mainly driven by two factors: 1) the limited livelihood opportunities for the growing number of young people entering the labour markets, and 2) an oppressive political context and insecurity. In the past, out-migration waves were mostly linked to drought or conflict-related losses of livestock, but it has now become a complementary livelihood strategy for many households suffering from chronic food insecurity. In total, nearly

384,000 people (0.6% of total population) left the country in 2013 (UNICEF, 2013), many of them women. Major destination for formal and irregular migration is the Middle East, so that Afar and Somali Region are important transit regions for migrants from highland areas (Int. 42, 53). These migrants often stay for some time in towns of Afar and Somali in order to earn enough money to leave the country.

An increasing number of young people from the lowlands search for employment in Europe, other African countries, or in the Arab peninsula. Main drivers are rural poverty, violent internal conflict, and the increasing role of social media like Facebook, which has raised aspirations among the young. In the Somali Region, increasing out-migration and the problem of human trafficking were mentioned in interviews (Int. 42). Especially youngsters make deals with organized traffickers, who later on blackmail the parents. Increasing numbers of cases have been reported where families in Somali became indebted as they had to sell off their livestock to pay the traffickers (Int. 33). The dominant form of out-migration for Afar refers to circular migration of pastoralists working for limited periods in Djibouti town (as carriers in the port, petty trade) to generate needed income or get medical treatment (no language barrier in Djibouti). Most return to pastoralism after some time (Rettberg, 2009).

Therefore, compared to Somali Region, there are fewer Afar in the diaspora of Europe or America who could send remittances to support potential migrants leaving the country. For Afar, remittances and investments from relatives in the diaspora play a negligible role within local economies, whereas in Somali Region they are highly important for local livelihoods. It has been noted that wealthy Somalis are partly returning to invest in the region (Int. 42). In Afar Region there were also complaints that rules and regulations for investments of diaspora members are highly bureaucratic and investment security and transparency low, so that they prefer to invest their money in neighbouring regions.

Since 1990, the inflow of official remittances to Ethiopia has increased from USD 5 million to USD 524 million in 2012 (1.2% of GDP) (UNICEF, 2013) and it is suggested that these numbers will continue to increase, overtaking aid to Ethiopia (Carter & Rohwerder, 2016, p. 29).

3.4.2 Shifting settlement and mobility patterns

Increasing sedentarisation: One of the major trends in pastoral areas is an increasing sedentarisation of pastoralists in towns or in the growing number of permanent villages (Little, 2013; Korf et al., 2015). Many decide to become sedentary due to increasing levels of poverty and destitution (Int. 5, 42, 48), either because they lost all their livestock or because the few animals they have left are herded by related clan members. In permanent settlements, they can receive food aid and search for non-pastoral employment. The recent investments in education, health and water infrastructure under the villagisation programme, and hopes to obtain governmental support for farming were additional incentives to settle. Wealthy pastoralists increasingly settle as well in order to engage in business and accumulate additional wealth.

A further factor which contributes to sedentarisation and an increase of permanent settlements has been administrative restructuring as part of ethnic federalism. Now every clan wants to make territorial claims and receive their own budget. Decentralization has limited the mobility of peo-

ple (Int. 50). The increasing population density in certain spots and the permanent use of natural resources in the vicinity of the settlements contributes to degradation, land scarcity, and conflicts. Growth and morbidity indicators among children in pastoral households are better than those among the majority of sedentarized households, which struggle with low wages, unemployment, underemployment, precarious self-employment, and unprotected informal jobs. Although sedentarized households have better access to social services, the better-off mobile pastoralists benefit from a better nutritional situation.

Increasing urbanization: Ethiopia is the least urbanized country in SSA. However, linked to factors such as the sedentarisation of mostly impoverished pastoralists, the rural-urban migration of young people, and an increasing number of incoming labour migrants and refugees/returnees, the small and medium-sized towns keep growing (Table 4). Urbanization in the context of ASAL refers to the increasing population size in and number of tertiary towns (20 – 50,000 inhabitants) and urban villages (2,000-20,000). The latter category refers to settlements where the provision of services and infrastructure is generally low, with small level of self-organized economic activities. These are mostly resettlement sites and/or administrative centres (*kebelle* and *woreda*). An increasing share of the population lives in these permanent settlements, even though the majority still live in rural areas. From 1997-2006, towns in Somali Region grew about 4.2% to 5.1% per annum, twice as fast as the region's rural population (Little et al., 2010). Large parts of the population are returnee migrants who had left the country during the Ogaden War and returned after 1991.

The uncontrolled growth of towns has resulted in significant environmental problems, especially a degradation of pastures and deforestation in the surrounding of the settlements, an increase in informal housing and waste, and major electricity and water problems.

Table 4: Urban and rural population in pastoralist regions, 2006–08

	2006	2007	2008	Annual increase (%)
Afar urban population	126,000	132,000	137,000	4.37
Afar rural population	1,263,000	1,286,000	1,312,000	1.94
Afar total population	1,389,000	1,418,000	1,449,000	2.16
Oromiya urban population	3,523,000	3,691,000	3,865,000	4.85
Oromiya rural population	23,030,000	23,613,000	24,202,000	2.54
Oromiya total population	26,553,000	27,304,000	28,067,000	2.85
Somali urban population	735,000	768,000	804,000	4.69
Somali rural population	3,594,000	3,676,000	3,756,000	2.25
Somali total population	4,329,000	4,444,000	4,560,000	2.67
SNNP urban population	1,277,000	1,338,000	1,401,000	4.86
SNNP rural population	13,625,000	13,983,000	14,344,000	2.64
SNNP total population	14,902,000	15,321,000	15,745,000	2.83

Source: adapted from HPG (2010, p. 18)

Towards complementary trans-local livelihoods: Linked to the trend of sedentarisation is an increasing relevance of rural-urban linkages due to significant marketing and consumption links. A growing share of pastoral households follows diversified trans-local livelihood strategies characterized by some members of the household living in towns and/or in permanent rural settlements while others (mostly younger men) move with camel and cattle herds between pastures while living in temporary camps (Little, 2013). Even though less people are moving nowadays, mobility of livestock has remained highly important, as livestock continue to play a major role in diversified livelihood portfolios (see section 3.3). Households and clan members pursue complementary livelihood activities as their main economic strategy and share food and monetary resources (Müller-Mahn et al., 2010).

3.4.3 Investments in health and human capital

Improved provision of school and health facilities: Lowland regions have been excluded from access to governmental health and formal education services for most of the past. It is only within the last ten years that the Ethiopian government started to invest massively in social infrastructure, mostly financed through Official Development Aid. In its Growth and Transformation Plan, the government prioritized education and health as key pro-poor sectors and drivers of sustained economic growth and job creation, along with agriculture, water and rural roads, as well as industry. Two major programmes were instrumental in this respect: the Promoting Basic Services Programme and the General Education Quality Improvement Programme¹⁰. In this context, gross enrolment rates (GER) in primary and secondary education have improved over the past ten years, but ASAL areas are lagging behind the national average (Table 5).

In 2007, the literacy rate in Somali regional state was 14% and in the Afar regional state was 17.3% (CSA, 2010). In spite of rising literacy rates, Afar and Somali Region still had the highest rates of illiteracy nationwide in 2011 with a significant gender bias and big differences between urban and rural *Kebelles*. Adult literacy is slightly increasing, but with less than 20% in Afar and Somali it remains an obstacle for economic development.

The number of schools increased significantly from 2000 to 2014 (see Table 5), even though there is still a large gap concerning higher education. In Afar, there are only 7 secondary schools so that the majority of the population hasn't got any access (Int. 53). Furthermore, school and health facilities are not adapted to mobility and the challenge remains to teach pastoral children on the move and to provide basic health services for mobile communities. Against this background, school drop-out rates are high. A further problem is the lack of qualified teachers. In spite of the introduction of teaching in local languages (Afar, Somali, etc.), Amharic has remained most prevalent because teachers mostly come from highland areas.

In 2000/01, school attendance rates for boys were highest in Harar but lowest in Afar and Somali. Attendance rate for girls was highest in Addis Ababa and lowest in Somali. This did not change

¹⁰ As the Promoting Basic Services Programme has been linked to the controversial villagization programme, foreign aid assistance was severely criticized.

until 2013/14 (UNESCO 2015, p.8). Completion rates increased for primary schools, but not for secondary schools. As drop-out rates are high, only a few are reaching the Technical Vocational Education and Training (TVET) - level (completion of 10th grade). The objective of TVET is to provide technical, entrepreneurial skills and to improve labour productivity. It is planned by the government that 80% of graduates from secondary school attend TVET education and become self-employed while 20% enter university. So far, only a few public and private TVETs level training institutions are available in lowland areas.

Table 5: Changes in GER at Primary Level (1-8) by region, 2000/01–2013/14								
Region	2000/01				2013/14			
	Male	Female	Total	# of schools	Male	Female	Total	# of schools
Tigray	75.9	71.8	73.9	530	106.5	105.9	106.2	2,286
Afar	12.7	9.8	11.5	45	76.0	72.4	74.4	461
Amhara	56.9	49.7	53.3	1,857	107.2	106.2	106.7	8,121
Oromia	73.5	42.1	57.9	2,418	96.1	86.3	91.2	12,866
Somali	13.4	7.2	10.6	107	141.8	126.5	134.9	849
Benshangul- Gumuz	112.7	63.3	88.5	121	1,108.7	90.8	99.9	440
SNNPR	80.8	46.7	63.8	1,539	107.7	96.8	102.0	5,814
Gambella	117.1	73.0	95.8	27	154.7	145.9	150.5	243
Harari	120.8	89.1	105.3	50	103.2	92.7	98.1	59
Addis Ababa	118.0	118.5	118.3	235	141.0	167.7	154.6	823
Dire Dawa	84.1	67.1	75.7	29	133.6	172.4	153.1	126
Ethiopia	67.3	47.0	57.4	6,958	104.8	97.8	101.3	32,048
Source: adapted from UNESCO (2015, p. 8)								

Expansion of agricultural extension services

The current ratio of development agents (DAs) to farmers/pastoralists is about 1:200, one of the highest in the world. Their number increased from 2,500 in 1995 to 15,000 in 2002 to reach over 45,000 in 2009 (Berhanu & Poulton, 2014). In total, more than 72,000 DAs have been trained to provide extension services down to the *kebele* level. They are trained in animal science, plant science, natural resources, animal health and cooperatives.

Extension services are very weak in pastoral areas compared to highland areas. This refers to understaffed extension offices on local level and lack of capacity. Recently, pastoral training centres were established in ASAL regions, an extension approach copied from the highland regions where farmer training centres started to be established in 2002. However, access to extension services for remote communities remains low in pastoral areas and turn-over rates of the DAs are high. Furthermore, DAs are trained on crop issues rather than on livestock (Int. 45) or milk pro-

duction (Int. 33) as the curriculum is elaborated on national level. As such, the training does not cover issues relating to pastoral livelihoods.

Increasing youth unemployment: Skilled and unskilled youths tend to leave rural areas, searching for employment outside of pastoralism and agriculture. But under conditions of limited urban labour markets, the current productive employment opportunities for an increasing educated, young urban population are not sufficient. Those who finish secondary school (10th grade) or even higher education often lack job opportunities (Int. 53). In Somali it is estimated that 7000 graduates are unemployed (Int. 48).

"I am worried about the future. All the young graduates from Afar, where will they go? Where will they be Zitaemployed? All the governmental mega-projects employ a lot of people from highland areas. Transport is facilitated, now there is even airport, so it is very easy for them, and they have high salary." (Int. 53, Logyia, 2016)

Even those with good grades feel excluded from the public and private labour markets as people from highland areas are preferred for qualified jobs. Educated youths with low grades in the final exam were reported to be stuck in the education system. Many of them make up the growing numbers of potential migrants.

3.4.4 Changing social roles and values

Changing role of women: The increasing penetration of governmental offices into rural areas under the current regime has led to the establishment of women affairs offices where women can file complaints and where they learn about their constitutional rights. This has empowered especially those women who live in or close to *Kebele* or *Woreda* Centres. Women living near towns are increasingly aware of their rights and are starting to challenge traditional gender roles and responsibilities (Devereux, 2006). Under conditions of an increasing livelihood diversification into non-pastoral income generation activities, women increasingly take on a role as breadwinner within the household (Inkermann, 2015). But at the same time their work burden is increasing (Int. 29).

The attraction of towns and 'modernity': Access to education is increasingly valued among pastoralists, whereas it was perceived as unnecessary and rather useless in the past. It has become common practice that pastoral households send some children to school, while others tend to livestock. Being increasingly exposed to towns, to film and TV, mobile phones and the internet, particularly social media, young people are attracted to a 'modern' lifestyle, linked to a settled-urban way of life. Non-pastoral employment and higher education in towns is favoured over pastoralism by an increasing number of youths, which leads to conflicts with parents who want them to remain with the livestock (Int. 31). The youth prefer white-collar-jobs (management, administration) over blue-collar jobs which require manual labour (Int. 42). Manual labour is culturally in low regard among pastoral groups and Somali clans specialized in handcraft like the Midgan have been traditionally segregated and excluded. Therefore, when TVETs opened in Somali Region nobody wanted to join and handicraft courses were taken over by groups from other areas (Int. 42). Also, pastoralists without formal education are increasingly attracted by an urban life, which has led to a weakening of livestock management practices in some cases (Rettberg, 2009). The young herders prefer to stay in towns, chewing chat, instead of moving to remote areas with the livestock.

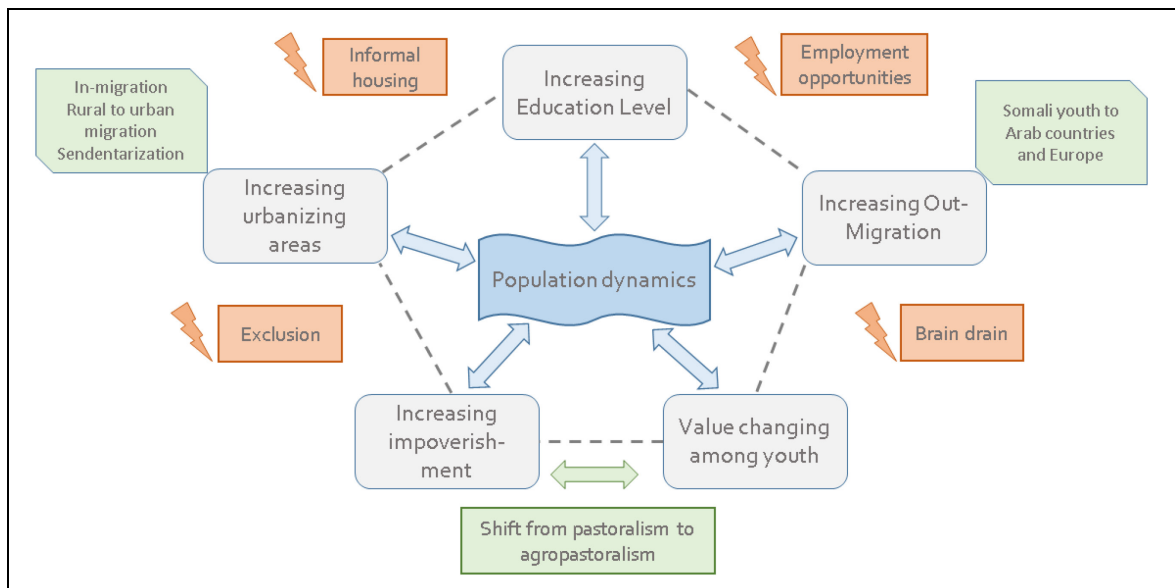


Figure 16: Social dynamics and differentiation in ASAL

Source: own design

Increasing individualization and profit-orientation: Within the past 15 years, pastoral values based on reciprocity, solidarity and a 'culture of sharing' have been increasingly undermined by processes of commodification, monetization and privatization (Rettberg, 2009; Little, 2013). The erosion of social capital and the subsequent weakening of customary institutions and clan authorities has resulted in social disorientation and fragmentation, especially among the rural population and the older generation. Most worrying is the increasing lack of legitimacy of clan leaders who served as important role models in the past. Nowadays many are using their position at the interface with the governmental system for personal gain, so that they have lost respect within their communities.

In a nutshell

Sedentarisation and rural-urban migration is increasing, mainly driven by pastoral impoverishment, conflict, resettlement policies and the quest for non-pastoral employment and education. Also, international out-migration seems to be increasing, especially among young people from Somali Region. At the same time, incoming refugees, returnees, and labour migrants from highland areas are searching for employment opportunities on urban labour markets and commercial farms. Increasing levels of education provide additional labour opportunities outside of pastoralism, but the urban labour supply is growing much faster than the labour demand. A key question remains how the current Ethiopian developmental state model can support a private sector that will provide more productive employment and meet the livelihood aspirations of a growing number of educated youths, while strengthening rural-urban linkages.

3.5 Assessment of current trends

3.5.1 Rural transformation

The previous trend analysis indicates that profound, multi-dimensional changes are currently taking place in ASAL regions, significantly altering the characteristics of the pastoral economy and livelihood system. Shifts in forms of land tenure and land use patterns are major indicators for rural transformation. Within the last decades, key communal rangelands are increasingly being converted into irrigated farmland or enclosed, fenced and privatized. This new allocation of resources through practices of ownership and exclusive control has been linked to a commodification of natural resources. Land, which was previously regarded as 'gift from Allah', is turning more and more into a monetary resource. The monetization of society and economic relations signals a profound shift of social values, challenging the basis of the pastoral economy. The intention to generate individual profit is gaining momentum, especially in towns and among the young. This shift is disregarded among pastoralists in remote rural areas, who praise the value of collective action, sharing and reciprocity as central elements of their capacity to cope with extremely insecure climatic conditions.

In a context of an increasing erosion of pastoral key assets (loss of livestock and land) and governmental interventions supporting sedentarisation and farming, new settlement patterns have emerged. More and more previously mobile pastoralists are settling down and trying to generate income and food from non-pastoral sources, especially irrigated agriculture. Therefore, we can see an intra-rural transformation from forms of mobile pastoralism towards settled forms of (agro-)pastoralism and employment in the informal sector of towns. New labour relations like contract-herding are on the rise as well, paralleled by new patterns of capital accumulation, an increasing dependence on product and labour markets and the first signs of a shift from a horizontally organized society towards a vertically stratified society.

3.5.2 Inclusive and sustainable?

It is only since the middle of the twentieth century that pastoralists have been formally incorporated into the Ethiopian state, after the imperial government under Haile Selassie began increasingly to intervene in the lowlands. Before, pastoralists in the lowlands were politically independent from Abyssinian powerholders inhabiting the agricultural highland areas. Since their incorporation into the Ethiopian state, pastoralists have been economically and politically marginalized. Local power shifted from clans and sultanates to the Ethiopian state, an entity which is still perceived as an alien invader by many. The pastoral livelihood system has been regarded as being economically and culturally backward by successive governments, so that there is a remarkable continuity in governmental attempts to transform and 'modernize' the lowlands: efforts for sedentarisation, ranching programmes, and the expansion of commercial irrigation agriculture.

In spite of the improved opportunities for political participation after the decentralization of power under EPRDF, pastoralists and the pastoral economy continue to lack cultural, economic

and political recognition¹¹. Ethnic groups like Afar and Somali gained a political voice with Ethnic Federalism, but the new regional political elite remains tightly controlled by the federal government. Most regional government representatives are guided primarily by directives from the national level and by demands from their clan (neo-patrimonial rule), but they lack majority support among the rural population, who still have no voice as full members of society. Instead, the government has co-opted local clan authorities down to the *kebele* level, thereby undermining customary institutions and disregarding existing customary rules and rights.

From an economic perspective, current trends have deepened the economic marginalization of mobile pastoralism. The Growth and Transformation Plan does not even mention pastoralism once, which indicates the biased strategic approach towards agriculture and settled forms of livestock keeping. In a situation where key pastures are increasingly being converted into irrigated farms, livestock productivity has decreased significantly. This also explains why overall pastoral poverty has increased, characterized by a shift from acute to chronic food insecurity for the majority. It seems that lowland regions are currently being left behind highland regions with regards to poverty reduction. The improved provision of social services (health and education), the significant increase in roads has brought positive change, but these measures are frequently not suited to local demands.

"At this moment, we are surrounded by so-called development. We have schools, health posts, and many other public offices which we don't benefit from. The Amhara people have a proverb which describes the current situation well. They say 'I have a cow in the sky whose milk I never see'. Similarly, we have so many government offices which are established in the name of development but we don't see their service, leave alone their benefits."

(Hassan, Gulina/ Afar Region, 2015)

This quote is a good example of the perceived misfit of governmental interventions and local needs. It highlights the widespread perception among pastoralists that infrastructural investments, which are equated with development, have not resulted in any tangible benefits for the local population. Instead, governmental activities in the name of 'development' are portrayed as alien and useless. In many cases, development interventions have even directly undermined the pastoral livelihood base, as the following comment by a pastoral elder indicates.

"I don't understand this kind of development: destroying the assets of the community, then displacing them from their land and then say this is development."

(Yassin, Assayta, 2016)

This quote refers to the displacement of Afar pastoralists from their settlement and grazing areas close to the Awash River when the governmental established a large sugarcane plantation. Several interviews with pastoralists confirmed this perception: the feeling of being excluded from mainstream development, a development which can be captured with the notion of adverse incorporation. This concept relates to the increasing inclusion of rural inhabitants into commodity markets of the mainstream society, an inclusion which is connected to increasing risks for pastoralism and impoverishment.

11 For detailed information on indicators used for the assessment of inclusion/exclusion please refer to Annex 3.

The previously sustainable use of natural resources through forms of mobile pastoralism has become unsustainable in recent decades. The quality of pastures (species diversity, vegetation cover) is diminishing on a large scale, especially due to a vicious circle of increasing rangeland fragmentation and degradation. Land degradation is closely linked to the loss of accessible dry season grazing areas which increases stocking rates on less productive areas. The limited forest resources are under threat from deforestation because poverty, sedentarisation and the demand for energy sources have increased. At the same time, customary institutions for the sustainable use of trees and pastures have been weakened. Forest and pastures resources have been additionally threatened by the uncontrolled spread of invasive plant species. This has mainly affected the key patches of the most productive seasonally inundated areas. Concerning water resources, it seems that, in a context of insecurity concerning groundwater potential, the current expansion of governmental water supply and rising demands for irrigated agriculture bears the risk of groundwater mining. The ecological integrity of arid and semi-arid regions is currently severely at risk, which poses an existential threat for rural inhabitants¹².

3.6 Major influencing factors

This chapter discusses the most influential factors for the observed trends in rural areas of ASAL. Results from the scenario-building workshop in Addis Ababa form the basis for a more extensive analysis.

3.6.1 Results from the Scenario Building Workshop

Having discussed the major trends with the participants of the workshop, they identified ten key factors which they perceived as most influential for rural transformation. These factors were discussed regarding their mutual interdependencies and scores were given indicating high (2), little (1) or no (0) influence (Table 6). The influence matrix shows the active sum, which describes the cumulative degree of influence one factor has on the others; and the passive sum, which shows the sensitivity or susceptibility to influence by other factors.

The most influential active factors were governance, social capital, conflict, and security of land entitlements. The passive factor most influenced by other factors were the sustainable use of natural resources, resilience, and livestock/crop productivity. The active and passive sums were transferred to an axis diagram with four categories (Figure 17):

Active factors have much influence but are hardly influenced by others. Changing these factors in any direction will exert strong effects on the transformation trends previously described. Therefore, active factors need close monitoring and careful strategies which either reinforce positive or reduce negative net-effects. Participants of the scenario workshop identified two active factors.

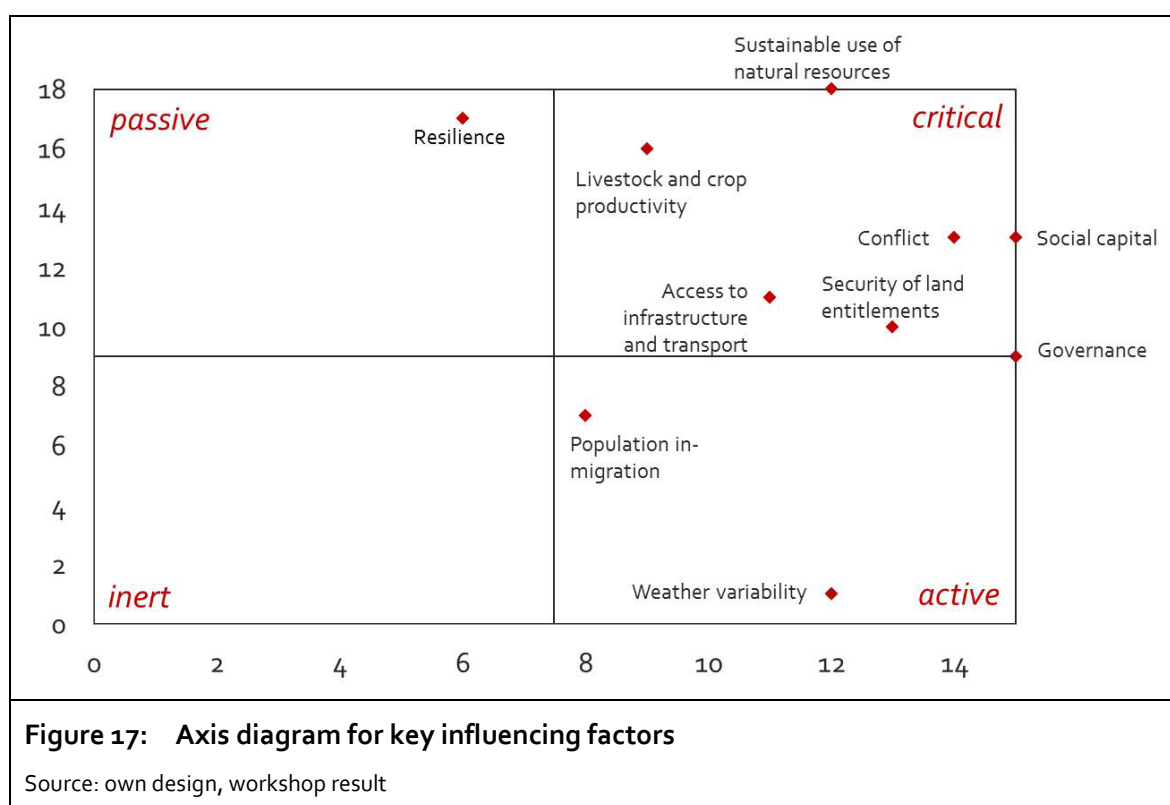
¹² For detailed information on the indicators used for the assessment of sustainable/unsustainable management of nature resources refer to Annex 4.

Passive factors are highly influenced by the other factors without influencing others very much. They can be typically addressed by working on the effects that others have on them. In the case of rural transformation in the ASAL, only resilience has been identified as passive.

Table 6: Influence matrix of factors for rural transformation in Ethiopia											
	Weather variability	Resilience	Social capital	Governance	Secure land entitlement	Sustainable resource use	Productivity	Access to transport and infrastructure	In-migration	Conflict	Active sum
Weather variability		2	1	1	0	2	2	1	1	2	12
Resilience against shocks and stress	0		1	0	0	2	1	1	0	1	6
Social capital	0	2		2	2	2	2	1	1	2	14
Governance	0	2	2		2	2	2	2	1	2	15
Security of communal land entitlement	0	2	2	1		2	2	1	1	2	13
Sustainable use of natural resources	1	2	2	1	1		2	1	1	1	12
Livestock and crop productivity	0	2	1	1	1	2		1	0	1	9
Access to transport and infrastructure	0	2	1	1	1	2	2		1	1	11
Population in-migration	0	1	1	0	1	2	1	1		1	8
Conflict	0	2	2	2	2	2	2	2	1		15
Passive Sum	1	17	13	9	10	18	16	11	7	13	
Active Sum x Passive Sum	12	102	182	135	130	216	144	121	56	195	
Source: own design, workshop result											

Inert factors are hardly influenced by the other factors and do not have much influence on rural transformation trends. They typically stabilize ongoing transformation trends. This category of factors can be ignored at the moment, but with time they might be also subject to change and fall into one of the other categories. For the ASAL region, no inert factor was identified.

Critical factors need most attention as they readily influence ongoing transformation trends but, at the same time, are highly affected by other factors. Therefore, interventions which directly affect critical factors might easily create positive or negative multiplier effects on rural transformation trends. Workshop participants rated the majority of factors (total =7) as critical.



It is clear that institutional factors were considered as most influential for processes of rural transformation. This strong emphasis on the political-institutional dimension overlaps to a large degree with our extended analysis on influencing factors (see sections 3.6.2 – 3.6.4), which takes into consideration the comments of local stakeholders in Afar and Somali region and also secondary literature.

3.6.2 Governance and customary institutions

Our analysis indicates that governance structures within Ethiopia play a major role in structural transformation in rural areas. Governance relates to institutionalized modes of social cooperation to produce and implement collectively binding rules, or to provide collective goods such as public health, clean environment, social security, and infrastructure. The Ethiopian pastoral lowlands present areas of limited statehood where the governmental monopoly over the legitimate use of

force and the ability to make, implement and enforce rules continues to be challenged by existing forms of local governance beyond the state. Instead, the enforcement of rules and decisions, as inscribed in indigenous laws, depends on informal customary institutions. Society-based networks or social capital which are based on social trust provide an alternative to the provision of public goods by the state. They are central for conflict-resolution and the sustainable natural resource management of communal pastures.

The autocratic top-down rule of successive regimes has been marked by increasing efforts to destabilize and undermine customary governance structures. The simultaneous penetration of the state apparatus, especially under EPRDF, has been embedded into long established 'Divide and rule' strategies. As outlined in previous chapters, ill-conceived governmental policies and interventions, informed by a highland-based agricultural bias, had strong impacts on pasture degradation, decreasing resilience of the pastoral economy and weakening customary institutions. These interventions are based on a hegemonic development discourse which conceives pastoralists as backward and needing to be civilized and modernized. While Ethnic Federalism created a small wealthy elite of loyal regional politicians, the majority of pastoralists feel neither recognized nor represented by the governmental structures. Therefore, many share the perception of being 'second-class-citizens' while the regional government is seen as puppet of the federal government, selling their homeland to outsiders. Current governmental mega-projects to expand the production of sugarcane (Afar) or explore for oil (Somali) have created local opposition, because pastoralists rarely benefit, or receive compensation. Instead, large areas of their pastureland have become inaccessible while customary communal land rights were completely disregarded and valuable pasturelands framed as 'barren, unused wastelands' by the government.

A future key question will be how to resolve the inherent contradictions between a decentralized administrative structure which recognizes ethnic diversity and the right for self-determination of nations and nationalities on the one hand and the centralized developmental state model relying on an independent state bureaucracy on the other. So far, the centre has maintained rigid control over the nominally autonomous regions, so that critical questions of legitimacy and accountability are at stake.

3.6.3 Conflict

Violent conflict in the form of livestock raiding has been a constitutive part of the pastoral economy and male identity formation. In the era of nation-state building, these mainly resource-bound conflicts increasingly overlapped with and turned into political conflicts as border regions like Afar and Somali Region became the arena of multiple international wars fuelled by contested geopolitical claims and nationalist ideologies of Eritrea, Ethiopia and Somalia. In this context, the peripheral lowlands became highly militarized (with multiple military camps) with small arms flooding in and national governments trying to instrumentalize pastoralists for their own interests, providing military training and weapons. During the 1970s and 1980s various ethnic-based rebel movements formed inside Ethiopia as the legitimate rule of the military-socialist *DERG* regime was contested which resulted in a prolonged civil war. When the *DERG* regime was overthrown by the TPLF (which later turned in the current EPRDF) in 1991, the new regime embarked on a mission to consolidate its fragile power in the lowlands.

Nowadays, ASAL regions constitute economic and political frontier regions from the perspective of the state (Markakis, 2011; Korf et al., 2015) which are in need of securitization and political control in order to appropriate economic resources. The partly violent conflict between the Ethiopian state, which has for centuries been ruled by highland elites from Amhara and Tigray, and pastoralists who have long rejected state control is at the root of the current crisis of pastoralism and its economic marginalization. Today's Somali and Afar Region have always been, and are still, viewed with suspicion by Ethiopian ruling regimes due to the fierce resistance of pastoral clans and sultanates to subordination under highland-based state rule. They are also regarded as potential hosts for terrorist movements like al-Shabaab. The government has not been able to fully consolidate its power in these strategically important but peripheral regions, where borders are porous and political power contested.

A substantial part of the pastoral population perceives the EPRDF government as colonizers and alien intruders into the lowlands, appropriating resources (land and minerals) and undermining local livelihoods. In a TV interview in November 2016¹³ Sultan Hanfare Ali Mirah (traditional leader of Afar, Aussa Sultanate) called upon his people to stand up against the "tyranny of the leading minority regime" and to join forces with the opposing Oromo and Amhara. Similar comments were made by an ONLF leader in a recent interview with Al Jazeera¹⁴. This indicates the fragility of the current political situation in Ethiopia, where a 6-month state of emergency was declared in October 2016. Increasingly repressive laws and the absence of independent media and civil society have raised significant internal opposition in various parts of the country. The lack of legitimacy and accountability of the current and past regimes and at the same time a long legacy of governmental prejudices and misunderstandings regarding the pastoral economy and culture have been main factors for the exclusion of pastoralism from mainstream development, leading to a negative structural transformation. Redressing this historic marginalization will be a major challenge. As one interviewee put it: *"As far as the stability of this country is concerned: unless this area is developed, the stability of the nation will be at stake"* (Int. 45, Jijiga, 2016).

3.6.4 The role of demographic and environmental factors

It is obvious that continuing high population growth rates and an increasing variability of rainfall have contributed to mounting pressures on natural resources and a heightened vulnerability of (agro-) pastoralists. Both factors have a strong influence especially on the sustainable use of natural resources but, as has become clear from our analysis, they are only one part of the story. It is interesting to note that participants of the workshop assessed the factor 'in-migration' as more influential for a more or less inclusive and sustainable rural transformation than the factor 'population-growth' which includes natural growth as well as migration gains.

¹³ Retrieved December 2, 2016, from <http://ethsat.com/2016/11/ethiopia-sultan-afar-says-people-will-rise-tyranny/>

¹⁴ Retrieved December 2, 2016, from <http://www.aljazeera.com/programmes/talktojazeera/2016/05/ethnic-somali-abdirahman-mahdi-onlf-ethiopia-boiling-160507083254836.html>

4 Scenarios for rural transformation until 2030

This chapter deals with future scenarios for rural areas in ASAL regions in the year 2030. The pessimistic and optimistic scenarios are narratives that describe possible futures as well as the specific pathways and causal links that explain how and why they come about. They were mainly developed by participants of the scenario-building workshop and complemented with data from interviews and literature.

4.1 Most probable scenario for 2030

When participants of the workshop were asked to discuss future scenarios, it turned out that the most probable future development of major influencing factors would be neither inclusive nor sustainable. Therefore, the pessimistic scenario represents also the most probable scenario as perceived by workshop participants. The scenario is based on the assumption that a) current trends are likely to continue over the next 15 years and that b) no major strategic interventions will be implemented in order to substantially redirect those trends which currently contribute to pastoral exclusion and environmental degradation¹⁵.

Narrative most probable scenario (Scenario-building workshop)

Severe droughts alternate with torrential rains and floods. Together with periods of extremely high temperatures, barren lands cover large parts of the region. Due to various external interventions of national and international actors to strengthen resilience there have been isolated improvements in terms of livelihood diversification and skills.

Nevertheless, dry season grazing areas have been taken over by large-scale commercial farms and invaded by unwanted plant species. Remaining grazing areas are severely degraded and livestock numbers and productivity are not sufficient for survival. We can foresee widespread poverty, food insecurity and destitution.

Investors and government take more land, threatening the pastoral system and causing resource-based conflicts. Regional and local stability is weak. Competition for diminishing natural resources turns into violent conflicts, with large numbers of displaced people.

Resistance to change prevails even though livestock production has received increasing attention. Local officials sell community land and live beyond their means. There is widespread bribery, nepotism, and fraud. Pastoral marginalization and unemployment have risen.

¹⁵ Ethiopia is currently undergoing a phase of internal instability. However, in this scenario we assume that even in the event of a political party change, developments in the lowland regions will not shift significantly from past and current development paths.

Common values of pastoralists have eroded. Internal conflicts are frequent and people make selfish and unsustainable use of natural resources. A few better-off profit, but the majority abandon the region. Dual loyalties have torn apart traditional institutions. Bargaining power and viability of pastoralism have diminished.

The provision of basic services is poor. Investments in road construction could not satisfy the local demand. Maintenance of roads remains poor and the majority of pastoralists still travel on foot. Costs of transport services have increased.

This narrative scenario highlights the following developments:

- **Continuing degradation of natural resources** in the context of an increasingly harsh climate, uncontrolled growth of invasive species and the conversion of key grazing areas into irrigated farmland by the state and investors.
- **Increasing external assistance to build pastoral resilience**, but little sustainable impact on the pastoral economy due to an inappropriate policy environment for mobile pastoralism¹⁶.
- **Persistent bad governance**, especially lack of accountability at the regional level, and an ongoing erosion of customary institutions and social capital through the co-option of local authorities leads to increasing social disorientation and inequalities.
- In a context of dwindling pastoral key resources, **violent conflicts and internal displacements** will jeopardize regional security. The loss of riverine dry season pastures to large-scale sugarcane plantations and investors and related trade-offs for local communities will increase conflicts between pastoralists and the state.
- In spite of **massive investments in basic services** the provision remains poor, especially in terms of low quality, deficits of implementation (e.g. lack of qualified teachers, adapted curriculum) and due to the urban bias.
- Pastoralism will be increasingly marginalized, widespread food insecurity and poverty remain.

This assessment of probable developments and risks was largely confirmed by interviewees in Afar and Somali. As one respondent from Somali Region noted: *"If things continue as they are at the moment, then we will have more internally displaced people in 2030 and less land, less livestock, increased poverty and more criminals"* (Int. 35, Dire Dawa, 2016). Other interviews with pastoralists affected by the expansion of a sugarcane plantation confirmed the increasing risk of violent conflict under conditions of ongoing exclusion.

¹⁶ Annex 5 gives a detailed overview of ongoing bilateral and governmental development activities in Afar Region. Most activities focus on resilience building through enhanced livestock productivity, natural resource management, and diversification.

"They tried to cheat us by saying 'We will give employment to 4000 local people from the community as guards. In an environment where millions live, what does that mean? Today they may cheat us in giving 4000 people employment. Once these people leave the area, the second step they will do is to kick these 4000 out of the area again. That is their step by step move. In the future I see all of us going to Djibouti or fighting with the government.'" (Int. 7, Assayta, 2016)

Extended scenario

Drawing on further sources (interviews and secondary literature) this section enriches and differentiates the above scenario with further developments which will probably influence rural transformation.

Continuing misconceptions of the pastoral economy: Dominant development narratives continue to portray mobile pastoralism as an economically and culturally backward, unproductive land use system which is unsustainable (tragedy of the commons). Furthermore, the highly-armed pastoralists are considered an inherent risk to national security. These narratives inform major policies and interventions in pastoral areas like villagisation/voluntary settlement, the ongoing conversion of pastureland into large-scale commercial irrigation agriculture and the imposition of land titling programmes (Little, 2013). The legacy of inappropriate, top-down interventions, which have generally undermined the viability of the pastoral economy, has deepened suspicion and distrust towards the state.

Governmental development priorities are still guided by interests to generate official revenues from mining, livestock export trade and plantation economies while excluding the majority of poorer pastoralists. It can be expected that the government strategy for economic growth and transformation (establishment of industrial parks, agro-industrial investments) will be transferred to ASAL areas, even though some investments have proved unprofitable and with limited employment effect.

Commercialisation of rural economy: The process of commercialization will almost certainly continue, driven by the growing global and domestic market demand for meat and livestock products and the growing demand among pastoralists for non-pastoral goods. Government efforts to push commercialization processes are likely to continue due the governmental transformation strategy, which focuses on agro-industrial development and increasing market-orientation on one hand and decreasing sizes of livestock herds on the other hand. Aklilu and Catley (2009) expect the government to favour formal livestock exports over regional or domestic markets in the near future. This will result in increasing wealth differences because poorer pastoralists would be largely excluded from export related growth effects. If trends in Ethiopia follow similar patterns to other pastoral areas of the world, commercialization will not result in more households engaging in a growing and lucrative trade, but in the acquisition of larger herds by few wealthy herd owners and the sale of more animals from these herds. The majority of pastoralists will keep herds of sheep and goats that are barely large enough to sustain them. Persisting chronic food insecurity keeps them dependent on food and cash transfers through social safety net programmes. Little (2013) posits that forms of contract herding will gain importance as an increasing number of asset-less drop-outs will work as hired herders for wealthier pastoralists. Rangeland fragmentation in the form of fenced enclosures and commodification of communal land is likely

to increase in the future, putting growing pressure on land resources and sustainability. High potential pastures will be fenced off by wealthy pastoralists/traders or appropriated by investors for irrigation agriculture.

Demographic changes and urbanisation: The continued population growth in rural and urban ASAL will challenge the formal labour market, the quality of education, public health system, urban planning and natural resources. According to the Central Statistical Agency, the population in urban areas of Afar and Somali Region will grow steadily, whereas it will decrease slightly in rural areas in the next years.

Therefore, until 2030 the share of people living in urban areas will increase significantly. The spread of informal housing will challenge town planning. Some of most severely degraded areas will be around the permanent villages and growing towns (overgrazing, deforestation). Urbanization will be fostered by the establishment of economic corridors, based on regional city clusters with improved connectivity. The government plan to strengthen economic clusters in secondary cities of ASAL regions hinges on their strategic location within key transport corridors (growth poles) connecting Addis Ababa to sea ports (Djibouti, Berbera). Growing economic agglomerations in lowlands will focus on Somali Region with the increasing role of the expanded Berbera Port and the rehabilitated railway line to Djibouti port. One economic cluster will comprise Dire Dawa and Jijiga (Somali Region Capital).

Increasing relevance of diversification and rural-urban linkages: It can be expected that the trends of sedentarisation and people quitting the pastoral economy will continue (Little, 2013; Headey et al., 2014). More people will settle in expanding villages and towns in lowland areas in order to diversify their livelihoods and income to buffer against risk. Urban markets will grow, but demands for urban employment will exceed supply. Pastoral 'drop-outs' will either survive on food aid, gifts and remittances or will be engaged in low-paid, informal non-pastoral employment in or near towns, still in close contact with their relatives herding livestock in rural areas (trans-local livelihoods). Especially Afar tend to be excluded from non-pastoral labour markets as other ethnic groups dominate the urban economy and the agro-industrial sector. Also, a large share of capital and investment continues to come from outside the region (especially in the case of Afar). Small-scale irrigated agriculture, mostly subsistence-oriented, will play an increasing role within diversified livelihood portfolios in 2030. But it only offers a viable livelihood path for a limited number of pastoralists because of scarce water resources for irrigation and the limited access to markets.

Improved access to education: Literacy rates and levels of education will continue to increase significantly as more pastoral children within sedentary households receive formal education in primary, secondary and tertiary institutes. An increasing number of young people will attend higher learning institutions and boarding schools. Illiteracy amongst adults will prevail, with a significant gender bias in access to education, especially in the secondary level and above. Access to formal and informal education for those involved in mobile pastoralism continues to be constrained (Little et al., 2010). In spite of the important contribution of education in terms of increasing non-pastoral employment opportunities, many educated young people have difficulties finding decent employment. The curtailed private sector offers little employment and the government cannot accommodate all graduates.

Increasing out-migration of young people: Especially in Somali Region, various interviewees expect that out-migration of skilled and unskilled young people will increase in the future in the event of continuing chronic food insecurity in rural areas and insufficient employment opportunities in towns. *"There is a trend that more and more young guys try to migrate to Europe. This will increase in the future if food security in pastoral areas doesn't improve"* (Int. 32). Restrictive migration policies which constrain formal migration favour the increase of human trafficking. Some interviewees also perceived the risk that idle pastoralists might easily be recruited by terrorist organizations as pastoralists are good warriors with ample experience in violent conflicts (Int. 33).

4.2 Optimistic scenario for 2030

The optimistic scenario offers a feasible best case in which rural transformation is shaped in a more inclusive and sustainable way in 2030. Trends have moved in a positive direction, reversing processes of exclusion and inequality, mainly due to strategic shifts in the fields of governance (society-state relations), natural resource management, and education/skills/employment (Chap. 5).

Narrative optimistic scenario (Scenario-building workshop)

People cope with climate-induced shocks and stresses, making optimised use of natural and human potentials. High level of awareness in communities, strong government policies on natural resource management, and scaling-up of good experiences have translated into practice. We see improved pastures, increased forest coverage and enhanced soil fertility.

Pastoralists have strong institutions, some traditional and some new, through which they develop common solutions. They have strong bargaining power and can influence national policy. The traditional land management system is legally recognised and protected. Degraded land is rehabilitated and the pastoral system will be more resilient. Risks of conflict will decrease.

All people, including women and vulnerable groups, have a voice in decision-making that affects their lives. All decisions are based on people's interests, aspirations, and preferences. Officials and leaders are accountable and are held accountable, the Government is committed. Everyone is equal before the law and government officials are taken to court. Women and minorities are represented in local councils.

There are booming livestock markets and livestock products realise high prices. Government and NGOs give much attention to livestock and pastoralism. Access to improved technologies has increased productivity. Most (agro-)pastoralists are food secure. All *Woredas/Kebeles* are connected by roads which are well maintained. Transport is affordable. We see services, businesses like restaurants and hotels, petty trade.

Conflicts are managed inter- and intra-regionally which improves the economic situation (more livestock, better use of natural resources). There is low migration and fewer internally displaced people. People are coming closer together and social cohesion is strong.

Including also additional comments of interviewees in Afar and Somali Region as well as secondary literature, the following optimistic scenario emerges:

Sustainable use of natural resources

- There is increased pastoral resilience, rehabilitation of degraded natural resources and subsequent improvement of pasture productivity due to high environmental awareness among all actors, improved implementation of policies on natural resource management and legal recognition of the communal land management system.
- As pastoral mobility remains a key element in a sustainable and productive pastoral economy livestock routes will be legally protected through adapted tenure systems. This will increase the productivity of pastures and livestock.
- Key communal dry season pastures, which are currently overgrown by *Prosopis juliflora* or not yet converted to farmland, will be rehabilitated and legally protected, recognizing customary land rights.

Accountable and legitimate governance structures: Political inclusion

- The accountability, commitment and legitimacy of political representatives has increased. Interventions are based on the aspirations of local communities who participate in decision-making processes (community-led development).
- Strengthened customary institutions are recognized by the government and are major stakeholders in decision-making processes. They cooperate with governmental institutions and include previously excluded groups like women.
- Management and regulation of the rangelands is shared equally between state and customary authorities building on a common development vision for pastoral areas.
- The efficiency of conflict prevention and resolution and management of communal rangelands has increased due to context-specific institutional transformations which have emerged from a dialogue process (stakeholder learning forums) between civil, customary institutions and government institutions.
- The government is aware of the value of livestock and mobile pastoralism and recognizes diversity in pastoral areas. It actively supports various development pathways for different segments of the pastoral population which take into account socio-spatial differences and which build on local knowledge, available resources and skills (UN-OCHA, 2007)¹⁷.

¹⁷ UN-OCHA (2007) identified four different pathways depending on differences in resource and market access: commercialization/ export trade, added value diversification, traditional mobile pastoralism and exits/alternative livelihoods.

A productive and diversified pastoral economy: Economic inclusion

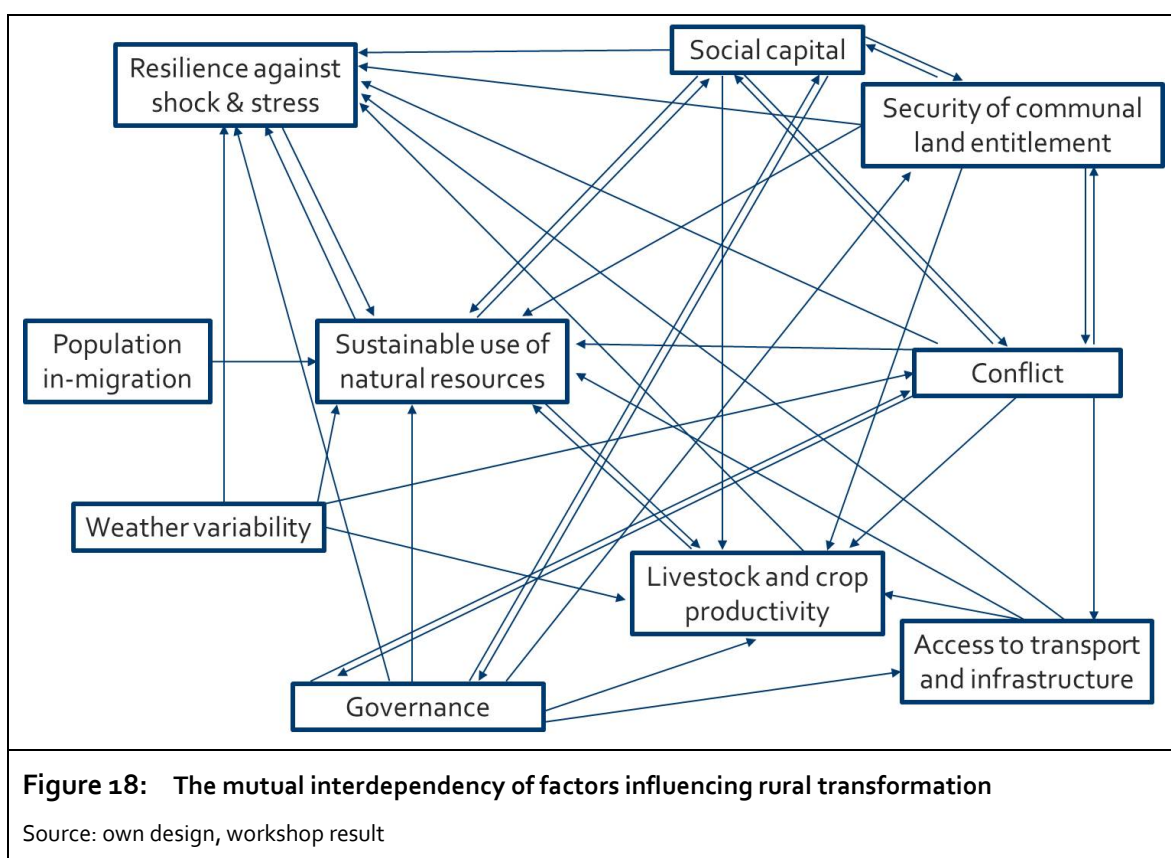
- In regions which cannot otherwise be used due to environmental restrictions, pastoralism will remain the economic foundation for the majority of the rural population, even though the share of people actively following their livestock has greatly reduced.
- Pastoralists and 'ex-pastoralists' are integrated in expanding urban markets and livestock value chains. A strong livestock sector will "... generate incomes and economic multipliers for a large segment of the non-pastoral sector and create demand for a range of town-based products and services" (Little, 2013, p. 248).
- There is food security and improved livestock productivity due to better access to livestock markets and to adapted technologies for (agro-)pastoral production.
- In areas where irrigation is possible, small-scale irrigation agriculture will be one pillar in diversified complementary trans-local livelihoods. It will be pursued by settled segments of the clans who will grow mainly food crops and fodder.
- Urban, non-pastoral/farm incomes within diversified pastoral economies will have an important buffer function during times of drought.
- Mobile pastoralists will benefit from an increased supply of basic services adapted to their needs, improved veterinary health provisions, and the extensive use of information and communication technologies.

Education for alternative livelihoods: Social inclusion

- Significant improvements in access to and quality of education (formal, informal, TVET) have translated into increasing opportunities for decent employment in the non-pastoral, urban sector. In a viable diversified economy, educated women will play major roles.
- Higher levels of education among women have translated into slight decreases in fertility rates.
- Urban settlements have developed targeted economic development plans that consider key growth sectors and development needs and that are aligned with labour strategies. Urban poverty and unemployment have declined as the gap between employment demands and supply has narrowed.
- Improved quality of TVET institutes has increased local capacity to find employment in new industrial zones (mining sector, light manufacturing industry, garment and leather industry).

5 Recommendations

The following recommendations for strategic entry points for a more inclusive and sustainable transformation have been partly developed from a systemic understanding of main influencing factors for rural transformation. The following diagram (Figure 18) indicates mutual interdependencies between the main influencing factors as discussed during the scenario-building workshop¹⁸. What is obvious is the close connection between social capital, governance, and conflict (double arrows indicating interdependencies). Also, the sustainable use of natural resources has close interdependencies with social capital and agricultural productivity.



The recommendations will also include an additional intervention field of education and employment creation (see section 5.2.3), which was not identified as a major influencing factor during the workshop. But the strategic importance of this area was repeatedly stressed in interviews and is also mentioned in the literature.

¹⁸ The diagram evolved out of the influence matrix (Table 6) but it only highlights strong influences, scored with 2.

5.1 Intra-sectoral transformation within diversified trans-local livelihoods

Development policy toward pastoralism has conventionally held a worldview shared by many national governments that pastoralists are irrational, wasteful, and short-sighted. More and more studies, including this one, are challenging this view, stressing the environmental and economic significance of mobile pastoralism in arid and semi-arid environments. Unfortunately, the reception of this scholarly consensus, also termed as 'new pastoral development paradigm' (Turner, 2011), has remained quite limited in Ethiopian policy debates so far.

Concerning the various strategic options available for a more inclusive and sustainable rural transformation, it is assumed that a major future challenge will be the creation of additional non-agricultural employment opportunities in towns under conditions of continuing population growth, a growing number of young people and impoverished herders leaving the pastoral sector and limited out-migration. Even under conditions of the optimistic scenario, with a productive and sustainable pastoralism based on enhanced mobility, improved pasture quality, strengthened governance and diversification, labour absorption capacities within pastoralism and agriculture will not suffice to meet the growing demand. A further assumption relates to the existing potential for an increased productivity within pastoralism. If promoted in a suitable way, it is assumed that pastoralists can benefit from an increased productivity of livestock and land and from improved conditions to engage in growing domestic and global livestock markets. There are various opportunities for (agro-)pastoral intensification, e.g. improved provision of inputs like veterinary health, fodder, water, etc. Finally, it is assumed that the sustainability of any external, long-term investment depends crucially on a more supportive governance structure which leaves a communicative space for mutual learning processes and balanced negotiations between state institutions and rural inhabitants concerning future pathways for transformation.

Against the background of these assumptions, the major strategic considerations recommended in this study point towards the necessity for a hybrid approach which focuses on an intra-sectoral transformation within diversified trans-local livelihoods where livestock production continues to play the major role. This approach supports various **complementary pathways** as pastoralists are increasingly heterogeneous in terms of available assets and socio-spatial frame conditions. Strategic interventions should be geared to slow the rate at which poor households feel pressured to abandon livestock-keeping, while at the same time boosting the income of those who remain¹⁹.

Against this background, it is recommended to direct long-term investments into the following focus areas, which will be outlined below:

- Governance – customary institutions – conflict
- Sustainable intensification of pastoralism
- Employment generation, education and skills

¹⁹ For strategic reflections on future investment options for ASAL areas see also Headey et al. (2012), who argue for an intra-sectoral as well as inter-sectoral transformation.

5.2 Key areas for long-term interventions

5.2.1 Governance – Customary institutions – Conflict

Major improvements in various aspects of governance (policies, capacities) are needed at local, regional and local levels, especially in terms of a better recognition for and empowerment of customary institutions (which play an essential role for a sustainable natural resource management/governance of pastoral rangelands and conflict resolution) and improved land tenure security. A recent UN resolution (2/24) on “*combating desertification, land degradation and drought and promoting sustainable pastoralism and rangelands*” (May, 2016) emphasizes that pastoral tenure security and healthy grassland and rangeland ecosystems are critical for the achievement of the Sustainable Development Goals (Agenda 2030 for Sustainable Development) and a multitude of environmental services. It signals the international attention recently given to pastoralism, a conducive window of opportunity for future investments.

To turn the current unsustainable and exclusive tide in ASAL regions, the national growth and transformation strategy has to be modified in order to achieve a broad based economic growth that includes the poorest strata of the population: the pastoralists. Even if this modified growth scenario that considers pastoralist needs and demands seems to be less rapid over the first stage, it is decisive for resilience building, poverty reduction, peace building and thus the socio-political stability of the whole country. This recommendation is in line with the AU Policy Framework for Pastoralism in Africa, the first pan-African policy initiative on pastoralism, which stresses the importance of an increased political commitment to pastoral development and the full integration of pastoralism in national and regional development programmes (African Union, 2010).

Developing a coherent and targeted strategy for pastoral areas: Despite the economic relevance of pastoralism and the limited opportunities for agriculture, no coherent strategy exists so far indicating a targeted approach (area and social specific) on how to support the pastoral production system. Where cropping is targeted, little emphasis is given on how to exploit the complementarity of crops and livestock in areas where livestock rearing is also possible- thus a tendency of complete shift to cropping is realized.

Bottom-up development agenda: One of the main factors for the widespread failure of activities to promote all sorts of development in the drylands of Ethiopia has been a misconception on the part of external development ‘experts’ concerning the role of participation. Most of the time they enter the communities with preconceived plans and fixed objectives which are generally not discussed further with local clans. There is no room for mutual learning or partnership beginning with the identification of problems, opportunities, and how to work on these. Instead technical experts in the Regional Bureaus complained about the lack of awareness among the communities in taking up new agricultural skills and technologies which had been transferred in the context of the new villagisation programme. Therefore, interventions for strengthened customary institutions empower local communities, build on existing local knowledge and create space for autonomous decision-making, rather than treating them as unskilled, backward herders who have to be taught what is best for them. A paternalistic approach of one-way knowledge transfer is bound to fail since it does not create any ownership but deepens the mistrust and resistance towards both external ‘intruders’ from the highlands and also towards the increasingly assimilat-

ed political elite from Afar and Somali Region. Therefore, the creation of local dialogue forums where different stakeholders negotiate, discuss and agree on future developments is a suitable first step in this direction.

Strengthened capacities of political stakeholders on different levels: The local administrative personnel at regional, *Woreda* and *Kebele* levels is an important target group to be considered, as they play a leading role in interventions on the ground. Due to the administrative restructuring as part of Ethnic Federalism in 1994, lowland groups like Afar and Somali now govern their own regional state, but their capacities are very limited, especially in Afar. Since the local administrations play a leading role in the implementation of future interventions, their staff have to be strengthened. This will enhance the legitimacy of political stakeholders.

Acknowledgement and strengthening of indigenous/customary institutions: Customary institutions and authorities have to be legally recognized and have to be revitalized to voice their interests and needs. They are also vital for finding a culturally appropriate entry points for communication with the communities and to create a relationship of mutual trust between external development organizations and their clan members. Customary institutions are of major importance for the sustainable management of natural resources, for resolving conflicts, and for providing social support to impoverished clan members (social capital in cases of emergency, external shocks and crises). Thus, customary institutions have been building blocks and resources of social capital as they are vital to the socio-economic inclusion and the social security and resilience building of the ASAL population and regions. They have the potential to be a legitimate and competent partner to local government in dialogue, consultation and when negotiating new agendas for an inclusive transformation of ASAL regions (Flintan et al., 2013). Strengthened customary institutions should include women more than in the past. Women are the main innovators in terms of livelihood diversification and they tend to deal more responsibly with financial resources than men.

5.2.2 Sustainable intensification of pastoralism

In order to halt the ongoing marginalization and exclusion of pastoralists from national development, it is necessary to strengthen the resilience of currently impoverished pastoralists. Major long-term investments in the **management of natural resources** as part of a sustainable intensification of pastoralism will be necessary to sustain and rehabilitate the livelihood base for pastoralists and agro-pastoralists and to avoid land-use conflicts which are currently increasing. An intensification of the extensive pastoral land management system requires improvements in feed, veterinary health, and the management of natural resources (rangelands, cropland) under conditions of **protected extensive grazing opportunities**. As argued by Robinson et al. (2015, p. 148): *"Recently, pastoralists in many areas have begun looking to regain lost scale and re-extensify their production systems while at the same time increasing inputs in the form of improved breeds, veterinary interventions, hired labor, and water and fodder provision. In this scenario, producers strive to increase productivity and reduce vulnerability by simultaneously enhancing both the extent and the intensity of the agricultural system. Where (re)extensification is not possible and/or not desirable, interventions aimed at intensification should, at least, not reduce extensivity, and should intensify existing extensive systems rather than supplant them with different, non-extensive systems."*

Against this background, an intensification in the form of a ranching model with various disconnected enclosures and abandonment of livestock migrations is not recommended, even though this seems to be a favoured strategy among Ethiopian policy makers to boost livestock productivity. It is assumed that sedentarisation of a reduced number of livestock on commercial ranches will increase the production of milk and meat and protect rangelands, but various studies have shown otherwise. Also, land use conflicts increased and the privatization of rangelands excluded an increasing number of pastoralists. Instead, what is called for is a re-extensification of the production system, e.g. through **integrated landscape management and rangeland restoration** which allows for livestock mobility and improved access to dry season grazing areas, along with **intensification through improved provision of necessary inputs**.

Participatory water resource development with clearly defined customary user and access rights in line with the rangeland ecology of surrounding pastures and **participatory land use planning** will play an important role in order to enhance mobility and reduce the exposure to droughts (de Haan et al., 2016). At the same time, livelihood diversification into non-pastoral/ agricultural activities and urbanization will continue. It should be supported in a way that different livelihood activities inside and outside the agricultural sector complement each other and provide an enhanced buffer against the various risks that pastoralists face (droughts, floods, volatile prices, violent conflicts etc.). Any support for diversification has to avoid trade-offs between different land uses, so that the introduction of irrigated small-scale farming should be carefully planned in order not to hinder access to prime rangelands for pastoralists. The currently highly subsidized large-scale irrigation plantations are constrained by high implementation costs and poor market access. Therefore, Headey et al. (2014) see only a limited potential of irrigation agriculture, in spite of large groundwater reservoirs in ASAL regions.

Of major importance for a pastoral intensification will be **capacity-building among governmental employees** working with pastoralists or on pastoralist issues. In this context, there is an urgent need for improved extension services which are tailored to specific of pastoralists based on adopted curricula for extension workers. Misconceptions and devaluation of 'the other' production system and knowledge at the interface between highland and lowland populations have been a major contributing factor for the failure of past interventions in pastoral areas.

5.2.3 Promotion of employment, education and skills

Illiteracy is one of the pressing issues that limits political empowerment as well as economic development. Future investments in education/skills have to address the demands of the increasing numbers of drop-outs and youths moving to urban areas and those remaining in pastoralism. Increasing the level of formal and alternative education as well as building additional skills and capacities will be an important future asset for a successful inclusive transformation within ASAL regions, especially in order to diversify pastoral livelihoods (Headey et al., 2014). Increasing the demand for skilled and unskilled labour on urban labour markets and improving the employment supply (alternative education, skills matching employment demands) will be decisive for an inclusive transformation, given the limited labour opportunities within the rural sector. Education and building of capacities opens up opportunities for alternative non-pastoral livelihood activities. It will also improve the political and economic negotiating situation towards other, currently better educated, groups within Ethiopia.

Close the gender-bias in education: Special efforts should be made to increase secondary and higher education for girls and women. This will improve employment opportunities of disadvantaged women, and it can be expected that this will also reduce fertility rates. The study of Teklu et al. (2013) confirmed that higher levels of education correspond to lower fertility rates, an observation which has been made in many regions worldwide.

Development of adopted curricula and academic programmes: Education should provide children and young people with skills and knowledge that are relevant to their livelihood, cultural settings and their environment. Currently, education often leads to an alienation of children from pastoralism as school curricula are transferred from highland regions, with a tendency to disregard pastoral values and knowledge. It is recommended to revise and adapt current academic programmes and departments. Agricultural colleges and development programmes should mainstream pastoralism into their curricula.

Universities as sites of transdisciplinary learning²⁰: Universities should be capacitated to initiate social learning processes through research efforts targeted at pastoral community development which involve scientists, development experts, politicians and local actors, and their corresponding scientific and non-scientific knowledge. This approach will be important for mutual learning and understanding, trust building and social innovation. It will create a communicative space to arrive at shared problem definitions, development objectives and the means required to move forward towards a more inclusive and sustainable transformation in ASAL regions.

Basic education for pastoralists: For those remaining in the rural pastoral economy, improvements in the level of education and available capacities are mandatory to voice demands, engage in dialogue with governmental stakeholders and adapt to the challenges of an increasingly market-oriented pastoral economy. In this context, pastoralists should have improved access to basic literacy and management skills. This will help them to take advantage of basic technologies such as calculators and mobile phones, so that they can get timely and accurate information about market prices, outbreak of animal diseases, and other livestock related issues.

Urban labour market assessments: In order to create suitable intervention packages, which link vocational training with the promotion of SMEs and access to financial services, the labour market has to be assessed. This will indicate what types of qualifications are lacking in the formal and informal sector, what types of SMEs have the highest potential and the extent to which there is a mismatch between skills and jobs.

²⁰ Transdisciplinary learning refers to the multi-disciplinary exploration of an issue or problem in order to connect new knowledge to real life experiences.

5.3 Final remarks

In terms of suitable strategic interventions three key points should be stressed:

First, there is no blueprint intervention package suitable for all pastoral areas or for pastoralism in general. As has been observed in several studies including this one, pastoral societies are increasingly stratified in terms of wealth, available assets, and livelihood strategies. Therefore, **socially and spatially targeted strategies and intervention packages** have to be developed which are tailored to different environmental conditions (e.g. irrigation potential, quality of pastures, aridity), spatio-temporal mobility patterns and socio-economic factors (e.g. access to markets, level of education, level of poverty). Plural development pathways need to be supported which account for the diversity that is already in place in pastoral areas. Against the background of inter-sectoral interdependencies of main driving factors for rural transformation, sectoral approaches are bound to fail. The coordination and cooperation between sectors will be of utmost importance to avoid contradictory objectives and interventions. It needs a multi-dimensional, integrated effort in the three key intervention areas (see section 5.2.) in order to strengthen pastoral livelihoods in an inclusive and sustainable way.

Secondly, structural support for social inclusion and environmental sustainability requires more **long-term interventions**, because it takes several years until desired benefits materialize. This is especially important for issues like rangeland rehabilitation and adapted rangeland governance regimes which are geared to maintain and improve the productivity and sustainable management of land.

Finally, there is a significant knowledge gap about the ASAL regions of Ethiopia which needs to be tackled in the coming years in order to create a reliable baseline from which to develop meaningful intervention packages. This requires much more attention to strengthen the **science-policy interface** on sustainable pastoralism and rangelands, as mentioned in the UN-Resolution 2/24 (UNEA, 2016). Most official large-scale household surveys (e.g. Welfare Monitoring Survey and the Household income, Consumption, Expenditure Survey) have not covered pastoral areas (Abebaw & Admassie, 2014). Also, information on livestock numbers, production practices, marketing decisions and rural-urban linkages is hardly available (Little et al., 2010). Apart from hard data, lack of knowledge also refers to a lack of understanding of pastoral livelihoods on all levels of policy-making. The failure of past interventions in lowlands had much to do with the repeated copying of approaches from highland areas to lowland systems and distorted assumptions concerning decision-making and future aspirations of pastoralists. The development of a culture of mutual learning and knowledge sharing could lead to an urgently needed strategic reorientation for pastoral areas.

6 References

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7 Annex

Annex 1: Programme Scenario Workshop

Workshop Title: Building Scenarios of Rural Transformation in the ASAL Region of Ethiopia	
Participants	Representatives from the Government of Ethiopia, Research Institutions and Non-Governmental Organisations
Time	February 15 th to 19 th , 2016
Facilitator	Christian Berg, comit GmbH Berlin Co-Facilitation by Dr. Gabriele Beckmann, SLE/Humboldt-Universität zu Berlin
Objectives	The participants have built scenarios of rural transformation in ASAL regions of Ethiopia until the year 2030 and developed strategic recommendations on how to work towards a socially inclusive and environmentally sustainable rural transformation.

Time	Topic
Day 1 – February 15th 2016	
09:00 – 09:15	STEP 1: Opening of the workshop and introduction to the research topic
09:15 – 10:15	Introduction of participants, workshop objectives and programme
10:15 – 10:45	Presentation of research concepts
10:45 – 11:00	<i>Tea / coffee break</i>
11:00 – 11:15	Introduction to qualitative scenario building
11:15 – 12:30	STEP 2: Identifying major trends in rural transformation in ASAL regions
12:30 – 13:30	<i>Lunch break</i>
13:30 – 14:30	Presentation of results STEP 2
14:30 – 15:15	STEP 3: Identification of factors determining rural transformation in ASAL regions
15:15 – 15:45	<i>Tea / coffee break</i>
15:45 – 17:45	Continuation Step 3
17:45 – 18:00	Feedback, end of the 1 st day
Day 2 – February 16th 2016	
09:00 – 10:30	STEP 4: Weighting of factors determining rural transformation in ASAL regions
10:30 – 11:00	<i>Tea / coffee break</i>
11:00 – 11:45	Filtering of factors determining rural transformation in ASAL regions
11:45 – 12:30	STEP 5: Description of variations of key factors driving rural transformation
12:30 – 13:30	<i>Lunch break / Group photo</i>
13:30 – 15:30	Continuation and Presentation of results of STEP 5
15:30 – 15:45	<i>Tea / coffee break</i>
15:45 – 17:15	STEP 6: Developing narrative linear scenarios (most probable and optimistic)
17:15 – 18:00	Reflection of the workshop results/Feedback, end of the 2 nd day

Time	Topic
Day 3 – February 17th 2016	
09:00 – 10:45	STEP 7: Assessment of mutual influences of the factors determining rural transformation in ASAL regions
10:45 – 11:00	<i>Tea / coffee break</i>
11:00 – 12:30	Continuation Step 7
12:30 – 13:30	<i>Lunch break</i>
13:30 – 14:15	Continuation Step 7
14:15 – 15:00	Reviewing mutual influences of key factors determining rural transformation
15:00 – 15:30	<i>Tea / coffee break</i>
15:30 – 16:50	STEP 8: Analysis of the functional character of factors determining rural transformation in ASAL regions
16:50 – 17:00	Feedback, end of the 3 rd day
Day 4 – February 18th 2016	
09:00 – 09:45	STEP 9: Analysis of interdependencies between the factors identified
09:45 – 10:45	Plausibility check – walk through the system
10:45 – 11:00	<i>Tea / coffee break</i>
11:00 – 12:30	STEP 10: Development of scenarios through changes of factors
12:30 – 13:30	<i>Lunch break</i>
13:30 – 17:00	Continuation Step 10
17:00 – 17:50	Presentation of preliminary results and discussion
17:50 – 18:00	Feedback, end of the 4 th day
Day 5 – 19 February 2016	
09:00 – 10:45	Continuation Step 10
10:45 – 11:00	<i>Tea / coffee break</i>
11:00 – 12:30	STEP 11: Development of scenarios through changes of interdependencies
12:30 – 13:30	<i>Lunch break</i>
13:30 – 15:00	Presentation of results and discussion
15:00 – 15:15	<i>Tea / coffee break</i>
15:30 – 16:30	Final Discussion on developed scenarios
16:30 – 17:00	Feedback, closure of workshop

Annex 2: List of interview partners, Focus Group Discussions

Code	Region/Place	Institution
Int1	Afar/Semera	Bureau of Finance and Economic Development (BoFED)
Int2	Afar/Semera	MoFA, Equitable Development Directorate
Int3	Afar/Semera	Bureau of Pastoral and Agricultural Development (BoPAD), expert natural resource management
Int4	Afar/Assayta	Local elder, Afar Pastoral Council
Int5	Afar/Assayta	Group of female agro-pastoralists
Int6	Afar/Assayta	Women's Milk Cooperative
Int7	Afar/Assayta	<i>Kebele</i> Leader
Int8	Afar/Dubti	Agro-pastoralist
Int9	Afar/Dubti	Sugarcane Plantation Manager
Int10	Afar/Semera	BOPAD, expert villagisation
Int11	Afar/Semera	BOPAD, expert livestock marketing
Int12	Afar/Semera	Bureau of Water Resources
Int13	Afar/Semera	BOPAD, expert crop
Int14	Afar/Semera	BOPAD, expert livestock
Int15	Afar/Semera	Cooperative Office
Int16	Afar/Semera	Save the Children
Int17	Afar/Semera	Save the Children
Int18	Afar/Semera	Rural Road Authority
Int19	Afar/Logyia	Afar Pastoralist Development Association (APDA)
Int20	Afar/Semera	Pastoral Community Development Programme
Int21	Afar/Semera	Gesellschaft für International Zusammenarbeit (GIZ)
Int22	Afar/Semera	Bureau of Transport and Trade
Int23	Afar/Semera	USAID
Int24	Afar/Semera	Land administration
Int25	Afar/Semera	Support for Sustainable Development (SSD)
Int26	Afar/Semera	Bureau of Labour and Social Affairs (BoLSA), head
Int27	Afar/Semera	Bureau of Women, Children and Youth, gender coordinator
Int28	Afar/Semera	FARM Africa
Int29	Addis	Forum for Social studies (FSS)
Int30	Addis	Land Coalition
Int31	Addis	Support for Sustainable Development (SSD)
Int32	Addis	Independent Somali consultant, expert pastoralism
Int33	Somali/Dire Dawa	Independent Somali consultant, expert pastoralism
Int34	Somali/Dire Dawa	Mercy Corps

Code	Region/Place	Institution
Int35	Somali/Dire Dawa	Secretary of Ugaaz, previously Member of Parliament
Int36	Somali/Dire Dawa	Zonal Administrator Shinille
Int37	Somali/Harawa	Agropastoralist (men)
Int38	Somali/Harawa	<i>Kebele</i> Leader
Int39	Somali/Dire Dawa	Dire Dawa University
Int40	Somali/Dire Dawa	Issa Ugaaz (head of clan group)
Int41	Somali/Jijiga	Bureau of Agriculture, Extension office
Int42	Somali/Jijiga	GIZ
Int43	Somali/Jijiga	BOPAD, Food Security/PSNP
Int44	Somali/Jijiga	BOPAD, Productive Safety Net Programme (PSNP)
Int45	Somali/Jijiga	Independent consultant, previously BOPAD
Int46	Somali/Jijiga	BOPAD, livestock marketing
Int47	Somali/Jijiga	Environmental Protection Agency
Int48	Somali/Jijiga	Pastoralist Welfare Organization (PWO)
Int49	Somali/Jijiga	Bureau of Finance and Economic Development (BoFED)
Int50	Somali/Jijiga	Jijiga University
Int51	Addis	GIZ
Int52	Addis	Pastoral Forum Ethiopia
Int53	Afar/Logyia	Semera University

Annex 3: Indicators for inclusion and exclusion

Inclusion indicators	Dimension	Exclusion indicators
<ul style="list-style-type: none"> • Livelihoods are economically secured or improved • Access to natural resources, public or marketed goods and services is ensured or improved 	Economic	<ul style="list-style-type: none"> • Increased risk of unemployment; accessible working contracts and sources of income are precarious • Public services (e.g. extension services) are less accessible • Markets (for inputs, products, labour) are less accessible
<ul style="list-style-type: none"> • Legislation offers security and protection, allowing participation in social life • Rights are acknowledged, exercised and can be claimed • Room for political participation and representation of interests is given or improved 	Political/ Institutional	<ul style="list-style-type: none"> • Legislation is discriminatory • Formal rights cannot be enforced • The exercise of legal rights is deliberately constrained or impeded • Political participation and the representation of interests is more difficult
<ul style="list-style-type: none"> • Cultural-ethnic or religious identities are recognized • Cooperation and trust relationships can be developed and maintained in networks and organisations • Education and health services are accessible, useful and of adequate quality 	Socio-cultural	<ul style="list-style-type: none"> • Increased negative associations related to cultural identity (feelings of inferiority, prejudice, racism) • The creation and upholding of social relationships is impeded • Education and health services are less accessible or of less quality
<ul style="list-style-type: none"> • Infrastructure (e.g. transport, communications, nutrition, water supply and waste water management, living conditions, employment) is adequate or improved • Working and living conditions are beneficial to the person's health or improved 	Physical/ Environmental	<ul style="list-style-type: none"> • Physical infrastructure that is needed for participating in social life is inadequate or deteriorating • Health risks are increased (e.g. caused by ecological, diet-, living- or work-related factors) and restrict participation in social life
Source: own table, adapted from Shookner (2002)		

Annex 4: Indicators for environmentally sustainable / unsustainable resource management

Indicators of sustainable resource use	Resource	Indicators of unsustainable resource use
<ul style="list-style-type: none"> ▪ Existence of a sustainable forestry policy ▪ Absence of deforestation activities that do not consider adequate reforestation (e.g. REDD+ projects) ▪ Low levels of river sediments (e.g. non-farming on river bank slopes) ▪ Absence of erosion grooves/ gullies ▪ Absence of slash and burn practices for reclamation or hunting ▪ Agroforestry or agro-silvo-pastoral is widespread 	Forestry	<ul style="list-style-type: none"> ▪ Absence of explicit forestry policy ▪ Deforestation is taking place without reforestation ▪ Decrease of forest land and tree population ▪ Replanting of predominantly tree species that have high water consumption ▪ Increased sediments in river streams, muddy waters (e.g. farming on river bank slopes) ▪ Presence of erosion grooves/ gullies ▪ Presence of regular slash and burn practices ▪ Non-integration of trees on agricultural land
<ul style="list-style-type: none"> ▪ Existence of a water policy that is based on integrated watershed management concepts ▪ Presence of farming policies that mainly promote rain-fed techniques, complemented by efficient irrigation approaches ▪ Rivers do not dry up before reaching the estuary ▪ Conservation of aquatic ecosystems (wetlands, lakes) is taking place ▪ Presence of a controlled "safe yield" extraction ▪ Policy of go-day storage, water extraction licences along riversides is in place ▪ Presence of water and resource-related user associations (e.g. river water user associations) ▪ Wastewater treatment and reuse is taking place 	Water	<ul style="list-style-type: none"> ▪ Water policy promotes increased supply and ignores integrated watershed management ▪ Policy mainly targets irrigation ▪ High use rates of available water resources, rivers running dry, fall in water tables ▪ Groundwater extraction is not restricted and falling groundwater levels ▪ Absence of water or resource-related user associations ▪ Non-efficient irrigation taking place ▪ Presence of conflicts between upstream and downstream users ▪ Wastewater treatment and re-use is not taking place ▪ Presence of uncontrolled water pollution

Indicators of sustainable resource use	Resource	Indicators of unsustainable resource use
<ul style="list-style-type: none"> ▪ Presence of sustainable soil policies ▪ Presence of sustainable soil management in agriculture: Diversified crop rotation, ground cover, minimal tillage, fallow, no progressive degradation, perennial crops ▪ Absence or minimal soil erosion (e.g. wind and water caused) ▪ Activities for restoring degraded soils (e.g. 'zai' conservation technique) are taking place ▪ Planting of hedges, trees etc. as field demarcations are taking place ▪ Small-scale structures are in place 	Soil	<ul style="list-style-type: none"> ▪ Absence of explicit soil policy ▪ Excessive use of chemical fertilizers ▪ Extracted nutrients are not replaced ▪ Soils are visibly degraded and encrusted (lateralisation) ▪ Absence of crop rotation and dominance of annual crops ▪ Presence of monoculture production ▪ Absence of fallow and ground cover, annual crops ▪ Presence of invasive tillage and extensive weeds on the farms ▪ Soils are heavily eroded (e.g. wind, water) ▪ Absence of hedges, trees as field demarcations ▪ Large-scale production structures are in place
<ul style="list-style-type: none"> ▪ Pastoralism is appreciated and considered in legislation and policies ▪ For pastoral systems: Absence of over-grazing ▪ Presence of a wide range of pasture grasses and sward ▪ Presence of spacious tree population on pastures ▪ Improved grazing practices are in place ▪ Few conflict/ effective benefit sharing between pastoralists and farmers 	Pasture	<ul style="list-style-type: none"> ▪ Pastoralists are politically disadvantaged ▪ Presence of degraded and overgrazed pastures ▪ Presence of over-grazed areas, vegetation-free areas ▪ Reduced range of grass varieties ▪ Presence of invasive plant species, indicating over-grazing ▪ No improved grazing systems ▪ High livestock densities ▪ Conflicts between pastoralists and smallholders
<ul style="list-style-type: none"> ▪ Presence of nature conservation policies directed to co-resource management ▪ Policies are recognizably implemented ▪ Wild animals and bird species are not declined ▪ Indigenous tree species are not declined ▪ Conversion of ecologically valuable land into agriculture land at large scale (e.g. drying by draining) is taking place ▪ Minimal/careful use of chemicals in agriculture (e.g. in form of an integrated production system) ▪ Agriculture side-products are reused (e.g. in form of organic matter) ▪ Agriculture intensification is ecologically friendly 	Biodiversity	<ul style="list-style-type: none"> ▪ Areas are exclusively assigned for either conservation or productive use ▪ Rapid conversation rate of ecologically important ecosystems into productive land ▪ Population of wild animal and bird species has declined ▪ Indigenous tree and bush species have declined ▪ Decline of crop species and varieties ▪ Decline in livestock breeds ▪ Spread of invasive plant species ▪ Unregulated use of chemicals and absence of organic fertilisation ▪ Conventional agricultural intensification
Source: own table		

Annex 5: Project overview for Afar Region

Project Title	Project partners	Objectives	Affected Woredas in Afar Region	Duration	Budget
Strengthening drought resilience of the pastoral and agro-pastoral livelihoods in the low-lands (Afar) of Ethiopia	KfW, MoANR		9 Woredas in Zone 1, Zone 4		EUR 6 million
Preservation of soil and water resources to improve drought resilience and food security in the arid and semi-arid regions of Eastern Ethiopia	KfW, MoANR	Develop water and soil resources for increased resilience of agro-pastoral production systems.			EUR 10 million
Strengthening Drought Resilience of Pastoral and Agro-Pastoral Population in Ethiopian Lowlands	GIZ, MoANR	Rehabilitate rangeland and farmland in order to enable the local population to manage and use their natural resources in a productive and sustainable way.	Afar: 9 Woredas in Zone 1, Zone 4 Will also extend to Somali Region	2013-2018	EUR 9.4 million
Improving food security and catastrophe risk management to strengthen the resilience in Afar, Ethiopia	GIZ, MoANR			2016-2021	EUR 5 million
Afar Soil Rehabilitation Project	GIZ, MoANR			2014 – 2017	
Tendaho Dam and irrigation Project; and Tendaho Sugar Project	Government of Ethiopia, Private investors from China and India	<ul style="list-style-type: none"> 120 megawatt electricity per annum; 60,000 ha of land under irrigation; 619,000 tonnes of sugar per year of which 50% will be supplied to international markets; 55.4 million litres of ethanol 	Zone 1: Downstream of the Awash River Woredas mostly affected by sugarcane plantation are Afambo, Assait and Dubti.	Project start in 2005, still under construction	n.a.
Kesem irrigation project	Government of Ethiopia, Private investors	<ul style="list-style-type: none"> 10-15 megawatt electricity per annum 30,000 ha of sugar cane plantation 	Zone 3	n.a.	n.a.

Project Title	Project partners	Objectives	Affected Woredas in Afar Region	Duration	Budget
Teru Basin Project (Millennium Development Goal Project)	Government of Ethiopia	To promote the development and management of the untapped water resources of the regions to achieve higher sustainable production leading to higher income and living standards for the inhabitants in the watershed areas.	3 <i>woredas</i> in Zone 4	n.a.	n.a.
Mille Quarantine Station	Government of Ethiopia	To increase the exports value of meat and live animals to 1 billion US Dollar annually by 2015.	1 <i>woreda</i> in Zone 3	n.a.	n.a.
Pastoralists Community Development Project Phase III	World Bank, MoA	To improve access to community demand-driven social and economic services for pastoralists and agro-pastoralists of Ethiopia.	23 <i>woredas</i>	2013-2018	USD 210.2 million (Afar cost n.a.)
Regional Pastoral Livelihood Resilience Project	World Bank, MoA	Enhance livelihood resilience of pastoral and agro-pastoral communities in drought prone areas through regional approach	n.a.	2014-2019	USD 75 million
Productive Safety Net Programme	Government of Ethiopia, CIDA, DFID, WFP, USAID, Government of Ireland	Reducing risk and increasing the resilience of communities to shocks as dictated by factors such as drought, rain fall pattern, water and pasture availability.	All 32 Woredas: All vulnerable in food insecure Woredas/Kebeles, implemented by Provincial and Agricultural Regional Development Bureau of Afar Region.	Since 2008	n.a.
Drought Resilience and Sustainable Livelihoods Programme in HoA (DRSLP) Regional Programme Phase I	African Development Bank AfDB	To enhance drought resilience and improve sustainable livelihoods of the pastoral communities through: <ul style="list-style-type: none"> ▪ Natural Resource Management ▪ Market and Livestock Infrastructure ▪ Capacity Building 	6 Woredas in Zone 1, Zone 2, Zone 4	2013-2017	USD 45 million on loan basis for Ethiopia// USD 20 million for Afar Region
Prime (Pastoralists Areas Resilience Improvement and Market Expansion)*	USAID, Mercy Corps	To increase household incomes and enhance resilience to climate change through market linkages in Ethiopia's dryland areas.	7 <i>woredas</i> in Zone 3	2012-2017	USD 62 million
Agriculture Sector Support Programme (ASSP)	AfDB	To improve rural livelihoods and food security through promotion of small scale irrigation and water harvesting development and sustainable environmental conservation and training.	2 Pilot <i>woredas</i> in the Awash basins	2005-2013	n.a.

Project Title	Project partners	Objectives	Affected Woredas in Afar Region	Duration	Budget
Pastoralists Community Development Project (PCDP II)	World Bank, MoFA	Contribute to (i) increasing the resilience of Ethiopian pastoralists to external shocks; and (ii) improving the livelihoods of beneficiary communities, and thereby to contribute to overall poverty alleviation in Ethiopia.	14 <i>woredas</i> in Zone 1 to 5	2008-2013	Total USD 106 million for all ASALs
Afar integrated Dryland Management Project	UNDP/ NORAD (UNCCD)	To improve the livelihood and coping mechanisms of pastoral communities of 5 administrative by enhancing their capacity to sustainably manage and use natural resources through the implementation of adaptation activities that are identified in the 5 administrative districts.	5 Woredas in Zone 1, Zone 4, Zone 5	2011-2015	n.a.
People centred Resilience Building in Afar	FAO/ Norwegian OV Fund	To enhance agricultural and non-agricultural sector economic growth amongst Afar pastoralists, agro-pastoralists and ex-pastoral communities for improved food, nutrition and livelihood security.	Woredas in Zone 1 to 5	2013-2014	USD 2 million
SHARE (Supporting Horn of Africa Resilience) Programme – Ethiopia programme	ECHO/EC, (NGOs)	Contribute to tackling the underlying causes of food insecurity through integrated actions and strengthening.	5 Woredas in Zone 1, Zone 4, Zone 5	first phase: 2012/2013	USD 63.75 million for Ethiopia
Pastoralists Livelihoods Initiatives II*	USAID, Save the Children, CARE, IRC, and Mercy Corps	To improve and strengthen the lives and livelihoods of approximately 205,000 pastoralists and ex-pastoralists living in 15 <i>woredas</i> in lowlands areas of Ethiopia's Oromia, Somali, and Afar Regional States.	Woredas in Zone 1 to 5	2009-2013	USD 15.9 million for Ethiopia
Water Project (Water, Sanitation, and Hygiene Transformation for Enhanced Resilience)*	USAID, IRC, CARE Ethiopia, local NGOs	To contribute significantly to improving pastoralists' access to clean and sustainable water sources, hygiene awareness and access to sanitation, and rangeland management practices.	3 Woredas in Zone 2, Zone 3, Zone 5	2011-2013	USD 7 million
Putting Community First: Better Health for Pastoralists in Afar	EU/ AMREF Ethiopia	Improve the health and quality of life for the marginalized communities in Afar, Ethiopia, contributing to the achievement of the Millennium Development Goals (MDG).	5 <i>woredas</i> in Zone 3	n.a.-2013	USD 1.57 million

* all projects are part of USAID/Ethiopia Feed the Future (FTF) investment

