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Declaration

I, Siri Hafstad Eggset, declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree.

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Acknowledgements

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Abstract

This thesis examines how the Ethiopian government and the Afar Pastoralist Development Association (APDA) work in practice to reduce people's vulnerability and whether they contribute to 'sustainable climate change adaptation' in Serdo sub-district of Ethiopia's Afar Region. The data collection methods that were used to answer this objective were semi-structured interviewing, observation of development initiatives and document analysis. Findings on relief initiatives such as the government's Productive Safety Net Program (PSNP), APDA's animal supplementary feeding and water trucking, and education, health, water and DRR initiatives are analyzed using theories on climate change adaptation, transformation and dependency, with specific focus on the five principles of sustainable adaptation.

The thesis discovers that the government exacerbates vulnerability through its sedentary development initiatives and that it does not integrate long-term adaptation thinking in its drought relief. With a 'business as usual' approach to development, the government aims to build adaptive capacity through sedentarisation. Pastoralists do not participate in the decision making processes of the initiatives, and the government does not account for local power structures, traditional adaptation strategies or knowledge. Pastoralists thus have to settle down to get access to the government's development and relief initiatives. But since settlement decreases livestock holdings, pastoralists become increasingly dependent on unpredictable and insufficient drought relief such as PSNP food aid and water trucking. Hence, the government has several challenges to address and changes to make to contribute to sustainable adaptation at local level.

Through its community-development approach that focuses on mobility, APDA reduces vulnerability and integrates long-term adaptation in its relief initiatives. Sedentarisation is not a prerequisite to access the organization's initiatives. The organization rather focuses on strengthening pastoralists' traditional adaptation strategies through its development and relief initiatives and gives pastoralists power over their own development process. In this way, APDA contributes to sustainable adaptation at local level.

Whereas settling down can be a viable solution to strengthen adaptive capacity for some pastoralists, it has adverse consequences for those who depend on their livestock. This thesis therefore concludes that development and relief actors should aim to strengthen rather than transform pastoralists' traditional adaptation strategies. The most sustainable way to strengthen traditional adaptation strategies is to empower pastoral communities to take charge over their own development. Both APDA and the government claim that they include pastoralists in the development process, but only APDA takes on a bottom-up approach in practice. The challenge for the government is therefore to practice participation as much in practice as it embraces it in its policy documents.

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Acronyms

APADB   Afar Pastoral Agriculture Development Bureau

APDA   Afar Pastoralist Development Association

ARSWRB   Afar Regional State Water Resources Bureau

CARE   Cooperative for Assistance and Relief Everywhere

CBA   Community-Based Adaptation

CRGES   Climate Resilient Green Economy Strategy

CSI   Climate Smart Initiative

DPFSPCO   Disaster Prevention and Food Security Programs Coordination Office

DRM   Disaster Risk Management

DRR   Disaster Risk Reduction

FDRE   Federal Democratic Republic of Ethiopia

NGO   Non-Governmental Organization

SDPRP   Sustainable Development and Poverty Reduction Program

PCDP   Pastoral Community Development Project

PIM   Project Implementation Manual (of the PSNP)

PSNP   Productive Safety Net Programme

UNISDR   United Nations Office for Disaster Risk Reduction

Figures

Chapter 1: Introduction

Even if the GHG emissions that have led to the current crises of climate changes are curbed, the climate will continue to change (IPCC, 2012; Reid et al., 2009). This will likely lead to more frequent and extreme climate events with potential of escalating into destructive disasters (IPCC, 2012, 2013). Whether those events turn into disasters depends as much on social structure as on the climate event itself, which means that people facing the same climate event might experience different risks exposure (Ribot, 2010). People's capacity to adapt to climatic changes plays a central role in avoiding disasters in the face of increasing climate extremes. It is assumed that actors both within development and disaster relief play important roles in helping communities build adaptive capacity, especially in targeting the most vulnerable and exposed societies. As climate extremes increase both in intensity and frequency, development and relief actors will play more important roles than ever in terms of building adaptive capacity.

For a long time, short-term humanitarian responses and long-term climate change adaptation have remained separate policy spheres (S. Eriksen et al., 2013). When policy makers and development and relief actors see humanitarian responses and climate change adaptation as separate spheres, they fail in addressing the root causes of vulnerability and in building risk management mechanisms (S. Eriksen et al., 2011; IPCC, 2012). As a result, development initiatives sometimes serve their opposite intentions and pose adverse effects on people's vulnerability to disasters (S. Eriksen et al., 2011; S. Eriksen et al., 2013; S. Eriksen & Marin, 2015). The challenge is thus to link short-term responses to longer-term adaptation thinking, and also for longer-term development initiatives to address the root causes of vulnerability (S. Eriksen et al., 2013; IPCC, 2012; Lemos & Tompkins, 2008). These are central issues for policy makers to consider as they aim to shape their development and relief policies in a more sustainable way.

However, what policy makers outline in documents and strategies does not necessarily concur with beneficiaries' realities at local levels. This is a relevant issue to explore in the context of Ethiopia, where the government and other development and relief actors address the increasing climatic changes. Temperatures in Ethiopia are currently rising, with an estimated increase of 3 degrees Celsius within the 2090s (WB, 2013). Projections of more frequent extreme events such as droughts and floods, changing annual rainfall patterns (Lind, Naess, Sumberg, Tefera, & Yirgu, 2014; WB, 2013) in combination with the high food insecurity in

the country (Andersson, Mekonnen, & Stage, 2011) put the Ethiopian people in an extremely vulnerable situation. Droughts and food insecurity have contributed in making Ethiopia one of the world's leading receivers of external aid, and especially food aid (Little, 2008). Government, donors and development agencies argue that these responses to droughts and other shocks are unsustainable, that they fail to contribute to long-term development and that the country's dependence on external aid has led to a 'dependency syndrome' (Andersson et al., 2011; FDRE, 2010, 2013; Harvey & Lind, 2005). The Ethiopian government has thus begun to explore ways to build a green, sustainable development pathway and is currently trying to mainstream risk management into its development initiatives (FDRE, 2002, 2011a, 2011b, 2013).

The government presented participation of local stakeholders in development processes as important aspects in Ethiopia's path toward sustainable development (FDRE, 2002, 2011b, 2013). However, findings suggest that the government in general still takes a top-down approach in its development initiatives (Bass, Wang, Ferede, & Fikreyesus, 2013; Jones & Carabine, 2013; Lenaerts, 2013). This is especially true in the Afar Region, which is mainly populated by pastoralists, with a history of political marginalization (Davies & Bennett, 2007; Dyer, 2013; S. Eriksen & Marin, 2011; S. Eriksen & Marin, 2015; Said, 1997).

The Afar Region in the lowlands of northeast Ethiopia is prone to droughts and is among the most vulnerable regions in the country (Devereux, 2006; S. Eriksen & Marin, 2015). Pastoralism, which is the main economic and social system in the region, is well adapted to the dryland environment (Pantuliano & Wekesa, 2008), and the Afar have traditionally adapted to climate changes through their mobile lifestyle and culture (Davies & Bennett, 2007; S. Eriksen & Marin, 2011; S. Eriksen & Marin, 2015; Hogg, 1997). Despite their well-adapted lifestyles, increasing climatic changes along with 'modernization' development policies constrains pastoralism in Afar (S. Eriksen & Marin, 2011; S. Eriksen & Marin, 2015). It is argued that 'modernization' development policies aiming to transform pastoralist culture and lifestyle are central drivers behind pastoralists' vulnerability (Davies & Bennett, 2007; Dyer, 2013; S. Eriksen & Marin, 2011; S. Eriksen & Marin, 2015; Getachew, 2001; Hogg, 1997). The Afar Region's history of adverse development policies and the predictions of increased droughts in the future make the region an especially relevant area of investigation when studying development and relief approaches in a changing climate.

Scholars present community-based adaptation as a way to counter the top-down tradition of national planning within adaptation (J. Ensor & Berger, 2009; Huq & Reid, 2007; Reid et al., 2009). By basing initiatives on traditional local knowledge, community-based adaptation initiatives build on local culture and are thus more sustainable than top-down initiatives (Reid et al., 2009). The Afar Pastoralist Development Association (APDA) in the Afar Region allegedly adopts a community based approach in its development and relief initiatives. The organization employs pastoralists and trains them as community development workers. This is a contrast to the government's acclaimed top-down approach. Since the Ethiopian government and APDA represent two actors with supposedly differing approaches within development and relief, they provide an interesting basis for comparison. Comparing the two would reveal if APDA actually adopts a participatory approach and if the government is as top-down in its approach as claimed.

Thesis objective

As illustrated, there are increasingly louder calls for a shift towards more sustainable development pathways and for building sustainable adaptive capacity in disaster relief. However, there is still a lack of knowledge about how development and relief actors should do this in practice (S. Eriksen & Marin, 2015). To improve this understanding, it is necessary to examine how relief and development initiatives are implemented in practice and how they affect the vulnerability context at local levels. This leads to the purpose of this study, which is to understand how the Ethiopian government and APDA work in practice to reduce people's vulnerability and to identify whether they contribute to 'sustainable climate change adaptation' in Serdo *kebele* (municipality), Afar Region.

A qualitative case study with semi-structured interviews was executed in the Afar Region during a time period of three months from October to December 2014. Interviews were conducted with nomadic and settled pastoralists at the local level in Serdo *kebele* and with APDA and government representatives at *woreda* (county) and regional level. Due to the qualitative nature of this study and its limited scope to one *kebele*, findings cannot be applied to other settings than this specific case of Serdo *kebele*. This case study can nevertheless contribute to the understanding of how short-term responses can incorporate longer-term adaptation thinking and how development initiatives can successfully address the contextual root causes of vulnerability in pastoral contexts. To transform the business as usual development pathway that reproduces the modernization paradigm which has led to the

current climate crises, it is necessary to gain knowledge of how interventions enable or inhibit adaptation in different contexts. In increasing this understanding, it is possible to reduce the destructive impacts of disasters (IPCC, 2012; Lemos & Tompkins, 2008). This study can therefore be of interest to policy makers and development actors in general, because an increased understanding of how development actors work to reduce vulnerability in a changing climate today is key to understanding how future transformative climate change and development policies should be designed.

Theoretical framework

Climate change adaptation and the sustainable adaptation framework

IPCC provides the following definition of climate change adaptation: "the process of adjustment to actual or expected climate and its effects [and] to moderate or avoid harm or exploit beneficial opportunities" (IPCC, 2014, p. 5). In its narrowest sense, adaptation focuses on addressing climate change impacts in isolation from other social, political, economic and cultural stressors (Adger, Lorenzoni, & O'Brien, 2009). This type of adaptation involves changing according to climate predictions. If successfully designed and implemented, adaptation should result in an equal or improved situation compared to the condition before the shock (Lemos & Tompkins, 2008).

In the context of this study, however, adaptation to climate change is seen in a broader sense – as also having political and social dimensions in addition to climate dimensions (Adger, Lorenzoni, et al., 2009; S. Eriksen et al., 2011; S. Eriksen & Marin, 2015). Adaptation thus involves addressing the multiple causes of vulnerability, such as socioeconomic inequity, power structures, climate change induced stressors and other stressors (S. Eriksen et al., 2011; Finan & Nelson, 2009; Ribot, 2010). From this perspective, adaptation can be defined as "a social process that involves empowering individuals, households, communities, institutions and states, not only to react and respond to impacts of change, but also to challenge the drivers of risk and promote alternative pathways to development" (K. O'Brien, Eriksen, Inderberg, & Sygna, 2015, p. 273).

This type of adaptation happens at different times and scales. Because whereas vulnerability and responses are often local, vulnerability causes – or stressors – are global (Agrawal, 2010; S. Eriksen et al., 2011; Finan & Nelson, 2009; Ribot, 2010). The social and political nature of adaptation and its scope across time and scale therefore suggests that one should build

adaptive capacity because it stretches across time and place and addresses incremental changes as well as longer, transformative processes (Lemos & Tompkins, 2008). To build adaptive capacity, policy makers have to bridge the divide between long-term social transformation and disaster risk reduction. This can be done by implementing appropriate short-term risk management while at the same time addressing the root causes of vulnerability through transformation (IPCC, 2012). Lemos and Tompkins (2008) term this the 'two tiers approach'. To make disasters less disastrous, policy makers, relief and development actors must first address the first tier and implement appropriate disaster risk management strategies such as e.g. early warning systems. They also have to address the second tier and reduce vulnerability through long-term social and political transformation (Lemos & Tompkins, 2008).

Governance, participation and community-based adaptation

Unequal allocation of resources, adverse development policies and other national economic and social structures can influence vulnerability and local adaptation in negative or positive ways (S. Eriksen et al., 2011; S. Eriksen & Lind, 2009). In this way, governance plays a central role in shaping adaptation. Governance is the structures and processes where political decisions – such as development and relief policies – are formed (Finan & Nelson, 2009). Some forms of governance might inhibit community participation and adaptive capacity at local levels (Finan & Nelson, 2009). For instance, S. Eriksen and Marin (2015) show how governance that promotes modernization-based development has adverse effects on Afar pastoralists' lifestyles and adaptive capacity. These adverse effects can be countered by challenging or transforming governance structures by transferring power from those in charge to the most vulnerable in a society.

One way to transfer power to the most vulnerable and challenge governance structures is through community participation (S. Eriksen & Marin, 2015; Finan & Nelson, 2009). Lemos and Tompkins (2008, p. 61) emphasize that only when local communities are empowered, can they break free from "clientelist systems and mobilise for social reform". Empowering communities in adaptation processes thus means a shift in power away from policy makers to local populations, which enables people to choose adaptation practices themselves instead of following policy makers' prescriptions (S. Eriksen & Lind, 2009).

Participation means a shift in power from the powerful to the less powerful, and participation might therefore become a source of power struggle where participation eventually ends up as

a policy narrative that does not concur with practice at local levels (Cornwall & Brock, 2006; Lenaerts, 2013). Although the intentions may be good, authorities and development agencies use participation more as a buzzword to legitimize and boost their actions rather than actually carry it out in practice (Cornwall & Brock, 2006). In these instances, authorities control participation, and the communities or beneficiaries are in practice not involved in the decision making process (Lenaerts, 2013). Participation is thus not only about physically involving individuals in the development process, but also about allowing them to define and characterize their own problems and solutions and giving them power in planning processes (Finan & Nelson, 2009). 'True' participation should challenge, or at least open up for challenging, the dominant governance structure (Finan & Nelson, 2009).

Community-based adaptation (CBA) can be one way to successfully integrate participation into adaption approaches (Huq & Reid, 2007; Reid et al., 2009). Reid et al. (2009, p. 13) define CBA as "a community-led process, based on communities' priorities, needs, knowledge, and capacities, which should empower people to plan for and cope with the impacts of climate change." CBA looks like any other development project. The difference is that it addresses the potential impacts of climate change and builds resilience by integrating risk awareness from both local knowledge and scientific knowledge into its activities (J. Ensor & Berger, 2009; Reid et al., 2009). It is argued that CBA inspires individuals and communities to change their behaviours as well as encouraging decision making at community level (Adger, Dessai, et al., 2009). Through CBA, it can thus be possible to challenge the governance structures that in many instances benefit from adverse adaptation policies. In this way, CBA has the potential of building 'true' participation. APDA might, as mentioned, be an example of an NGO with the potential of delivering CBA.

CBA might also strengthen local, informal institutions (Agrawal, 2010). Local, informal institutions, such as resource sharing, are essential for adaptive capacity in the Afar Region. Development actors need to strengthen these for more effective adaptation (Agrawal, 2010; Agrawal & Perrin, 2009). They can do this by spreading risk over time and space, and across households and asset classes and by enabling purchase and sale of risk (Agrawal, 2010). To accomplish this, development and relief actors must integrate local knowledge and institutions into adaptation initiatives (Agrawal, 2010; Agrawal & Perrin, 2009; S. Eriksen et al., 2011).

Sustainable adaptation and deliberate transformation

Initiatives aiming to build adaptive capacity have to be participatory, accountable and democratic (J. Ensor & Berger, 2009; J. Ensor, Boyd, Juhola, & Broto, 2015; S. Eriksen et al., 2011; Finan & Nelson, 2009; Lemos & Tompkins, 2008). This is because governance systems might have interests in maintaining the adverse development and relief policies of the modernization paradigm because they benefit from them (Adger, Lorenzoni, et al., 2009; K. O'Brien, 2011; K. O'Brien et al., 2015).

When it is participatory, accountable and democratic, adaptation has the potential to channel reform or transformation of the current business as usual development pathway which reproduces the 'winners' and 'losers' of the modernization regime (K. O'Brien, 2011; K. O'Brien et al., 2015). The business as usual pathway is development that claims to be more concerned about social and environmental integrity, but is still mainly concerned with economic growth, driven by the modernization paradigm (S. Eriksen, Inderberg, O'Brien, & Sygna, 2015). It is argued that this development pathway does not recognize or address how different personal values, interests and power structures affect adaptation outcomes, and which consequently means that it has adverse effects on the vulnerability of the weakest in a society (S. Eriksen et al., 2015; S. Eriksen & Marin, 2015; K. O'Brien et al., 2015).

This means that it is not enough only to adjust actions and governance systems according to the predictions of climate models (K. O'Brien, 2011). Rather, adaptation initiatives must actively transform "energy and agricultural systems, financial systems, governance regimes, development paradigms, power and gender relations, production and consumption patterns, lifestyles, knowledge production systems, or values and world-views" (K. O'Brien, 2011, p. 5). In contrast to a narrow approach to adaptation that focuses solely on incremental adaptations according to climate projections and models, a broader approach opens up for deliberate transformation that actively tries to influence the future – independent of climate models (K. O'Brien, 2011). A relevant question to ask is thus *how* development and relief actors can accomplish this in practice.

One way for development actors to initiate deliberate transformation in practice can be through sustainable adaptation. Sustainable adaptation is defined as "adaptation that contributes to socially and environmentally sustainable development pathways, including both social justice and environmental integrity" (S. Eriksen et al., 2011, p. 8). S. Eriksen et al. (2011) identified four principles of sustainable adaptation. First, actors must identify the

vulnerability context and the multiple stressors causing vulnerability. From a sustainable adaptation perspective, one therefore asks questions such as: who are vulnerable, why are they vulnerable and how should they be assisted. The first principle thus accounts for the complexity of vulnerability and focuses on its causes and outcomes, which according to Ribot (2010) is essential in a vulnerability analysis. The second principle states that policy makers and development and relief actors must acknowledge that there are different values and interests connected to any development initiative and that this might impact adaptation outcomes in positive or negative ways (S. Eriksen et al., 2011). In this way, actors can understand how initiatives that protect the interests of one group of people might affect the interests of other groups (S. Eriksen et al., 2011). The third principles states that local knowledge must be integrated into development initiatives (S. Eriksen et al., 2011). This principle is essential in recognising the interests of local populations. Fourth, initiative takers must consider whether there might be feedbacks between local and global processes (S. Eriksen et al., 2011). In other words, whether the initiative might lead to or be affected by global or local processes. The fifth and last principle states that actors must "empower vulnerable groups in influencing the development pathways and their climate change outcomes" (S. Eriksen & Marin, 2015, p. 194). Sustainable adaptation practices thus go beyond incremental, technical adjustments and aims to actively influence development towards a more sustainable pathway. In this way, the principles of sustainable adaptation links to deliberate transformation.

As illustrated, deliberate transformation through sustainable adaptation involves questioning how realities and values have been formed. Chambers (2010) emphasizes that words and language play a central role in shaping people's values and realities. Since it often is the most powerful who define and give meaning to words being used in development, he argues, development actors need to question how they think, what they think, and the rightness of what they do. Then, it is possible to give priorities to the values, concepts and realities of the weakest within development (Chambers, 2010).

According to S. Eriksen and Marin (2015), it is also important to question *why* development actors think the way they do. When addressing the underlying causes of vulnerability and the values and interests behind development initiatives (principles 1, 2, 3 and 5), development and relief actors go through a process that can be termed 'triple loop learning'. This type of learning or reflexive assessment is necessary if humanitarian and development actors are to initiate deliberate transformation through sustainable adaptation. Triple loop learning means

that actors have to ask *why* they implement initiatives the way they do (Tosey, Visser, & Saunders, 2012). It is not enough only to look at what has been done and if it is done in the right way. Triple-loop learning is learning on a deeper lever than single and double loop learning, which only look critically at the manner of actions that are taken or the assumptions which they are based on (Tosey et al., 2012). Triple loop learning thus encourages reflexivity which enables humanitarian and development actors to look critically at the paradigms which form their general approach and particular projects (Tosey et al., 2012).

Triple loop learning is connected to the principles of sustainable adaptation since asking *why* questions the motives and reason behind a project or intervention. This type of learning enables development actors to identify the interests that are connected to the modernization paradigm that influences the business as usual development pathway. The principles of the sustainable adaptation framework can provide tools to break with the business as usual pathway since it initiates a form of triple loop learning for humanitarian and development actors and challenges the motives behind the modernization paradigm.

Key principles of sustainable adaptation	
1.	Recognize the context for vulnerability, including multiple stressors
2.	Acknowledge that different values and interests affect adaptation outcomes
3.	Integrate local knowledge into adaptation responses
4.	Consider potential feedbacks between local and global processes
5.	Empower vulnerable groups in influencing development pathways and their climate change outcomes

Figure 1: The key principles of sustainable adaptation.
Source: (S. Eriksen & Marin, 2015)

'Sustainable' adaptation in the Ethiopian context

The Climate Resilient Green Economy Strategy

The Ethiopian government launched its Climate Resilient Green Economy Strategy (CRGES) in 2011. With the strategy, the government aims to drive Ehiopia toward middle income status within 2025 in a green and carbon neutral way. At the same time, the strategy is supposed to build climate resilience by implementing adaptation initiatives to reduce Ethiopia's vulnerability to climate change (FDRE, 2011b). The strategy is divided into two parts; one

part comprising a Green Economy Strategy and the other part comprising a Climate Resilience Strategy. The strategy's objectives are to foster economic development and growth, ensure abatement and avoid future emissions and build resilience to climate change (FDRE, 2011b). Bass et al. (2013) thus suggest that the CRGES may stand as an example of transformative climate change policy because it tries to reconcile economic growth with sustainability, climate resilience and poverty reduction .

However, early insights into the CRGES suggest that the government still adopts a top-down approach, and that failures to account for different socioeconomic and cultural contexts can have detrimental effects for pastoralists in particular (Eggset, 2015; Jones & Carabine, 2013).

The Productive Safety Net Programme

The Productive Safety Net Programme (PSNP) is supposed to support the CRGES' aims of building local climate resilience. The programme aims to do this by alleviating chronic food insecurity through predictable cash and/or food transfers to chronic food insecure households (Lind et al., 2014; WB, 2013). It is argued that the PSNP helps households avoid asset depletion, increasing coping strategy options in the face of shocks and by building households' general adaptation capacity (Lind et al., 2014).

Even though the intention with the PSNP is to alleviate long-term food insecurity, the programme also has components of relief because it is supposed to increase its transfers and widen its targeting during droughts (FDRE, 2010). In this way, the programme can be said to have both a short-term component aiming to support people through shocks, and a long-term component of promoting sustainable adaptation. Hence, the government is supposed to reduce vulnerability to shocks and promote sustainable adaptation through the PSNP.

The PSNP has a separate interpretation of the programme for pastoral areas, aiming to tailor the programme according to the needs of pastoralists (FDRE, 2009). However, research suggests that the PSNP in Afar is implemented on the basis of the context of the agrarian Ethiopian highlands (Sabates-Wheeler, Lind, & Hoddinot, 2013). As a result, the government fails in targeting the most vulnerable because it does not account for traditional institutions and power structures (Sabates-Wheeler et al., 2013).

The sedentarisation programme

The Ethiopian government also aims to reduce poverty and build adaptive capacity in pastoral areas through sedentarisation (FDRE, 2002). Sedentarisation is "the process of individuals, households, or entire households of formerly nomadic populations settling into sedentary, non-mobile, and permanent communities" (Roth & Fratkin, 2005, p. 8). The government argues that settlement is the only viable option to reduce poverty in pastoralist areas and that cultural transformation of pastoralism is a prerequisite for the sedentarisation initiatives to be successful (FDRE, 2002).

Even though sedentarisation gives pastoralists access to formal education and employment opportunities, it also results in livestock losses, increasing health hazards, child malnutrition and morbidity compared to pastoralists living a nomadic lifestyle (Davies & Bennett, 2007; McPeak & Little, 2005; Roth, Nathan, & Fratkin, 2005). It is thus suggested that the focus on sedentarisation and transformation of pastoral lifestyles and cultures reflect the Ethiopian government's top-down approach, even though the government claims that its strategies are participatory on paper (Davies & Bennett, 2007; Dyer, 2013).

Dependency theories

The government aims to build adaptive capacity through the PSNP, a social safety net based on food aid and by encouraging sedentarisation. The Ethiopian government aims to avoid dependency and disincentives with the Public Works programme in the PSNP (FDRE, 2010). But there are still concerns about 'dependency' connected to aid in general and food aid in particular. This is because it is argued that aid might have negative impacts on recipients' vulnerability since it leads to disincentives to invest in alternative livelihood options (FDRE, 2013; Swift, Barton, & Morton, 2002).

Any negative consequences of relief assistance are often gathered under the umbrella term 'dependency' or 'dependency syndrome' (Harvey & Lind, 2005). Dependency syndrome is defined as "an attitude and belief that a group cannot solve its own problems without outside help" (Harvey & Lind, 2005, p. 9). A dependency syndrome occurs when people anticipate aid and alter their traditional livelihood strategies to get access to it, or if food aid pushes down prices of locally produced cereals and creates disincentives for local farmers to continue cereal production (Devereux, 2006). 'Dependency' undermines initiative, sustainability and self-reliance (Andersson et al., 2011). Hence, the term 'dependency' is often used to describe

the negative consequences of relief, and development initiatives are presented as solutions to dependency (Harvey & Lind, 2005).

For pastoralists, the 'dependency syndrome' means that they change their lifestyles and settle down, anticipating food aid (Swift et al., 2002). This in turn harms their livestock holdings (Swift et al., 2002). However, even though researchers, development organizations and governments state that aid can have harmful impacts, and especially on pastoralists, findings from research on food aid in general and on PSNP in particular indicate that it has not led to a dependency syndrome in pastoral areas (Andersson et al., 2011; Little, 2008). This is because the food aid distribution and amount is often insufficient and unpredictable, and people cannot rely on it in times when they need it the most (Little, 2008). In that way, it is impossible for people to develop a 'dependency syndrome' (Harvey & Lind, 2005). Commentators therefore argue that the dependency syndrome is exaggerated because food aid often represents only one part of a household's many coping strategies and aid is not the only thing that people rely on (Harvey & Lind, 2005; Little, 2008).

Since there is a difference between being able to depend on food aid to come at the right time and developing the qualities inherent in the dependency syndrome, Harvey and Lind (2005) suggest that dependency also should be discussed in positive terms. Because if people can depend on sufficient aid to arrive when they are in acute need, it can help them overcome shocks and buffer other livelihood sources so as to be better prepared for future shocks. Since dependency should be discussed as much in positive terms as in negative, Harvey and Lind (2005, p. 3) suggest a neutral definition of dependency; "A person is aid dependent when they cannot meet immediate basic needs in the absence of relief assistance".

Since it is argued that aid might create a lack of ownership feeling amongst recipients and that relief interventions might undermine development programmes, it is important to focus on empowerment and participation in humanitarian responses (Harvey & Lind, 2005). Empowerment and participation link to the fifth principle of sustainable adaptation. To make aid sustainable and to avoid the 'dependency syndrome', aid agencies must transform the power relationship between relief providers and recipients, and recipients must be allowed to define and influence the aid process. CBA might therefore be a way to channel and enable empowerment and participation in the aid process and serve as a key to avoid 'negative' dependency.

Research questions and thesis outline

Research questions

Since the sustainable adaptation framework can be seen as a way to bridge the academic and practical and as a way to assess development and relief approaches, both the objective of the study and the resulting research questions are guided by the key principles of sustainable adaptation. The overarching research question of this study is: *how do the Ethiopian government and the Afar Pastoralist Development Association build local adaptive capacity to a changing climate in Serdo kebele, Afar Region?*

The sub-questions that link to this overarching issue are also informed by the sustainable adaptation framework, although the first sub-question stands out focusing more on how short-term relief is carried out:

- *How are the government and APDA linking short-term interventions with long-term building of climate resilience?*
- *Do the government and APDA apply a contextual approach to vulnerability?*
- *Are different interests and different values of pastoralists, local leaders, government actors and APDA connected to the development or relief initiatives acknowledged?*
- *Is local, pastoral knowledge accounted for and integrated into the development or relief initiatives?*
- *Are the potential feedbacks between local and global processes in connection to the development or relief initiatives considered by the government and APDA?*
- *Do the government and APDA empower vulnerable groups in influencing development pathways and their outcomes?*

Thesis outline

The thesis is structured in six chapters according to the different relief and development projects that were examined. This was considered most appropriate since the study attempted to analyse each relief and development initiative in Serdo *kebele*. This first chapter has introduced the context and purpose of the study and has provided the theoretical background that will inform the discussion of the empirical findings in the fourth chapter. The second chapter provides insight into methodology and methods that were applied during data collection and analysis and justifications for these choices. The third chapter provides

background information about the study area and the different projects and initiatives implemented by the government and APDA in the study area. The fourth chapter presents general findings about climate perceptions and coping strategies amongst settled and nomadic pastoralists in Serdo *kebele*. The fifth chapter presents and discusses findings from field work in 2014 based on the theoretical framework outlined above. First, the government's PSNP programme and its drought relief aspects will be discussed and compared to APDA's supplementary animal feeding relief. Sustainable adaptation and dependency theories will inform this discussion. Second, findings on education, health, water and DRR initiatives by the government and APDA will be presented and discussed. The last section of chapter five will briefly discuss the government and APDA's overall development approach. Ultimately, chapter six provides the conclusion and recommendations. The thesis concludes that the Ethiopian government has several challenges to address and changes to make to contribute to sustainable adaptation at local level because it exacerbate vulnerability through its development initiatives and does not link its relief initiatives with long-term adaptation. Although there are challenges connected to APDA's approach, the organization manages to connect its relief initiatives with longer-term adaptation measures while partly addressing the root causes of vulnerability through its development initiatives.

Chapter 2: Methodological Approach

Research approach

The thesis set out to identify whether and how the Ethiopian government and APDA contribute to sustainable climate change adaptation through their relief and development initiatives in Serdo *kebele*. The focus is on what the government and APDA do, how they do it, why they do it and whether this builds sustainable adaptation at local level. To answer these questions, a qualitative methodological approach was applied throughout the research. This was considered to be the best way to understand how the two actors in practice work with complex concepts such as vulnerability and sustainable adaptation.

Qualitative research is research on "the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things" (Berg & Lune, 2012, p. 3). As a research strategy, qualitative research generally adopts a constructivist ontology and an interpretivist epistemological stance (Bryman, 2008). Ontology is the perspective of the world and the nature of reality, whereas epistemology is about how we can study this reality and what is considered as acceptable knowledge (Bryman, 2008). The constructivist ontological position adopts a view of the world as socially constructed by individuals (Bryman, 2008). From this perspective, every individual has its own understanding or interpretation of reality. This stance thus assumes that multiple realities exist. The interpretivist epistemological stance is connected to the constructivist ontological position, because if reality is socially constructed, what is considered as appropriate knowledge depends on individuals' interpretations of reality (Bryman, 2008). When following an interpretivist epistemological position, knowledge is considered indeterminate (Bryman, 2008). Following this epistemological position, it is impossible to take an outside, objective stance to knowledge or research. From this perspective, every researcher is influenced by conceptual and theoretical work, and thus cannot start research with a completely open mind (Lund, 2014).

Research design – the case study

Research design is the type of inquiry that provides the researcher with a direction to follow in the research process, and is influenced by the epistemological position (Creswell, 2014). Since this research is based on an interpretivist epistemological stance and aims to understand relief and development approaches rather than explaining them, the case study approach was

adopted as research procedure. A case study entails "a detailed and intensive analysis of a single case" (Bryman, 2008, p. 691). Case studies are labour-intensive, in-depth and usually centers on questions like 'how' and 'why' (Berg & Lune, 2012; Yin, 1994). The case study strategy also opens up for a variety of data collection methods (Berg & Lune, 2012; Yin, 1994) which further makes it an appropriate choice for this study since the research questions implies that information should be gathered through interviews, documents and observation. But this does not answer what 'a case' is. According to Lund (2014, p. 224), a case is "an edited chunk of empirical reality where certain features are marked out, emphasized, and privileged while other recede in the background." This means that a case study is an analytical or social construct of the researcher, who aims to structure and communicate the knowledge gathered from the case in an understandable way (Lund, 2014). The case of APDA's and the government's work in Serdo *kebele* presented in this thesis is therefore not representative to other cases, but may inform and add understanding to similar cases. The case study strategy also has advantages for this particular research because the thesis aims at studying contemporary events that cannot be manipulated (as in e.g. experiments) by the researcher (Yin, 1994).

Applying the case study as research procedure allows the researcher to move from the general to the more specific during field work. Through interviews and observation of parts of development initiatives like e.g. water cisterns, it was possible to map the vulnerability context and to get an overview over the different initiatives in the area. This general information enabled more specific and targeted questions during subsequent interviews with relief or development recipients, government and APDA representatives.

Methods

Sampling approach

Nonprobability approaches to sampling were used to access informants during field work. In nonprobability sampling, informants are chosen because of their availability or their specific qualities and not according to the rules of probability theory (Berg & Lune, 2012; Bernard, 2006; Bryman, 2008). The sample is therefore not representative of the Afar population as a whole. Throughout field work, convenience sampling, purposive sampling and snowball sampling were alternatively used according to the context.

The research site was selected based on specific criteria and availability. The criteria were that the *kebele* should be vulnerable to drought, with history of, or current presence of relief interventions and development initiatives by both the government and APDA. From these criteria, three villages were selected in Serdo *kebele*, namely Serdo town, Bergile and Ilauli.

In the data collection's initial phase, convenience sampling was used to gather general information about Serdo *kebele*, its people, the vulnerability context, and drought response and development initiatives. The information gathered during these interviews formed the basis for more in-depth research and guided the purposive sampling at later stages of the data collection. Purposive sampling is not guided by any rules or requirements as to type of informants or number, but through knowledge of a specific group, event or process (Berg & Lune, 2012; Bernard, 2006). After the general information was gathered through convenience sampling, it became clear that data was needed from pastoralists that had settled down and pastoralists that were still living a nomadic lifestyle. In addition, these initial interviews informed which government offices and bureaus should be contacted for interviews to gather data about relief and development initiatives.

Since the population in Afar is mainly pastoralist and people either migrate or live in small and scattered villages, snowball sampling was occasionally applied. The snowball method can be an efficient way of sampling in rural areas because informants give access to other informants that would otherwise have been out of reach for the researcher (Bernard, 2006). This method proved particularly helpful in reaching informants in Ilauli. This village was located approximately 20 kilometres from the main road, and small, scattered communities formed the village. In Ilauli, the first informants we met guided us to the next informants.

Resulting dataset

62 semi-structured interviews were carried out in total, of which 52 were with local informants from Serdo and Burgudum *kebele*s and 10 were office interviews with APDA and government informants. Of these, seven were with government officials, and three with informants from the APDA office in Logia town. APDA also had three representatives amongst the 'local' pastoralists. One of these informants was still active as APDA coordinator, and two were former APDA community development workers. These informants shared their perspectives as both APDA workers and community members. This provided a useful perspective about APDA's work and the organization's connection to the pastoral

population. The interviews ranged between 30 minutes and two hours in length, with the average interview lasting approximately one hour.

18 informants in Serdo town were interviewed. Of these, one was a key informant; four were business owners living in relatively big, stationary houses and the other were living in traditional Afar houses, relying on their animals or on selling firewood.

13 interviews were conducted in Bergile, with informants that had settled through the government's sedentarisation programme and with people who had settled on their own initiative. Five long[1] interviews were conducted in Ilauli. Several informants in Bergile and in Ilauli were living there on an ad-hoc basis. That is, they stayed in the village while they had access to water and migrated when the water finished. Alternatively, women and children stayed behind in the villages while the men moved with their livestock. Seven pastoralists who were migrating with women and children were interviewed. Eight interviews were conducted in Burdugum *kebele* of Eli Daar *woreda* to cross check data.

It was difficult to get a fully balanced sample in terms of gender because in Afar culture, it is considered extremely rude to speak to a woman before asking her husband or close relative for permission, and it is preferred that one interviews the man first. Hence, out of the 52 local informants, 34 were men and 17 were women. However, these numbers do not provide a nuanced picture of the sample, because several people were usually present during every interview and many women contributed in interviews where men were the main informants.

Research tools: formal and informal semi-structured interviews and observation

Semi-structured interviewing was chosen as the primary data collection method because the method generates in-depth information and insights into informants' opinions, world views and perceptions (Berg & Lune, 2012). These were important elements to capture because the objective of the research was to examine drought responses and development initiatives, which required information about people's opinions and preferences as well as the whole process of e.g. food aid distribution. With open-ended questions asked in a systematic order, this interview method allowed informants to speak freely and the interviewer to probe beyond the standardized questions (Berg & Lune, 2012). Another aspect that made semi-structured interviews an appropriate method of data collection, was related to Davies and Bennett's

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[1] The shortest was one hour, the longest was 3 hours.

(2007) experiences from Afar. According to them, surveys and 'formal' interviews had not proved successful with the Afar in the past because it had generated unrealistic answers. They therefore made interviews as informal as possible.

Interview guides[2] helped to remember essential questions[3] and to maintain a good structure throughout the interviews (Berg & Lune, 2012; Bryman, 2008). The interview guide was not followed in a rigid manner, which allowed for digressions and follow-up questions. The research questions informed the interview guide, and therefore, the interview guide was also based on the sustainable adaptation framework. Three different interview guides were developed; one for community members, one for APDA representatives and one for government representatives.

Semi-structured interviews were sometimes combined with observation of different water development initiatives. Informants presented boreholes, wells or cisterns and talked about their benefits and challenges.

Group interviews

No clearly defined focus groups were held during field work, because the group interviews that were held did not focus on *one* specific topic. This was simply because in Afar Region, almost every 'individual' interview turns into either a group discussion or a series of consecutive interviews where several people stop by and share their opinions, knowledge and experiences for a limited period. Asking people to leave to interview one informant in privacy would be considered rude. Hence, interviews that initially were individual would often end up as group interviews with the dynamics and tensions that often characterize focus group discussions (Berg & Lune, 2012). Even though no clearly defined focus groups were held, many of the group interviews went in-depth in topics that engaged several informants during the same interview, such as sedentarisation.

Key informants

Differentiating between key informants and specialized informants can be a challenging task. Key informants are persons who know a lot about their culture and are willing to share all their knowledge with the researcher, whereas specialized informants have a lot of knowledge about a particular cultural domain (Bernard, 2006). For instance, informants that were part of

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[2] See appendices for attached interview guides
[3] Essential questions focuses on the central topics of the study (Berg & Lune, 2012).

the government's sedentarisation programme were defined as specialized informants that could provide information about how sedentarisation had affected their lives.

In total, four key informant interviews were conducted. These people had access to both specific knowledge about aspects of the research topics and general knowledge about Afar culture and Serdo society. These informants also provided access to research sites and other, specialized informants. Among the key informants were a clan leader, a community member of Serdo *kebele* that was active in the *kebele* government, the founder of APDA and a representative from the *woreda* government. Some of them were mainly contacted in the initial planning of the field work because including them in the whole process could potentially have compromised the relationship to other informants (Bryman, 2008). For instance, it was assumed that local informants who talked about corruption at *woreda* level would not have been as open about these issues if our contact with the *woreda* government politician had continued.

Coding and analysis

According to Bernard (2006), analysis is the search for patterns in data and explaining these patterns. Qualitative methods do not have any clearly defined rules for the data analysis process (Berg & Lune, 2012). Rather, ideas are tested and revised from the offset of the field work, which is all part of the analysis (Berg & Lune, 2012). Interviews were transcribed continuously in-between interviews and memos were written up at the end of every day in the field. This gave an overview over patterns in the data from the start. Sometimes, 'negative evidence'[4] confronted my initial theories and challenged me to look for other information than planned. For example, findings that showed that many people had settled down in the isolated area of Ilauli challenged my initial perceptions that any pastoralists in rural areas were following nomadic lifestyles. This was part of the reflexive attitude that the researcher should maintain throughout the research – the information he or she has and *how* it came about should always be questioned (Berg & Lune, 2012). Hence, continuous analysis and self-reflection throughout the field work process helped to maintain a critical stance to the research.

Content analysis was used as a technique to make inferences from the transcribed interviews. Content analysis is "a careful, detailed, systematic examination and interpretation of a particular body of material in an effort to identify patterns, themes, biases, and meanings"

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[4] Term taken from (Bernard, 2006).

(Berg & Lune, 2012, p. 349). The interviews were read through and colour coded after themes, which were the units of analysis; climate change perceptions, PSNP, supplementary feed aid, water trucking, education, health, water development and disaster risk reduction. Any issues influencing the vulnerability context and peoples' opinions about the initiatives were also coded and analysed. The analysis included both manifest and latent content (Berg & Lune, 2012). This means that the analysis included straight forward description of the content, such as how many kilos of food aid cereals one household received, as well as the meanings of the manifest observations, e.g. what unequal distribution of food aid implied.

After coding, summaries of the findings were written up. These summaries included general findings and quotes that backed up these general findings with detailed information and opinions. Mind maps of post-it notes were used as a brain storming technique. This made it possible to draw some general and rough conclusions and to see how findings were related.

Triangulation

Triangulation is a way to access different perspectives and perceptions about one or more issues and is often referred to as using multiple data collection techniques to combine several perspectives in a study (Berg & Lune, 2012). The researcher strengthens the validity of the findings by using several techniques to investigate the same phenomenon, double-checking answers with several informants and applying different theoretical approaches during the analysis (Berg & Lune, 2012). For data to be valid, the instruments used to collect the data need to be valid (Berg & Lune, 2012). In relations to semi-structured interviews, this means that the questions asked have to be as accurate as possible, providing answers to what the researcher aims to find out. If the research instruments and the data are valid, one can continue asking whether the conclusions and findings derived from the data are valid.

In this study, answers were triangulated through interviews with different stakeholders such as pastoralists, government workers and APDA representatives. This type of triangulation was important because findings showed that information and perspectives that were presented by government officials were not necessarily supported by all pastoralists or APDA workers and vice versa. Observing e.g. water development initiatives also helped verify or disprove the information given at the APDA and government offices. In order to cross-check the validity of findings, eight interviews were conducted with local informants in Serdo *kebele*'s neighbouring Burdugum *kebele* of Eli Daar *woreda*. Using different literature and theoretical

approaches throughout the analysis further enabled triangulation in terms of analysing the data from different angles.

Challenges and limitations

There was limited information about the specific local contexts at *kebele* level in Afar during the planning phase of the research. The research area was therefore chosen after visiting and mapping the context at several potential research sites. Deciding on what type of initiatives to examine had to wait until the basic information of the area was gathered. Even though this posed some logistical challenges at the beginning of field work, it also helped in keeping an open mind when deciding on the research area, and we were not influenced by initial information and assumptions.

There should preferably have been more time for participant observation. With a few more months at the research site, it would have been possible to travel with APDA to observe their DRR training. APDA postponed its training, and it was therefore not possible to observe the organization's DRR work. Two interviews with APDA's DRR responsible were conducted instead. Since the information about the DRR programme came from only one source, it was impossible to verify the information through observation or interviews with initiative beneficiaries.

Some factors might have led informants to either hold back or fabricate false information. Firstly, since I am a young, *farenji*[5] woman, people often (though I repeatedly stated otherwise) believed that I was part of an organization that would provide aid, which might have led them to exaggerate difficulties they faced or leave out information.

Secondly, several people were often present during interviews, which might have affected informants' statements. Political issues were frequently discussed, with people who represented different positions within the traditional hierarchies present during the interviews. This might have influenced the answers from informants who were ranked 'lower' in the local hierarchy. For example, during a morning interview with a member of the elders in Serdo *kebele,* he stated that there were no problems connected to the sedentarisation programme in Bergile. This informant was also present at an afternoon interview with the clan leader, who was ranked higher than him in the local hierarchy. During this interview, the member of the elders expressed contrasting viewpoints from the earlier morning interview, agreeing with the

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[5] Foreigners are usually referred to as *farenji*s in Ethiopia

clan leader that people who join the sedentarisation programme were worse off than the community in Ilauli. This shows how cultural hierarchies can affect informant's answers especially when discussing political issues such as the sedentarisation programme.

Thirdly, many informants chewed *qat* in the afternoons. Some informants became impatient when it was time to chew, and they might thus have kept back some information. However, this was not considered a major problem during field work.

The translator did not have an academic background from the field of development, which posed some challenges. Concepts such as 'vulnerability' and 'hazard' were not easily translated. Although the translator did a very good job and was extremely committed, this might have put some constraints on the way that the questions were posed to the pastoralists. Teaming up with a male translator might have limited some of the female informant's answers, but it also made it easier to access and communicate with male informants.

The language barrier also became evident during some interviews with government officials. In every interview with government representatives, the informants preferred to speak English even though it would have been better to turn to the translator. In some instances, this made it difficult to understand the informant and to ask follow-up questions.

Ethical considerations

Before each interview, interviewees were introduced to the researcher and translator, and informed about the reason for the interview and the topic of the study. Permission to record the interview was always confirmed by the informant.

At the beginning of every interview, it was explained that the reason for the interview was solely to hear what people had to say, to document it and not to provide aid. Even so, informants often asked about what this research would contribute with. Each time this happened, the purpose of the study was carefully explained. In this way, informants were not given promises that would not be kept.

A strict policy about not paying informants was kept throughout the research. There was some discussion about whether a local key informant should get paid, but he provided information and help at his own initiative and also stated that he was not interested in money.

Informants were also promised confidentiality in that their names would not be exposed in any official document. If interviews covered sensitive topics, it was carefully emphasized that

names were kept confidential and that the recorder could be switched off at the informant's request. However, most of the informants who spoke openly and critically about sensitive topics said that they did not care if their names got exposed. They stated that were not afraid of anyone. Either way, this thesis will refer to informants by numbers or by their titles and the offices they represent. For the interviews with community members from Serdo or Burdugum *kebele*s, the name of the location will only be mentioned if it is relevant for the context of the discussion.

Sometimes, it was difficult relating to the local power hierarchies. Preferably, traditional leaders, elders of the *kebele*, and the *kebele* government should be informed and asked for permission before interviewing. In Afar Region, where people often live in isolated areas and from time to time migrate, it was especially challenging to get access to these people. In Serdo, the *kebele* leader was therefore asked for permission first. Apologies were extended to representatives of the elders, and they were asked for permission even though the *kebele* leader already had allowed for interviews.

Chapter 3: Study area, APDA and the government

The study area

Data was collected in the Afar Region of north-eastern Ethiopia, more specifically in Serdo *kebele* (sub-district) in Dubti *woreda* (district). The *kebele* centre, Serdo town, is located about 40 kilometres northeast of Semera, along the Djibouti road (see figure 1: Map of Afar Region – red circle). Some of the *kebele*s in Dubti *woreda* are located along the Awash river. These *kebele*s have sugar cane production and other commercial agricultural projects, whereas *kebele*s in the dry areas of the *woreda* have limited access to water. Serdo is located in the drier areas of Dubti, and both the government and APDA are present with development

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projects and drought relief in the villages of Ilauli, Berghile and Serdo town where interviews were carried out. 1868 people were registered in Serdo *kebele* in 2000[6].

Afar Regional State is known to be one of the hottest places on earth with temperatures sometimes reaching 50 degrees Celsius (S. Eriksen & Marin, 2011). The region covers approximately 278,000 km^2 and borders with Oromia, Amhara, Tigray and Somali Regions (Getachew, 2001). Afar comprises five zones, 29 *woreda*s and 339 *kebele*s (Getachew, 2001). Afar is a predominantly arid region, with Dubti *woreda* receiving only 188 mm rainfall per year in the time period1990 to 2000 (Davies, 2006; S. Eriksen & Marin, 2011). Interviews were conducted in *gilal*, which is the less severe dry season.

One million and four hundred thousand people populate the region, of which 87 percent live in rural areas, and 80 percent rely on their livestock as a livelihood and follow pastoral, nomadic lifestyles (Davies, 2006; S. Eriksen et al., 2011). Even though many pastoralists have entered into additional economic activities during the last decades, most of them have not entirely abandoned pastoralism (Interview with Programme Officer in APDA, 25.11, 2014). Many maintain their pastoral lifestyle, relying on their livestock and exercising their traditional resource sharing, political and cultural practices (Getachew, 2001). A majority of the Afar have also adopted Islamic belief. As Muslims, the Afar have integrated Islamic names, clothing and customs such as e.g. polygamy into their culture (Getachew, 2001).

Figure 3: Map of Study area: Serdo town, Bergile and Ilauli.
Source: **(Google Earth, 2015)**

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[6] Number retrieved from the Pastoral Agriculture Development Bureau in Dubti woreda.

Serdo town

Serdo town is the centre of Serdo *kebele*. There are several small businesses in the village, and the owners benefit from selling food, coffee, tea, firewood and *qat* to truckers traveling to and from Djibouti. Serdo town has a primary school which is open all year and offering classes until 7th grade, a health post, and people have access to water from traditional wells, *boja*s, in a riverbed approximately three kilometres away from the town. People receive PSNP food aid and water from the government, and APDA has built a water cistern that fetches rain water and can store trucked water.

Figure 4: Serdo town.
Source: **(Google Earth, 2015)**

Bergile

Bergile is a village along the newly constructed road running from Serdo town to Afdera. There is not much traffic along this road, so the people in Bergile do not benefit from the location along a main road the same way as the people in Serdo town. There are some settled people in the village who moved from areas along the Awash river to Bergile due to sugar cane development projects. After rain events, the Bergile population has access to water from a dam approximately two kilometres away from the village. When this dam dries up, many people choose to migrate away from Bergile after water and feed. The government built a

permanent school in Bergile in 2005. At the time of fieldwork, that school offered education until 5th grade, but this closes during droughts when the families in the village migrate. At the time of fieldwork, the people in Bergile received PSNP feed aid from the government and water from both APDA and the government. Families with undernourished children also received additional food aid (Plumpy Nut) from Save the Children. The people in Bergile were thus in a more vulnerable situation than the people in Serdo town because they did not benefit from traffic along the passing road, and they only had access to water three months of the year.

Figure 5: Bergile village.
Source: **(Google Earth, 2015)**

Ilauli

Iluali is located close to the border to Eli Daar *woreda*. About twenty kilometres north from the Djibouti road, it is not easily accessible by car. The community in Ilauli cleared a road some years before the fieldwork in 2014 to build a school in Ilauli. There were contrasting reports on whether the road was built through the Public Works programme of the PSNP, with some informants mentioning that it was a PSNP project and other claiming that it was at their own initiative without receiving food aid. The road tends to get damaged during every rain event, and Ilauli is thus still relatively inaccessible by car. The community in Ilauli does not receive PSNP food aid, water or other aid from the government or other organizations. But APDA visited the village during the fieldwork to do a vulnerability assessment. The Pastoral Community Development Prject (PCDP) helped the community to build a primary school,

that at the time of fieldwork offered education until 3rd grade. The community in the *kebele* also contributed financially with 100,000 ETB. The school closes during drought when people migrate in search of water and feed. Even though their location was relatively inaccessible and they did not receive any aid, the people in Ilauli looked to be less vulnerable compared to the people in Bergile because they had more livestock and more milk.

Afar Pastoralist Development Association

APDA was founded in 1993 with the aim to bring health and education services to the Afar Region. The organization started with 34 local volunteers, and employed 1000 pastoralists at the time of research. The organization's objective is to implement education and health appropriate to the pastoralist culture and lifestyle and lower maternal and infant mortality (APDA, 2011). APDA first took on international assistance in 1997 and in 2011 the organization received assistance from about 15 international NGOs and agencies (APDA, 2011).

The organization works with the pastoralist communities as a facilitator and helps them elect community development workers. On the organization's web page[7], it is stated that APDA's development model is built on Afar culture, which is based on clan law and Islamic belief. Local healers and Koranic teachers work as health workers and teachers in their home communities, integrating their traditions into their work. These community development workers are elected by their communities and form community development committees. This work is based on five year strategy plans. In Serdo town and Bergile, APDA assists the government in water trucking and provides people and livestock with vaccinations.

APDA furthermore has adult literacy and non-formal education up to grade four, which is supposed to be accessible and appropriate to the pastoral setting (APDA, n.d). This programme is based on mobile teaching in Afar language, and APDA trains local pastoralists who teach in the communities they grew up in.

In 2013, APDA drilled a borehole in Serdo town, but this was closed one week after drilling. According to the Vice President at the Water Resources Bureau, high levels of fluoride in the water table in the *kebele* make the water undrinkable. In addition to carrying out drought relief programmes such as water trucking, animal supplementary feeding, treatment and

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[7] For more information, see: http://www.apdaethiopia.org

vaccination, APDA has cleared pastureland from *prosopis*[8] weed and constructed feeder roads in remote areas of Dubti *woreda*. In Serdo, APDA has helped the community in Bergile and Serdo town in constructing cement cisterns to collect rainwater and store trucked water. Before the stationary schools were built by the government, APDA had community teachers in Serdo that were moving with the people and "teaching under trees".

Governmental bureaus, projects and programmes

In the Sustainable Development and Poverty Reduction Programme (SDPRP), the sedentarisation programme is highlighted as the most important aspect of the government's poverty alleviation strategy in pastoral areas. It states that "selective settlement programs are believed to be the only viable options in the long run" (FDRE, 2002, p. 70). The objective is to settle the pastoral population, but this might take time since it necessitates cultural transformation (FDRE, 2002). It is stated that pastoralists' traditional knowledge is highly valued in the SDPRP, and the programme emphasizes the importance of pastoralists' participation in development programmes. This programme thus informed most of the government's long term development projects in Serdo *kebele* towards sedentarisation.

The governmental development projects and initiatives that were present in the *kebele* were the Pastoral Community Development Project (PCDP), the Productive Safety Net Programme (PSNP), and supposedly the Climate Smart Initiative (CSI)[9]. However, no observations of the CSI were done in Serdo *kebele*.

PCDP is a government project with vision to "improve the livelihoods and reduce vulnerability of the pastoral and agro-pastoral communities in PCDP 'woredas' through sustainable community driven development interventions" (PCDP, 2014, p. 1). In Serdo, PCDP has facilitated construction of schools in Ilauli and in Bergile.

The government distributes food aid to the community in Serdo through the PSNP. PSNP is a social protection instrument with the objective to "assure food consumption and prevent asset depletion for food insecure households in chronically food insecure *woredas*, while simulating markets, improving access to services and natural resources, and rehabilitating and enhancing the natural environment" (FDRE, 2010, p. 5). Ethiopia is the first country in sub-

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[8] *Prosopis juliflora* is an invasive species in Afar Region, and is one of the most serious environmental problems in the region (S. Eriksen & Marin, 2011).
[9] Government officials at *woreda* and regional level stated that the CSI was in progress in Serdo *kebele*, but there were no findings of this at local level, and it was thus impossible to assess how these initiatives affect people's vulnerability.

Saharan Africa to extend a social protection programme to pastoral areas (Sabates-Wheeler et al., 2013).

The Afar Regional State Water Resources Bureau is in charge of water trucking to Serdo *kebele* and has drilled two boreholes in Ilauli, although without success. The Disaster Prevention and Food Security Programs Coordination Office (DPFSPCO) is in charge of distributing the PSNP food aid in Serdo *kebele*, as well as water during droughts.

APDA and the government in collaboration

APDA and the government collaborate. They plan activities for a whole year together. Every quarter they distribute the activities for the coming quarter. APDA brings a proposal to the relevant government bureau for each activity they want to implement. Representatives from government bureaus and APDA discuss and revise the proposal together, and ultimately sign a memorandum of understanding (Interview with Programme Officer in APDA, 25.11, 2014). APDA tries to work with the government, but in remote areas where the government is not present with schools and health posts (Interview with Programme Officer in APDA, 25.11, 2014).

Chapter 4: Climate perceptions and coping strategies

Climate perceptions

All informants reported that they experience heavier and more frequent droughts today compared to their childhood. The rains are either delayed or entirely absent, and rainfall patterns have changed from three rainy seasons to one. Before, people relied on rain in *karma* (July-September), *sugum* (January-March) and *dedaa* (November-December). Informants reported that today, there is only rain in *karma*, which does not give as much rain as it used to. In addition, the weather is more unpredictable and difficult to analyse. Informants reported that as a result from drought, the land has become more arid. One of the elders in the Serdo town summarized,

> When we were little, there was a lot of rain and the animals gave milk and meat throughout the whole year, but now it is not raining. I cannot analyse the weather anymore, it has become unpredictable – there are no longer clouds in the sky. There is no grass, and the animals have less milk and meat now than what they had before. (Interview with Informant 3, 28.10, 2014)

Every informant thus stated that the weather and life in general was better before. When they talked about 'past life' they referred to the time when they were migrating with their animals after water and feed. They noted that as a result from drought, there is lack of water and feed, and that their numbers of livestock are decreasing. People therefore have less access to milk, butter and meat compared to their 'past life'.

Informants who used to lead nomadic lifestyles but had settled down in Serdo and Bergile reported that they did so because of three reasons; they were either encouraged by the government, they did not have any other choice because they lost their animals during drought or they settled to access education. Every informant in Serdo town and in Bergile reported that their number of livestock decreased after they settled because they have less access to water and feed. As a result, those who have lost all their animals are unable to migrate since they no longer have camels or donkeys to carry their belongings.

Whereas some informants stated that they settled in Serdo town or Bergile because they had no other option since they lost their animals during drought, other nomadic pastoralists reported that they managed to avoid livestock deaths by migrating after water. This might indicate that the nomadic pastoralists who settled down because their animals died were more vulnerable than those who managed to cope with drought. They might have had less livestock than those who coped during drought, less efficient coping strategies or less access to water points due to clan lineage. Even though participation in social institutions secure people's access to small numbers of livestock after a shock so that they can continue leading a nomadic way of life, this is not enough to restock their full herd (Davies & Bennett, 2007). If droughts increase in longevity and intensity and entire communities suffer herd losses, there will be less livestock to transfer to the most vulnerable households (Agrawal, 2010). In situations like these, wealthy pastoralists can cope by purchasing water and animal feed and hire labour to move their herds over longer distances (Sabates-Wheeler et al., 2013). In combination, these factors might explain why some pastoralists in Serdo *kebele* were able to save their animals and continue migrating, whereas others were forced to settle down.

Coping strategies during drought

Every informant in Serdo *kebele* reported that they notice climatic changes in form of less and erratic rainfall, but they still have strategies to cope with these changes. The Afar people have a multitude of ways of coping with drought (Getachew, 2001). Informants in Serdo *kebele* mostly reported strategies that can be classified into four types; migration, resource sharing, purchase of water from Logia town and *boja*.

Migration and implications of sugar cane plantations

The Afar migrate in search of water for themselves and their livestock. For many Afar pastoralists, the areas along the Awash river have historically played an important role for nomadic and semi nomadic pastoralists, ensuring dry season grazing (Said, 1997). Informants in Serdo *kebele* who were living a nomadic way of life said that the sugar cane farming along the Awash river impacts their migration opportunities and their health in negative ways.

After the government started enclosing land along Awash river for sugar cane and cotton plantations, the Afar have lost access to important dry season grazing and water. Three nomadic pastoralists reported that that the government initially gave them land along the river and encouraged them to start irrigation farming, but that after some years, the government

forced them to sell this land to the sugar projects. One of the informants had refused to leave his land, but the government closed off his access to irrigation water and encouraged him and his family to settle down in one of the government's villages. Despite the government's encouragements, these three nomadic pastoralists chose to go back to a nomadic life with their family and animals rather than joining the settlements. This was because they wanted to keep their distance to the government and the sedentarisation programme because they had not yet received payment for the land they reported that the government had taken from them and because they saw that pastoralists are worse off after they join the settlements. Semi nomadic informants in Burdugum *kebele* and nomadic informants in Serdo *kebele* noted that they come in conflict with the sugar plantation owners when their animals enter the sugar cane field, and that they have to pay money to get them back. These pastoralists also noted that there are health concerns connected to the sugar cane plantations. Two pastoralists reported that they and their families get sick from the smoke that comes from the sugar cane as the plantation owners burn it. They also reported that their animals get sick or die when they drink the water in the vicinity of the sugar plantations, and that they therefore choose to move away from the plantations and the Awash river. The sugar cane plantations thus limit the Afar people's access to what has traditionally been their most reliable source of water and dry season grazing, constraining their migration patterns.

Still, every informant that relied on livestock – and especially the nomadic pastoralists – reported that migrating "made them stronger" during droughts. The nomadic pastoralists often compared themselves to those who were permanently settled and stated that they were better off than them. For instance, a nomadic pastoralist who migrated with his entire family said that he refused the government's request to settle: "I refused because those who settled did not get anything [from the government]. We [who migrate] are better off than them now. Those who are settled in for example Aerolaf have nothing now, the government did not fulfil its promised services" (Interview with Informant 7, 29.10, 2014). He noted, however, that settling down would be a feasible alternative if the government delivers the promised services to the settlements, especially water services. Informant 52, a nomadic pastoralist, noted how settlement was bad for his animals:

> We and our animals have no benefits from living in one place because when we move, we can find grass for our animals and then they can feed us and give us milk. But staying in one place is not good for our animals or us… Especially for camels, staying in one place is not good, because camels cannot feed like sheep or goats on only a

little bit of grass. If they do not get a lot of grass, it is not good for them, so they should not stay in one place. (Interview with Informant 52, 30.11, 2014)

In sum, only a few of the nomadic pastoralists who were migrating with their whole family reported lack of water as their biggest problem. It was more common for these people to report education, lack of health services and the sugar cane plantations as their biggest challenges. They mentioned that as a nomadic pastoralist, it is difficult to get transport to the city if they are in need of medical care.

Many of the wife(s) and children of the households in Iluali and Bergile stayed in the villages to access to education. The men, however, continue to migrate with their animals to Dobi or to areas along the Awash river, like Assayita or Kahlo. Most of the informants in Ilauli and some in Serdo town take their animals to Dobi during the day and back to their house in the evening. In that way, their animals can drink water and carry household supplies of water back to the villages. In the villages in Serdo *kebele*, it is thus common for some members of the households to stay behind to access education, whereas other parts of the household migrate to keep their livestock numbers stable. During the driest months of the year, however, it is common for the entire household, including women and children, to migrate away from Bergile to Kahlo or Assayita.

The traditional 'social security system' or sharing mechanism

The Afar people have a traditional 'social security system', where people, and especially family, exchange resources (Davies & Bennett, 2007; Getachew, 2001; Hundie, 2010; Sabates-Wheeler et al., 2013). Participation in this social exchange mechanism is an important source of material security for people during times of stress, and helping people in need by sharing ones resources is also considered a sign of wealth (Davies & Bennett, 2007). One informant in Serdo town pointed out that it does not matter whether people belong to the same family or clan. Those who are in need will get help from relatives or friends in a community, independent of clan or family membership.

In Serdo *kebele*, people without donkeys or male camels lend animals from their neighbours or other people in their community to carry water. If the owner of the animal fetches water in the morning, the neighbour will fetch water using the same animal in the evening or afternoon. They give livestock as gifts at events such as e.g. weddings or to people who experience losses during drought. The Afar also share money with friends and family. This

was pointed out by the translator who said if a friend observed him with money, he would not be able to refuse giving him a small share.

Buy water from Logia town

In times of drought, when the water trucking is insufficient, the community in Serdo town buys water from Logia town through private initiatives. A water committee in Serdo town gathers money from every household that can afford contributing. People pay according to their ability, but nevertheless get equal access to the water. One truck with jerry cans costs 2500 ETB[10] to transport from Logia town to Serdo town. People who depend on buying water from Logia town are mostly those who live permanently in the villages and do not have the option or do not want to migrate. The Ilauli settlers walk to Dobi for water and the inaccessibility of the location makes it impossible to truck water there, or to buy water from Logia town.

Livestock sales

Most informants stated that they did not have enough livestock to supply them with milk and meat throughout the year, and that they therefore sell animals in the market to buy cereals. They contrasted this from 'earlier days', when they had more, and healthier, livestock and could survive on milk and meat. Informants stated that livestock sales, along with the traditional social exchange mechanism, are their main coping strategy during drought. However, they also stated that it is difficult to sell livestock during drought, since the animals usually are in bad shape, livestock prices plummet and cereal prices increase during drought. A common statement was "everything is more expensive now". All informants, independent of herd size, reported that they experience livestock losses, and that this makes it more difficult to cope during droughts.

'Boja'

In Afar language, *boja* means to dig for water. The Afar have traditionally, and continue to, dig in river beds after water. As the hole empties, they dig deeper and find more water. These *boja*s often have water throughout the year, although the amount is extremely limited at the end of a dry period. These holes will fill up with debris and sand during every rain event, and people have to dig new *boja*s.

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[10] Exchange rate at the time of field work: 0,38. 2500ETB = 122,77USD

Chapter 5: Findings and discussion

The Productive Safety Net Programme

Chronically food insecure households are eligible to receive food aid through the government's Productive Safety Net Programme. The government defines chronically food insecure households, or eligible households of the PSNP, as those that "are regularly unable to produce or purchase enough food to meet their food needs, even during times of normal rain" (FDRE, 2010, p. 5). Every member of eligible households should receive 15 kilo cereals every month for six months during one year (FDRE, 2010). Those who are able to work and are 16 years or older should work five days per month in the Public Works programme, receiving 3 kilos of food aid per working day. Children, elders and disabled are classified under "direct support" (FDRE, 2010), which means that they receive the same amount as those involved in Public Works without working. Hence, each eligible recipient of the PSNP should receive totally 90 kilos cereals in one year (FDRE, 2010). In 2013, 1600 people of Serdo *kebele'*s 1868 'inhabitants' were registered beneficiaries of the PSNP. Of these, 1280 people[11] were registered in the Public Works programme, while 320 people[12] were registered as direct recipients (Interview with Natural Resources Officer, APADB, 24.11, 2014).

The government's PSNP can be read as an attempt to increase food insecure household's adaptive capacity to a changing climate through its focus on long-term adaptation and short-term relief. This is because the programme is supposed to make it easier for people to recover after shocks such as droughts and at the same time address long-term vulnerability by reducing food insecurity. Even though PSNP also has aspects of drought relief, the programme represents a type of welfare programme that can serve as a sustainable alternative to short-term drought relief because it has the potential to enable pastoralists to return to their traditional lifestyle after shocks. According to Harvey and Lind (2005) and Scoones (1996), this is essential when making relief more sustainable. It is argued that building welfare systems like this is one step toward sustainable adaptation (St.Clair, 2010). Scoones (1996) argues that food aid or food/cash for work are more sustainable alternatives to drought relief. He claims that drought relief often is "haphazard and uncoordinated, arriving too late and implemented in a poorly though-out manner without analysis of [its] longer-term

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[11] 800 men and 480 women
[12] 140 women and 180 men

implications" (Scoones, 1996, p. 23). However, informants in Serdo *kebele* had not been involved in any Public Works programme the past years before field work in 2014. In Serdo *kebele*, the qualities that Scoones (1996) prescribes for drought relief can be applied to the PSNP; in Serdo *kebele*, the direct food aid support was insufficient and implemented in a poor manner. As a result, the programme does not address short-term response or longer-term adaptation because it is built on an agricultural context and the government does not account for local power structures and traditional adaptation strategies.

When comparing the numbers of registered recipients in PSNP with information from local informants, it is clear that people in Serdo *kebele* do not receive as much cereals as they are entitled to. Even though each member of an eligible household is supposed to receive 90 kg each year, most informants stated that one household usually received 25 or 50 kilos divided between all household members once per year. There are three factors connected to the distribution of food aid that can explain why people in Serdo *kebele* did not receive the amount of cereals that they were entitled to. Firstly, the traditional sharing mechanism that is central in Afar might have compromised the targeting of the chronically food insecure people, resulting in an "everyone are entitled" attitude. Secondly, power structures led to unequal distribution, or 'elite capture'[13], of food aid between the different communities in Serdo *kebele*. And thirdly, these power structures also enabled the already wealthy to divert food aid to themselves and their families through corruption, thus strengthening their positions.

Despite the full family targeting in the PSNP, households in Bergile and Serdo town usually receive 25 or 50 kilos or less food aid *independent* of household size and their general food security status. PSNP uses full family targeting for entitled households, which means that every member of an eligible household should be counted as beneficiaries (FDRE, 2010; Sabates-Wheeler et al., 2013). However, the amount of food aid did not increase with the number of members in a household in Serdo *kebele*, which was an issue many informants pointed out. One informant noted, "Sometimes, they bring cereals once per year, but it is not sufficient. Regardless of household size – whether we are five, ten, or more – they only give 15 kilos per household" (Interview with Informant 7, 29.10, 2014). This supports the findings of Sabates-Wheeler et al. (2013), whose study did not find any relationship between transfer size and number of household members in pastoral areas in Ethiopia.

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[13] Elite capture is a term taken from (Devereux, 2006).

Sabates-Wheeler et al. (2013) attribute the lacking relationship between household and transfer size to the traditional sharing practices in Afar. Harvey and Lind (2005) also claim that aid in general often is shared amongst community members after it is distributed to entitled recipients. Findings from Serdo town and Bergile support these claims. Local informants expressed that everyone were entitled to the food aid. This was especially evident in Bergile, were households took turns on receiving food aid when the amount of cereals were insufficient to support all households. This implies that eligible households sometimes might be left out of the distribution since people agree that everyone is entitled to the food aid. It should be noted that several informants stated that the most vulnerable people such as disabled and elderly received more than others, but this was decided on an ad-hoc basis.

As a result of the attitude that everyone was entitled to food aid, polygamous households where men had several wives received less per person. In the PIM, 'household' is identified as one husband, one wife and the children of this wife (FDRE, 2010). For polygamous households, any additional wives of the husband should be treated as female headed households (FDRE, 2010). This guideline was not followed in Serdo *kebele*. Here, food aid was distributed to the household head, which most often is the husband, and he was in charge of redistributing the food between his wives. Additional wives were not counted as female headed households. This was an issue that informants frequently pointed out, especially male informants with several wives. One informant with four wives talked about how he dealt with this issue:

> In our culture, one man can marry more than one woman. For the first woman, we get full support [food aid], but not for the others… If it is possible, we distribute the cereal between two women. Then we buy cereals from the market for the remaining two. (Interview with Informant 11, 30.10, 2014)

Since the food aid was distributed to the household head and many households were polygamous, gender relations and power structures within the household might have affected the intra-household allocation of food in two ways. Firstly, many men in Serdo *kebele* are addicted to *qat*, of which prices ranged between 150 and 800 ETB[14] per bundle at the time of fieldwork. Since the husbands of the households often are in charge of picking up the food aid and redistributing to his wives, their addiction to *qat* might lead to some of the food aid going missing before it reaches the women. Secondly, even though every man stated that he

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[14] 100 ETB is equivalent to 4,88 USD at the time of writing.

distributes the food aid cereals equally between his wives, internal power hierarchies between the wives might affect the intra-household allocation of food aid. This is because the position of the first wife in a household often is both economically and socially stronger than the junior wife(s) (Evans, 1991).

Because of local power structures and corruption, some people received more food aid than others and some did not receive anything at all – even though people in general agreed that everyone were entitled to food aid. Local power structures and corruption also provide a second explanation of why the amount of food aid in general was insufficient in Serdo. Earlier findings on targeting and distribution of aid in general and PSNP in particular conclude that power structures can dilute food aid targeting and that access to aid is politically negotiated (Devereux, 2006; Harvey & Lind, 2005; Sabates-Wheeler et al., 2013). Sabates-Wheeler et al. (2013) found that households where the head is involved in the *kebele* government have higher chances of receiving public work payments and that wealthier households have equal chances of receiving direct support from the PSNP as poor households. This implies that people in charge use their power to get access to PSNP food aid. Devereux' (2006) findings from the Somali Region in Ethiopia support this and show that community-based targeting often end in 'elite capture'. This means that the powerful elite that distributes food aid diverts most of the food to themselves, excluding less resourceful people from the distribution process. Finan and Nelson (2009) also describe how a 'drought industry' has developed within a patronage-based governance system of drought response in Ceará, Brazil. Local power elites benefit from drought response because relief resources are often distributed according to political allegiance and loyalty rather than need.

Findings from Serdo *kebele* in 2014 also show that local power structures affect the targeting and distribution of PSNP food aid. Political leaders strive to maintain their positions in power by diverting much of the limited PSNP food aid to themselves and ensuring that those who have less remain poor. In Serdo *kebele*, local power structures affected the food aid distribution in two ways; through unequal distribution between the villages and through corruption.

Firstly, food aid was distributed unequally between the villages in Serdo *kebele*. Despite the general agreement in Serdo town and Bergile that everyone were entitled to food aid, people in Ilauli reported that they never received food aid. One informant from Ilauli noted, "sometimes, [the government] forgets those living in rural areas" (Interview with Informant

11, 30.10, 2014). The leader of the elders in the *kebele* said that the Ilauli community was not prioritized when they distribute the grain because it is not enough for everyone either way (Interview with Informant 38, 15.11, 2014). He justified this by claiming that the Iluali community had many livelihood options through access to wood and other commodities that they can sell in the market. He claimed that the people in Serdo town had less access to wood and fewer animals, and that they thus should be given priority when the food aid is distributed. Yet, many of the business people in Serdo town reported that they sell wood, coffee and *qat* and that they benefit from their location next to the Djibouti road. In contrast, the villagers in Ilauli have to walk several kilometres to reach the main road and market opportunities. Hence, the only advantage the people in Ilauli had compared to the settlers of Serdo town was their animals. Other than that, the people in Serdo town had access to more advantages such as market opportunities and a health post. This might imply that the people in Ilauli have less negotiation power in the *kebele* and that it therefore is more difficult for them to access food aid. In this regard, it should be noted that Ilauli had only recently been integrated into the *kebele* (Interview with Key Informant 27, 10.11, 2014), which might explain their lack of negotiation power.

Secondly, the issue of local power relations was connected to local informants' claims of corruption amongst the political leaders that were in charge of food aid distribution. Informants in Bergile and Serdo town claimed that the *woreda* and *kebele* government members divert large shares of the food for themselves, their family and friends and that they sell it to markets. Three informants gave examples of how corruption was carried out:

> If my brother is the head of the *woreda* and he is a rich man, and I am poor and choose to go to another country, to Eritrea, he tells me to come back. Instead of giving me the help that comes from the government, he takes it for himself. He wants me to live here in my country – poor – and not leave. He wants to be rich himself, but he does not care about the poor. (Interview with Informant 24, 09.11, 2014)

> The organizations want to help the people, but the government sits as an intermediator between the people and the organizations and collects all the [aid] that they propose to give to the people. They say that we want to make the Afar state green, and then they corrupt [the aid]. They share it among themselves – the *woreda* leaders, the *kebele* leaders, and the regional state officials. No [aid] comes to the people. And also, they

only give half a kilo [of food aid], which you have to share between two households. (Interview with Informant 8, 29.10, 2014)

Those people that get help from the government are wealthy. Those areas that get help are wealthy, but we who are poor do not get help. Those areas that get help are better off than us… The government does not bring cereals for six months. They come in the sixth month and give us half of the cereals we are supposed to get. It means that there is something missing. (Interview with Informant 35, 14.11, 2014)

Two younger women stated that *kebele* leaders who are in charge of distributing the food aid, give more food aid to business owners: "[T]hose who have money, especially the shop keepers, get more [food aid]. And when the amount of cereals decreases in this area, they sell it for a high price" (Interview with Informant(s) 48, 29.11, 2014).

These examples of corruption illustrate how social relations and power structures affect adaptation outcomes at local levels (Devereux, 2006; S. Eriksen & Lind, 2009). Moreover, it shows how people form relations across multiple levels (e.g. institutional and individual levels) to strengthen existing power structures and gain access to marginal resources during droughts (S. Eriksen & Lind, 2009; Nagoda & Eriksen, 2015). People in power can use relief or development initiatives to maintain or strengthen their positions if these initiatives are carried out through the power structures that create vulnerability in the first place (S. Eriksen et al., 2011; S. Eriksen & Lind, 2009; S. Eriksen & Marin, 2015). This was evident in Serdo *kebele* in that *kebele* and *woreda* leaders reportedly diverted large parts of the food aid to themselves, their relatives and the already resourceful people such as business owners. This results in a situation where people do not receive the amount they are entitled to, and in some cases like in Ilauli, nothing at all. The government has thus failed to take into account how local power structures might affect the ways that food aid are distributed and diverted, which has led to increasing inequalities at local levels in Serdo *kebele*, exacerbating the vulnerability of the already vulnerable.

One female informant furthermore suggested that the government should hand out flour rather than cereals because the PSNP also impacts women's workload and health. Women in Serdo *kebele* stated that their working days had become longer since droughts are harsher and longer than before. They thus have to spend more time or walk longer distances to fetch water and wood. In addition, they spend up to five hours grinding flour when they come home. This

results in physical pains in back and chest. Every female informant stated that, along with increased drought, grinding flour was the biggest challenge in her life.

In sum, it can be concluded that the PSNP does not contribute to sustainable adaptation in Serdo *kebele*. The way that the PSNP was designed at the time of fieldwork, allowed people in power to use their position to get access to the food aid resources at the expense of the poorest. This increases inequalities and exacerbates vulnerability in the *kebele*. The PSNP will only continue to worsen existing inequalities at the local level unless the government accounts for the political nature of adaptation and development in its initiatives. Policy makers must therefore transform the power structures that reproduce the system that they benefit from (Adger, Lorenzoni, et al., 2009; S. Eriksen et al., 2011; K. O'Brien et al., 2015).

PSNP and 'dependency'

There are concerns that food aid might lead to a dependency syndrome amongst pastoralist and other beneficiaries (Devereux, 2006). But with the Public Works programme in the PSNP, the government aims to avoid dependency and disincentives (FDRE, 2010). However, since there was no Public Works programme in Serdo *kebele* at the time of fieldwork, the issue of dependency becomes a relevant issue to explore.

It is argued that there is a difference between being dependent on food aid to the degree that it creates disincentives and to be able to depend on it to serve as a way to buffer other resources so as to be better prepared for future shocks (Harvey & Lind, 2005). When people can rely on food aid and when it saves lives, it should be termed *positive* dependency (Harvey & Lind, 2005; Little, 2008). But when people change their economic and social behaviour because they know when and how much food aid they can anticipate, it is termed 'dependency syndrome' (Harvey & Lind, 2005; Little, 2008). If it is not possible to rely on the food aid, people will continue to engage and invest in traditional or alternative livelihood strategies (Harvey & Lind, 2005). Informants in Serdo *kebele* consequently reported that they did not know when they would receive the food aid or how much to expect. Every informant also stated that s/he did not depend on it because it was not sufficient. Hence, informants in Serdo *kebele* were neither depending on feed aid in a negative nor a positive way.

The findings presented above have shown that informants could not rely on sufficient PSNP food aid to arrive at times when they needed it most. They reported that the food aid was only sufficient to feed a household for a maximum of three days, depending on the household size.

Most of the 'settled' pastoralists thus stated that even though they received food aid, they still relied on their animals to survive like they always had, because "If we depend on [the food aid], we will die from hunger" (Group discussion with Informants 43, 27.11, 2014). Another informant noted, "Since we sell our animals, we do not depend on the cereals" (Interview with Informant 28, 11.11, 2014).

One informant more specifically reported that the grains he received through PSNP did not make his household stronger in facing climate change. He noted that

> [The food aid and water trucks] have not changed the way we used to deal with climate change, because we finish the help in three or four days. And then we have to go back to walk after water and feed for our animals. For example, in one house of four or five people, the help is not sufficient. (Interview with Informant 4, 28.11, 2014)

In sum, these statements and the findings presented above imply that the PSNP food aid neither has led to disincentives for people to strengthen or engage in traditional livelihoods, nor that it has modified people's social and economic behaviour. The food aid has furthermore not changed the way that people traditionally cope with climate changes. This supports the arguments of Little (2008) and Harvey and Lind (2005), showing that insufficient and poorly timed food aid does not lead to disincentives associated with the dependency syndrome. Informants did not show any signs of 'laziness' or disincentives to engage in traditional livelihoods as a result of the food aid programme. Hence, PSNP has not imposed any qualities inherent in the dependency syndrome on the informants in Serdo *kebele*.

However, due to the poor timing and insufficient amounts of food aid, people in Serdo *kebele* cannot depend on the PSNP in a positive way either. Since people cannot depend on the food aid in a positive way, they are forced to sell their livestock during droughts. People thus mainly depend on their livestock like they always have, which leads us to APDA's animal supplementary feeding relief.

PSNP and supplementary livestock relief

With the PSNP food aid, the government aims to help people to level out their consumption so that they do not need to sell their productive assets (e.g. livestock) during droughts (Andersson et al., 2011). PSNP is thus supposed to protect both people and livestock during droughts. However, research shows that the Afar still sell their livestock even though they

receive PSNP food aid (Andersson et al., 2011). Findings from Serdo *kebele* support the findings of Andersson et al. (2011) because every informant that was asked how s/he coped during drought, reported that s/he sold some of the household's livestock to buy food. Hence, PSNP does not protect livestock, or livelihood assets, during droughts because people still have to sell their livestock to buy food. In contrast, eight informants in Serdo *kebele* reported in 2014 that APDA provided them with feed for their animals during drought some years earlier, and that this helped keep their livestock alive. Instead of food aid, APDA focuses on animal supplementary relief, and the organization highlighted animal feeding as an essential part of its relief programme in its brief from 2011. Animal feeding is direct feed assistance to livestock during shocks such as droughts.

In Serdo *kebele*, informants relied on selling their animals because the PSNP food aid was insufficient and unreliable during droughts. The government is supposed to scale up PSNP distribution amounts to programme participants and expand it to non-participants during droughts (FDRE, 2010). Still, local people in Serdo *kebele* and the Natural Resources Officer at the Pastoral Agriculture Development Bureau (PADB) in Dubti stated that no extra transfers are distributed during droughts. One informant noted how this made him rely on his animals like he always had: "If the food aid was enough for the entire family I could depend on it, but the 15 kilos are finished within two days. I'm depending on my animals only" (Interview with Informant 7, 29.10, 2014). Hence, since PSNP is insufficient and unpredictable, the programme does not meet its objective to enable people to level out their consumption so that they can avoid selling their productive assets – which are the livestock – in times of drought. This implies that relief should target livestock directly instead of aiming to secure them indirectly through unpredictable and insufficient food aid programmes.

The central role of livestock for Afar's self-sufficiency and livelihoods are also important factors that imply that humanitarian actors should focus more on feed aid as a relief method. Even though all the settled informants in Serdo town, Bergile and Ilauli reported that the livestock herds decreased when they settled, their goats and camels were the backbone of their livelihoods.[15] Informant 32 illustrated how important livestock are as he informed that he sometimes gives his PSNP food aid to his animals. Not only does this show that feed aid is more important than food aid for this informant. It also implies that if more feed aid were included as a complementary relief method to food aid, more of the food aid would be used

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[15] With exception of the business owners in Serdo who made a living out of e.g. selling coffee or *qat*.

according to its purpose because people would not be forced to give their food aid to their livestock to keep them alive.

The reason why this informant chose to give food aid to his livestock was because he considered the livestock more important than the food aid in terms of keeping his family alive. Livestock were more important because they brought multiple benefits, securing his livelihood. He compared APDA's feed aid to the PSNP and stated,

> When I compare what the government and APDA does, I would say that they are the same. APDA helps the animals, the government helps the humans. But it is a little bit better for us that they help the animals. If a man brings you food, it cannot do anything for you. But if the man brings food for your animals, you will get to sell your animals in the market, and you will be strong because of what you have and what you are selling in the market. (Interview with Informant 32, 13.11, 2014)

Informant 32 also underscored that relying on an unpredictable food aid system was a challenge, and that this prevents people from being self-sufficient:

> When someone gives you something, you will do nothing – you will not even look to your surroundings. He will stay with what is brought to him. What will you do for me, he will ask. But whatever you can do for yourself, even if it is only a little bit, will make you feel stronger…If you have a farm, you will plough it yourself and you will feel confident. If you get another person's help, you don't know how much you will get and you will be waiting for it. You will perhaps expect more than what you get. If they bring half a kilo when you are expecting more, it is a problem. You will live in hope. But if you live on your own farm, it will be better since you will know how much it will bring for you and you'll do everything yourself. (Interview with Informant 32, 13.11, 2014)

Even though Informant 32 here pointed to the problems of dependency and disincentives connected to aid handouts, this quote also underscores his wish to be self-sufficient. For pastoralists, livestock are the key to self-sufficiency and adaptation to a variable environment (Davies & Bennett, 2007; S. Eriksen & Marin, 2015; Getachew, 2001; Scoones, 1996). This is in part because livestock enable them to participate in social exchange mechanisms[16] such as

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[16] Also referred to as the social security system, or sharing mechanism in other sections.

hosting guests, giving gifts in e.g. weddings or helping community members who have suffered losses during droughts or other shocks.

According to Davies and Bennett (2007), participation in this social exchange mechanism is one of the most important adaptation strategies for the Afar. Development or relief initiatives that aim to diverse the Afar's livelihoods and do not consider the central role of livestock within the social exchange mechanism might serve their opposite intentions (Davies & Bennett, 2007). This is because diversification away from livestock and pastoralism means less access to the exchange mechanism, increasing pastoralists' insecurity and vulnerability when facing shocks (Davies & Bennett, 2007). The challenge is therefore to identify strategies that build on and complement pastoralism. One example of such a strategy is APDA's supplementary livestock feeding. If the feeding helps livestock survive droughts, it will help the Afar to maintain their social exchange mechanism.

The social exchange system in Afar can be seen as an informal, local institution that pastoralists have developed over time as a way to adapt to a changing climate. Agrawal (2010) emphasizes that informal institutions such as these are essential for successful adaptation strategies. Hence, civic and public institutions such as APDA and governmental bureaus should work with and base their adaptation initiatives on local informal institutions.

According to Agrawal (2010) and Agrawal and Perrin (2009), adaptation initiatives can support local informal institutions by strengthening five different analytical risk management categories. These risk management categories are migration, storage, diversification, communal pooling and market exchange (Agrawal, 2010; Agrawal & Perrin, 2009). Migration ensures risk spreading over space, storage ensures risk spreading over time, diversification ensures risk spreading across asset classes, and communal pooling ensures spreading of risk across households (Agrawal, 2010). Access to markets ensures purchase and sales of risks and can substitute any of the other risk spreading mechanisms (Agrawal, 2010; Agrawal & Perrin, 2009). For pastoral communities, migration is the most common risk spreading mechanism.

By using Agrawal's (2010) framework, it is possible to show that feed aid can strengthen households' risk management strategies, which according to Davies and Bennett (2007) is essential to the Afar's security. Increased focus on feed aid as a drought relief method might enable pastoralists to keep their livestock herd alive and thus distributes risks over time. If feed aid keeps livestock alive, pastoralists can continue migrating and distribute risks over

space. Maintaining a healthy herd of livestock furthermore enables pastoralists to participate in communal pooling or wealth sharing through the social exchange mechanism, and thus distribute risks across households. Feed aid also enables market exchange in that it enables people to sell their animals in the market after shocks since it increases livestock's chances to survive drought. Feed aid does not necessarily enable diversification, but according to Davies and Bennett (2007), this might be beneficial since diversification strategies that do not account for the Afar's social exchange mechanism might exacerbate their vulnerability.

In contrast, the PSNP is a welfare programme based on top-down handouts of food aid that does not account for the already existing adaptation mechanism in the Afar's resource sharing or the central role of livestock in maintaining this informal social security system. The PSNP does not target pastoralists' livelihoods or their 'strategic needs'[17], which means that it does not contribute to a more equal and satisfactory organization of society for pastoralists. Instead, the PSNP merely increases households' aggregate benefits, or access to food, so that they do not have to sell their livelihood assets. Interventions that solely focus on increasing the aggregate benefits of poor households are according to Agrawal (2010) inappropriate adaptation strategies. This is because they do not take into account how these households can avoid fluctuations in their livelihoods or change the organization of society in a more equal and satisfactory way for the marginalized (Agrawal, 2010; Agrawal & Perrin, 2009; Moser, 1989).

Moreover, increasing a community's resource access without addressing how power structures influence individuals' access to these resources are bound to fail (S. Eriksen & Marin, 2015; Nagoda & Eriksen, 2015). This was evident with the PSNP in Serdo *kebele,* because food aid handouts did not account for how power structures might influence the adaptation outcomes of the PSNP. In contrast, the feed aid aims directly at strengthening pastoralists' livelihoods and helps them to continue with their traditional adaptation strategy through livestock transfers, thus avoiding the power structures and interests connected to food aid.

Hence, adaptation initiatives should take advantage of and strengthen already existing adaptation strategies in local communities (Agrawal, 2010; Davies & Bennett, 2007; J. Ensor & Berger, 2009). In its brief from 2011, APDA stated that blanket and food aid relief

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[17] The term 'strategic needs' is taken from Moser (1989). Moser uses the term to describe strategic gender needs, which refers to the need of a more equal and satisfactory organization of society to address women's subordination. However, the term can also be applied to any marginalized groups such as e.g. pastoralists.

targeting is not acceptable because it undermines the Afar tradition of inter-clan assistance (APDA, 2011). The Programme Officer in APDA also criticized food handouts and hinted that it does not address the underlying reasons for malnourishment: "The solution is not in treating the malnourished. That's not the solution. That is a band aid or cover-up. The solution is to rehabilitate livelihoods, to get back the use of the land" (Interview with Programme Officer in APDA, 25.11, 2014). This shows that APDA is aware of the possible detrimental impacts that food aid programmes might have on the social exchange mechanism, and that the organization recognizes that food aid does not address the structural causes of vulnerability.

In its brief, APDA also stated that it is a challenge to convince the donor community of the advantage of keeping people's livestock herds stable (APDA, 2011). This reflects the overall lack of acceptance and integration of local values within the international development and relief arena. This is because donors and humanitarian actors are influenced by the modernization paradigm that drives the business as usual approach to development. It may well be that business as usual has developed a global patronage-based governance system as the one in rural Ceará described by Finan and Nelson (2009). This governance system benefits from environmental crises by increasing authorities' access to resources that they distribute to the most powerful in a community to enhance their power base (Finan & Nelson, 2009). As a result, the adaptive capacity of the local population diminishes.

Building adaptation initiatives on existing cultural norms is a prerequisite to get local acceptance (J. Ensor & Berger, 2009). However, the findings presented above imply that the targeting system of the PSNP food aid has not been accepted in Afar because it is not built on their resource sharing culture. Even though the government embraces participation of pastoralists in development and states that it values pastoralists' traditional knowledge in the SDPRP, the PSNP is designed on the agrarian context of the Ethiopian highlands. The food aid programme is based on an overall poverty reduction strategy aiming to transform pastoralists' culture and livelihoods (FDRE, 2002). When asked about whether the PSNP is appropriate for the Afar context, the CARE consultant of the CSI answered the following:

> There is no practical guideline [on how to implement PSNP in a pastoral area]. PSNP has worked for the last six or five years, but the new [pastoralist] manual came this year – but we have not had any guideline for how PSNP should work in pastoralist areas for the past five years! Now, when the programme is remaining with one year to end, the guideline has arrived. So it is a joke, really. In every development aspect,

these people are very marginalized. (Interview with CARE consultant to the CSI, 24.11, 2014)

Hence, by implementing a welfare programme that is based on a highland and agricultural context, the government marginalizes pastoralists by neglecting their interests and values. In this way, the government managed to promote its interests of settling pastoralists, which in turn have influenced the adaptation outcomes of the PSNP in Serdo *kebele*. In contrast, animal supplementary feeding connects long-term thinking with short-term relief because it focuses on sustaining livestock, which is what the Afar rely on in their everyday lives and during droughts. Little, McPeak, Barrett, and Kristjanson (2008) argue that emergency interventions that focus on maintaining livestock herds are important ways to reduce poverty in pastoralist areas.

APDA thus bases its animal relief on local knowledge and takes account for pastoralists' interests in maintaining healthy herds of livestock, and thus meets the second and third principles of sustainable adaptation. Including local knowledge in adaptation initiatives is tightly connected to the second principle of acknowledging that different values and interests are negotiated through adaptation efforts (S. Eriksen & Marin, 2015). By acknowledging pastoralist interests' in maintaining healthy livestock herds, APDA challenges the interests that political leaders have in settling pastoralists and in benefiting from unequal distribution of food aid.

The supplementary feed aid that APDA provides in times of drought does not necessarily target the key drivers of vulnerability even though it addresses livestock loss, which is necessary to achieve sustainable adaptation (S. Eriksen & Marin, 2015). This is because animal relief does not address issues such as sedentarisation and decreasing access to pasture land, which are the reasons for increased livestock losses in the first place. But when the feed aid is seen in the context of APDA's overall development approach, it adds to the understanding of how adaptation strategies that build on local culture, values and priorities have potential to deliver transformational development. Policy makers and relief actors should therefore give feed aid more attention as a complementary drought relief method in Serdo *kebele*. This is because the PSNP food aid, as it was implemented at the time of field work, neither protects people nor livestock in times of drought and because feed aid can be a way to integrate long-term adaptation in relief.

Education: formal sedentary schools and mobile education

Formal sedentary schools

All three villages in the *kebele* have sedentary primary schools. At the time of fieldwork, Serdo town had education until 7th grade; Bergile had education until 5th grade and Ilauli until 3rd grade. At the time of fieldwork, parents had to send their children to Logia town, Dubti town or Assayita if they wanted their children to continue for secondary education. Since that is expensive and it means that they lose important labour resources at home, most students at the time of fieldwork dropped out of school after 7th grade.

Education is considered as a way out of poverty, as insurance against drought and, in the long run, as adaptation to climatic changes for pastoralists (Siele, Swift, & Krätli, 2013, p. 207). Accessing formal education can be an important way for pastoralists to reduce risks, because if one child accesses formal employment, it can guarantee security for the entire household (McPeak & Little, 2005). Still, scholars argue that formal sedentary schools do not resolve the trade-off between accessing education and maintaining pastoral livelihoods (Siele et al., 2013). This section will give insight into the government's formal sedentary education initiatives and APDA's mobile non-formal education and discuss how these initiatives have affected Serdo communities' vulnerability and adaptive capacity.

The government states in the SDPRP that lacking education and health facilities are some of the biggest constraints for pastoral development, and that this is due to pastoral mobility (FDRE, 2002). Therefore, the government has begun to focus more on pastoral education, and especially sedentary education (FDRE, 2002). Even though one of the strategies for pastoral education in the SDPRP is to provide mobile education services for pastoralists who continue migrating, the main focus is on developing sedentary schools because it considers mobility as the main reason for the lack of education and health facilities.

It is, however, argued that since policy makers bases education initiatives in pastoral areas on an idea of sedentary living, pastoralists will have to abandon their traditional adaptation strategies, culture and values to access formal 'modern' education (Dyer, 2013; J. Ensor & Berger, 2009; Roth & Fratkin, 2005). Specifically, findings from pastoral areas in Kenya show that as pastoralists settle down to access modern, formal education, their traditional values and knowledge erode (Dyer, 2013; J. Ensor & Berger, 2009). Pastoralists that settle down without opportunity to diversify their livelihoods also become poorer and more

vulnerable to shocks because their livestock number decrease along with access to water and feed (Dyer, 2013; Little et al., 2008).

Pastoralists thus have to pay higher costs to access education than other people who live sedentary lives because they lose important parts of their livelihoods and culture. This was also the case in Serdo *kebele,* where most of the informants stated that they settled down to access education, often encouraged by the government. One informant in Bergile stated, "We came here to benefit from the school. The government told us that we will bring food for the students, water for you and food for you. You will get all the services you need – you have to live here" (Interview with Informant 37, 14.11, 2014).

Every business owner that was interviewed in Serdo town stated that life was better after s/he had settled because the household got access to education and other livelihood opportunities than rearing livestock. Most of these business owners emphasized that education was so important that they did not see any other alternative than to settle down. Informant 9 – a woman running a small business selling *injera* and coffee – said that she lost her animals after settling down, but that she would not go back to a nomadic pastoralist lifestyle because it would prevent her from sending her children to school. A man who lived in a big house in Serdo town and made a living by selling firewood and *qat* stated,

> We don't have any animals, so we are following the way of education… [Life] is better now because our children get education. Before, we were suffering without school, but we had animals. We see that people with education have jobs. You cannot go anywhere without education today. So now it is better. (Interview with Informant 40, 23.11, 2014)

This informant's overall economic status had improved after he settled down, and he considered his household generally less vulnerable compared to when he was migrating with his livestock. Still, he was not able to send his children to secondary school:

> I have to cut education in 6th grade because of financial problems. [My daughter] is in grade 6, but next year she will not continue. If you have money, you can go to school, or if you have relatives [in Logia town] they can house your child for a whole year and make food for them. (Interview with Informant 40, 23.11, 2014)

When a man who is relatively well off reports that it is difficult to finance secondary school, that raises questions about the costs for the less resourceful people in the *kebele*. For people

who did not have access to alternative livelihood opportunities, accessing education had higher costs than for the business owners.

The costs of accessing education were especially high for the people in Ilauli and Bergile since they did not have the same livelihood diversification opportunities as the people in Serdo town. Informants in Bergile who did not run businesses reported that even though they got access to education, life "became worse" after they settled down. This was mainly because their livestock died due to less access to water and feed. One informant in Bergile stated, "Most of us are afraid of settling here. We face problems when we come here to teach our children" (Interview with Informant 17, 01.11, 2014).

The community in Ilauli also faced problems when they settled down. One elderly woman stated that she settled close to the school in the village to get access to education, but that her household became more vulnerable after they settled because there is no water in the area during dry periods. Another common problem that was mentioned in Ilauli was that the children have to walk for many hours to reach school and their parents have to carry water supplies from far away. The teacher in Ilauli said that it is easier for children in Serdo town to attend school because they have access to water in a *boja* close by and they do not have to walk for hours to reach school. The costs of accessing education are thus significantly higher for the pastoralists in Ilauli and Bergile than for the business owners in Serdo town.

For many informants in Bergile and Ilauli, the costs of accessing education are too high, which means that they have to take their children out of school and go back to migrating after water and feed. Seven informants in Bergile reported that they migrate to areas along the Awash river when the dams in their vicinity dry up, and all seven stated that every household that has the opportunity to move from Bergile during droughts, leave for areas along the river. They take their children out of school, settle along the Awash river and come back to Bergile at the next rain event. Their children thus miss out on teaching for at least eight months of the year. Due to lack of water access, Bergile had thus suffered population losses, and the school had lost many students:

> There were 130 families in Bergile before, but because of the lack of water, 35 families have migrated from this area. Thirty students have gone with their families because of water and food problems. Weekly, when one water truck comes, it doesn't fulfil all the people's needs. Our biggest problem is water, but there are also problems

for the students who are learning, since they do not have access to water. (Interview with Informant 17, 01.11, 2014)

The issue of migration was pointed out by government teacher, who noted that droughts make it impossible to convince people to settle in one area:

> Drought is the one thing that makes people move and what makes it difficult to convince them to educate their children. If you convince some people in one area to go to school, they would come to school when there is water around. Once that water disappears, they will go to another area. So some teachers go with the people, but not many. (Interview with Informant 51, 29.11, 2014)

These quotes illustrate the conflicting interests between keeping a healthy herd of livestock and accessing formal education. The people in Ilauli and Bergile have to pay higher costs to access formal education than the people in Serdo town, because they are dependent on livestock and do not have access to alternative livelihood opportunities. This makes them more vulnerable to drought after they settle since their livestock die as a result of less access to water and feed. The people in Serdo town, on the contrary, benefit from their location along the Djibouti road and can engage in alternative livelihoods. They are therefore not as dependent on their livestock as the Ilauli and Bergile communities, and thus not as inclined to migrate.

Two of the business owners in Serdo town argued that pastoralists who take their children out of school to migrate in search of water do not want to educate their children because of 'backwardness'. Interviews with nomadic pastoralists and people in Bergile and Ilauli who migrate during droughts, however, show that this is not the case. All these informants expressed wishes to educate their children, but migration is the only way they can keep their livestock alive. Informant 7, a nomadic pastoralist, noted, "The biggest problem is that while other children are going to school, my children are moving from place to place and therefore cannot continue with their education" (Interview with Informant 7, 29.10, 2014).

Another informant in Bergile who migrates once the dam in the vicinity dries up, noted that even though he takes his children out of school, he nevertheless values the benefits of education. He noted,

> We should thank the government for building a school, because if people get educated, it will help us. But until that time, there are many ups and downs that will keep our

children from reaching that goal… We have to teach our children. Even if one person from this area goes to university and graduates, he will help his society. (Interview with Informant 35, 14.11, 2014)

Hence, the people in Bergile and Ilauli and the nomadic pastoralists take their children out of school out of necessity and not 'backwardness'. What some people in a community see as 'backwardness' is rather an adaptation strategy in the face of drought. This is because the costs of settling down to access formal 'modern' education for many are too high because they lose their livelihoods. This confirms Eriksen and Marin's (2015) arguments that some people in a community might have interests in embracing the government's 'modernization' development pathways, whereas others might have interests in sticking to traditional adaptation strategies. In Serdo town, business owners embraced the government's sedentarisation project since they benefitted from it, whereas those who did not benefit turned back to their traditional adaptation strategies.

Mobile education

Both APDA and the government had mobile teaching programmes at the time of fieldwork. APDA practiced informal, mobile education, and the government had formal mobile education initiatives while focusing more on convincing nomadic pastoralists to settle down and enrol their children in formal, sedentary education.

The government has education committees that travel to rural areas to convince nomadic pastoralists to enrol their children in school. One informant was a member of such a committee. He stated that

> Even if people refuse to enrol their children in school, we try to convince them by showing them the benefits of formal education and giving them practical examples. For example, we bring an Afar from the city with education to talk to them. He writes something and then reads it out loud to them. If we give that text to the pastoralist's child who is only taking care of the animals and not going to school, he will not know how to read it. In that way, we convince them to bring their children to school. We tell them that the government will give them more attention if they teach their children. They will have a new life and get work in the cities and build their homeland. (Interview with Informant 50, 29.11, 2014)

This quote shows that the government has interests in enrolling pastoralists in formal education. Because pastoralists that access formal jobs can also formally contribute to the national economy – or "build their homeland".

Cultural transformation is highlighted by the government as key to successful sedentarisation and to reduce poverty in pastoral areas (FDRE, 2002). From the interview with the Early Warning and Response Coordinator at the DPFSPCO, it was also clear that enrolling pastoralist children in the boarding school system was part of transforming the pastoral culture:

> We have to educate people. If people are educated adequately, they will strive to change their lives as an individual, as a community, as a society. So we have to focus on education. Therefore, we have a strategy to provide education. We have boarding school systems at the focal points in each and every zone. (Interview with Early Warning and Response Coordinator at DPFSPCO, 12.11, 2014)

Hence, even though the government has mobile teaching programmes, the goal in the long run is for pastoralists to enrol in formal, sedentary education and to transform their culture and way of life. The government aims for education to motivate pastoralists to change and 'improve' their lifestyles. Formal, sedentary education is thus based on the government's preconditions of settlement and cultural transformation. This shows how education systems remain "oriented towards 'educating pastoral children out of pastoralism'" (Siele et al., 2013, p. 206).

When the government constructs sedentary schools in areas where people have no other means of creating alternative livelihoods and no access to other social services such as health posts and water, it exacerbates people's vulnerability to a point where the costs of enrolling children in formal education for many pastoralists are too high. The lack of additional social services, such as access to water and health posts, in areas such as Bergile and Ilauli compromises the government's goal of educating children, since families are ultimately forced to migrate.

Since the costs of settling down to access education are too high for many people in Serdo *kebele*, mobile schools can be an alternative to enable those who depend on their livestock to continue migrating and at the same time access education. In these programmes, pastoralists get training and go home to teach in their communities. One informant used to be a director

for all the APDA teachers, but at the time of the interview he was part of the government's mobile teaching programme. This informant said that he teaches "under the trees" when the communities are staying in one place. When they migrate after water, he goes with them and talks to the teacher at the nearest school in the new settlement area to make sure that the children can join that school. He is responsible for giving his students their exams at the end of the year. He furthermore said that the teachers the government sends from the highland in Ethiopia refuse to teach in the rural areas of Afar Region, and that it therefore is more common to hire Afar pastoralists to teach in the mobile teaching programme.

In contrast to the sedentary education policy, mobile education is based on pastoralists' terms because it enables them to continue with their traditional adaptation strategies and at the same time educate their children. This can have double positive effects on pastoralists' adaptive capacity because pastoralists avoid losing their livestock through sedentarisation and because education reduces pastoralists' vulnerability to shocks (Little et al., 2008; McPeak & Little, 2005). Since mobile education initiatives are based on nomadic pastoralists' terms rather than the terms of policy makers, it also means a shift in power from policy makers to local communities, which is one step toward sustainable adaptation (J. Ensor et al., 2015; S. Eriksen et al., 2011; S. Eriksen & Marin, 2015).

APDA's non-formal mobile education as well as the government's mobile education programme can thus help increase long-term adaptive capacity for pastoralists who rely on their livestock and do not have access to other livelihood opportunities. When the government focuses more on encouraging pastoralists to settle to enrol their children in school than on mobile education without ensuring access to additional services such as water, it exacerbates pastoralists' vulnerability. As one informant in Bergile stated, "We have lived here a long time because the government promised to build a school and bring teachers. They built the school and they brought teachers, but they did not bring water, so now we have to move" (Interview with Informant 35, 14.11, 2014). The challenges for the government in this regard are therefore to focus more on its mobile education programme, but also to ensure access to water and health services in areas where it initiates sedentary education initiatives.

Health: sedentary health posts and community health workers

The government's sedentary health posts

When it comes to health in Afar Region, the Ethiopian government focuses on sedentary initiatives by building health posts. APDA focuses mostly on educating health workers. Serdo town was the only village in the *kebele* with an active health post. In Bergile, the government was in the process of constructing a health post, but it was not yet completed. People in Bergile along with the community in Ilauli thus lacked access to health services, and at the time of fieldwork, it was only the community in Serdo town that had access to a health post in the research area.

Most of the informants in Serdo town who did not run businesses were not satisfied with the health post. They stated that they got limited medical attention there, and that they had to go to Logia town to buy medicines. Informant 23 reported that their two-year-old daughter was dying because they did not have access to medicines at the health post, and could not afford taking the child to the hospital in Logia town. Compared to many other informants in Serdo town, her household was in a vulnerable situation since she did not run any business or benefit from their location along the main road. She stated, "There is no medicine here. There is a doctor [health worker or nurse], but he cannot do anything without medicines. The government can only provide an ambulance for pregnant women, but not for sick people" (Interview with Informant 23, 09.11, 2014). Another informant from Serdo town noted,

> There is a health post here, but there is no medicine. If it does not have medicine, it does not do anything for us. Without medicine, it is better not to build a health post… There is a doctor [nurse or health worker] in Serdo, but he cannot do anything. (Interview with Informant 24, 09.11, 2014)

Whereas people who depended on their livestock expressed discontent, business owners and other community members with access to alternative livelihoods mostly stated that they were satisfied with the health post in Serdo *kebele*. Informant 42, who was running a small business selling *injera*, coffee and *qat*, referred to the people who claimed that they did not benefit from the health post and stated, "People have different ideas. We know that there are problems sometimes and that medicine can be late when we order it. Otherwise, we always

get medicine… People can pay for syrup or other medicines" (Interview with Informant 42, 23.11, 2014).

Hence, as in the example with the sedentary education initiatives, there are contrasting opinions within the community in Serdo *kebele*. The relatively well-off business owners embrace the government's sedentary health posts and the most vulnerable without access to alternative livelihoods reject it as insufficient. They regard it is insufficient because they cannot afford medicines and their livelihood deteriorate when they settled down. For the most vulnerable in Serdo town, the health post did not reduce risks or exposure to droughts or other shocks. If people settle down to get access to health services and these services are inadequate, it rather increases their vulnerability.

Even though the community in Ilauli did not have access to a health post, informants claimed that they were better off health wise than the people living in more densely populated villages such as Bergile. One informant in Bergile stated that there are many sick people in Bergile, and that he became more vulnerable to diseases after he settled there because he lost his livestock: "Before, we had our animals, so we were healthy. Now, there are no animals, so we are easily attacked by diseases" (Interview with Informant 36, 14.11, 2014). Three informants in Ilauli stated that they benefit from living isolated from other households and villages because diseases do not spread as easy that way. One of the informants in a group discussion in Ilauli, a woman, aged 60, stated,

> Living like the people in Bergile, a place which has not got all its facilities fulfilled – without a health post – people coming there will bring different diseases that are transferred between weak people – the small children, the elderly and women. But those who live scattered will not be attacked by diseases that easily. Even if they have a health facility, those who have a disease will spread it to other areas. These diseases will not come here since we live far away from each other. (Group discussion with Informant(s) 43, 09.11, 2014)

If a pregnant woman in Ilauli needs to go to the hospital to give birth, however, she will have to walk or ride a camel to the main road and get access to a car. This was also the case with acute illnesses and injuries. Hence, in some areas where the government does not have health posts or where the health posts do not provide adequate services to all members in a community, APDA's community health workers can help increase adaptive capacity.

APDA's community health workers

Other than building one stationary clinic for women in Mille (APDA, 2011), APDA has focused on educating local health workers who spread their knowledge to their pastoral communities (Interview with Programme Officer in APDA, 25.11, 2014). One informant from Burdugum *kebele* in Eli Daar *woreda* used to work as a health worker for APDA for 12 years. After one month of intensive training in Logia town, she went back to her community to teach pastoralists about hygiene and health issues. She focused especially on women's training, teaching them how to maintain a good personal hygiene for themselves and their children, cleaning cups and cutlery, burning rubbish and how to use mosquito nets. She travelled with other community workers to different *woredas* and spent 20 days in one community teaching before going home for 20 days. For this, she earned 500 ETB per month. She was also responsible for alerting APDA about pregnant women so that they could bring them to the maternity clinic in Mille. She stated that she hoped the communities benefited from her teaching, and that they continued using the knowledge they gained in practice.

Another informant confirmed that her community continues to use the knowledge they gained from APDA's health education some years before the fieldwork. She stated,

> [APDA] told us that we had to learn, but they didn't give us anything [material assets]. Now, we clean the plates and the cups, we burn the rubbish. Everything that they have been teaching us, we still practice… It was good to learn such things. It was good for our health. We know what we did not know before. It opened our eyes. (Interview with Informant 49, 29.11, 2014)

APDA's health training thus enables pastoralists to hold on to their traditional adaptation strategies and – if they prefer – to continue migrating with their livestock without missing out on access to development initiatives.

The health training also gives pastoralists control and power over the development process through participation. Participation is a central aspect for successful adaptation and it should challenge, or at least open up for challenging, the dominant governance structure (S. Eriksen & Marin, 2015; Finan & Nelson, 2009). APDA's bottom-up engagement of community development workers aims to complement rather than challenge the government's sedentary initiatives, and it does not directly challenge the government's business as usual development pathway. But the organization's engagement of local pastoralists nevertheless indirectly

challenges the modernization paradigm on which the government's development policies are based.

In contrast, findings show that the government does not engage local stakeholders in its health projects. The government had hired workers from other regions to construct the health post in Bergile, even though community members expressed that they would have liked to contribute. Informant 17 expressed resentment towards the government in connection to this and said,

> They think that all Afar people, like them, are ignorant, that we don't know anything and that those who come from other regions are educated people. They think that we cannot even pick up a stone and put it on top of another. (Interview with Informant 17, 01.11, 2014)

Local participation is thus not only necessary to build sustainable adaptation initiatives (J. Ensor & Berger, 2009; S. Eriksen & Marin, 2015), it is also necessary to avoid alienating the local communities from the development initiatives. These findings confirm Hodgson's (1999) statement that development initiatives in pastoralist areas still struggle with a lack of participation and bottom-up engagement of local communities. APDA's focus on community development workers such as local teachers and health workers might thus be one step toward successful bottom-up engagement of pastoralists in development initiatives.

Through its mobile health education, APDA contributes to sustainable adaptation because it recognizes migration as an adaptation strategy and also gives people in isolated areas access to basic health and hygiene knowledge and education. The government's health initiatives are located in sedentary villages, encouraging people to settle down. Even though access to health posts have the potential to reduce the vulnerability of the people living in those villages, the findings in this section show that if the qualities of these services are poor and medicines either are absent or expensive, health posts will not contribute to sustainable adaptation at local levels.

Water development projects

Boreholes

It is stated in the SDPRP that sedentarisation initiatives should go hand-in-hand with irrigation projects (FDRE, 2002). The government states that without access to subsurface water and irrigation, sedentarisation is bound to fail (FDRE, 2002). Still, all the settled informants in Serdo town, Iluali and Bergile reported that lack of water was their biggest challenge since they did not have access to subsurface water. Therefore, both APDA and the government had initiated alternative water development projects in the *kebele* such as cisterns and shallow wells. APDA and the government's water initiatives were fairly similar, with a mix of traditional and modern solutions. However, most of these initiatives suffered from a lack of maintenance and some were out of function. This section outlines the water development projects in Serdo *kebele* and discusses how weaknesses in these projects have led the communities either to migrate away from the villages or to become dependent on water trucking.

The government tried to drill two boreholes in Ilauli approximately three and five years before fieldwork in 2014, and APDA tried to drill one borehole in Serdo town in 2013 (see figure 6).

Figure 6: Borehole drilled by APDA in 2013.
Closed one week after drilling (Photo: Siri Eggset, 2014)

There were some communication issues between the government and the local stakeholders in the *kebele* in regard to these boreholes. People in Ilauli and Serdo town were frustrated because even though they had tried to drink water from the wells, all three wells were closed

within one week after drilling. Most of the informants did not know why, but some of them, including an informant that was active in the local government, said that the water was "for Highland[18]". Informants thought that the government wanted to bottle and commercialize the subsurface water. The Vice President at the Water Resources Bureau, however, said that they had found high levels of fluoride in the water and that this was the reason for why they closed the wells.

Informants also expressed frustration over how the government had failed to deliver its promises to them of access to subsurface water – promises that are also explicitly outlined in the SPRSP. Informants in Bergile stated that the government had convinced them to settle in the village by promising access to subsurface wells and education. But these promises fell short and every informant in Bergile expressed frustration over the current situation. They therefore said that life was better before, when they were migrating:

> [The water situation] was better before. Now, we have less access to water. Before, if the water finished in one area, we moved from that area to another to search for water. Now, we are in one place even though we should move to other areas (Interview with Informant 17, 01.11, 2014).

Cisterns and traditional dams

Failures in repairing or maintaining water initiatives have been presented as one of the continuous problems with development initiatives in pastoral areas (Hodgson, 1999), and this was also the case in Serdo *kebele*. APDA has built a cement cistern in Bergile and the government has built a similar cistern in Serdo town. These cisterns are supposed to fetch rain water and serve as containers for trucked water, but only the cistern in Serdo town was functioning at the time of fieldwork. Whether built by the government or APDA, cracks in the cement were regular problems in all the cement cisterns that were observed in Serdo and Burdugum *kebele*s. The former APDA teacher coordinator stated that the cement cracked easily because of poor construction work:

> The problem with the cement dam [cistern] is that those who get the contract to make it don't care about it. They only care about their property and profit. They don't use enough cement because they don't care about whether it lasts for a long or a short time. If they make the cement in a good way and the cement gets to really drink the

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[18] The Afar term the commercial Abysinnia Water bottles as "Highland".

water, it will not crack. So it is not the problem of the dams or the area, it is those who have the contract. (Interview with Informant 51, 29.11, 2014)

At the time of fieldwork in 2014, the cistern in Bergile (see figure 7) which APDA helped construct had been out of function for some years. Cracks in the cement made the cistern leak, and at the time of field work, the community was still waiting for assistance to repair it. The cistern thus neither caught rain water nor contained trucked water at the time of fieldwork.

Figure 7: The cement cistern that APDA constructed in Bergile (Photo: Siri Eggset, 2014).

Following dependency theories, this lack of maintenance could be attributed to lacking initiative amongst the local communities because of the disincentive effects from external aid (Harvey & Lind, 2005). However, the local APDA coordinator said that the community in Bergile could have repaired the cistern themselves if it had been a dam without cement. But since the cistern is made of cement, it is too expensive to maintain and they do not know how to repair it. Contrary to what dependency theories might suggest, the failure to maintain the cistern in Bergile was not due to a lack of interest or incentive within the community. It was rather due to APDA's failure to train and teach the local community in how to repair the dam and to account for the possible maintenance cost.

In instances like these, when communities do not receive training in how to maintain a cement cistern or when maintenance is too expensive, a traditional solution such as a dam without cement (see figure 8) might be a better alternative. Both the government and APDA assisted the communities in Serdo *kebele* with building traditional dams. These dams do not contain

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water as well as a well-functioning cement cistern, but they still have several benefits. Vegetation grows up around these dams, and they thus provide both water and feed for livestock. In addition, one informant noted that it was "nice for the eyes to look at green areas" (Interview with Informant 50, 29.11, 2014). Hence, as long as cement cisterns remain poorly constructed and project implementers do not teach communities how to maintain them, helping local stakeholders digging dams without cement could be a better solution. The local communities will then have both knowledge and means to maintain the projects themselves since the dams are based on traditional knowledge and only require natural materials such as clay and rocks.

Even though the communities did not manage to maintain the water development projects themselves, these findings show that they did not simply sit around and wait for help. If more of the development initiatives were based on local traditional knowledge, people would probably have maintained the constructions at their own initiatives. But as long as communities do not know how to do it or lack the means, they will have to wait for help to repair the constructions. Since they were not able to repair the constructions themselves, and since neither the government nor APDA assisted them in maintenance, people became increasingly dependent on external water trucking.

Figure 8: Dam constructed by the government, with help of local communities.
Located approximately 10 kilometres away from Ilauli (Photo: Siri Eggset, 2014)

*Boja*s

The government had also constructed a cement version of the traditional *boja* in Serdo town, covering its sides with cement and setting up a pump (see figure 9). The well did not contain enough water for the pump to function, so people used buckets and ropes.

Three out of four informants that were asked preferred the traditional *boja* over the government's cement version, even though that meant that they had to dig the well anew after every rainfall event. This was because digging deeper after more water in the cement well would make the construction collapse.

Even though the government tried to integrate traditional knowledge of *boja* into this water development initiative, it nevertheless partly failed. This was because it did not integrate all aspects of the traditional knowledge about *boja* in the project. Even though the cement *boja* relieved people from digging anew after every rainfall, people had less access to water from that specific *boja* after the development initiative because the government had not taken into account that people need to dig deeper as the water decreases.

Water projects are often referred to as adaptation initiatives, but in Serdo *kebele*, they have rather had a negative influence on people's vulnerability since they have not provided people with water. As people settled down to access water services and both APDA's and the government's sub-surface water initiatives and other water development initiatives failed, people's vulnerability to droughts increased. Neither APDA nor the government's observed water development initiatives have therefore contributed to sustainable adaptation in the *kebele*.

Water trucking as drought relief

Due to the partly unsuccessful water development projects in the villages in Serdo *kebele*, informants reported that they depended on external aid such as water trucking. It was only the community in Ilauli that was completely self-sufficient and travelled to Dobi to fetch water for their households. Even though dependency theories suggest that water trucking, which is drought relief, leads to disincentives, the attitudes of the people in Bergile and in Serdo town proved otherwise. Due to the insufficient and unpredictable water trucking in Serdo town and Bergile, people migrate or buy water privately.

Both the government and APDA truck water to the communities in Serdo town and Bergile. The Vice President at the Afar Regional State Water Resources Bureau said that water trucking is the only alternative to bring water to the communities in Serdo *kebele* during droughts, and that they truck potable water when the community water committee reports drought in the *kebele*. In their brief from 2011, APDA wrote that they delivered water to drought victims in Dubti *woreda* over a total period of 14 months. Two trucks were hired per day, which delivered 26,000 litres each day (APDA, 2011).

The Vice President at the ARSWRB stated that the government does not truck water daily during 'dry' periods because one truck of water is sufficient for one week. According to local informants, however, one truck lasts maximum a couple of days in Serdo town, whereas in Bergile, it does not even last for one day. One truck will only supply each house with one jerry can of water. Hence, insufficiency was, similar to the PSNP, an issue with the water trucking in Serdo *kebele*.

Another issue with the water trucking was unpredictability. In Serdo *kebele*, a community water committee weekly reports to the *woreda* office about the water situation in the *kebele*. Since they know the normal rainfall patterns, it is possible for them to predict droughts. They therefore report about drought weeks in advance because they know it will take time to get help, and they never know exactly when they can expect the water trucks. Informant 35, who is a member of the community water committee, said,

> We actually report it when there is water in this area. When you go there to tell them that there is no water in our area, they say there is no money so we wait for this water for three months. (Interview with Informant 35, 14.11, 2014)

As with the PSNP, the water trucking is marked by insufficient and unpredictable supplies. As a result, all informants stated that they lack water during dry periods and that they either have to bring water from Logia town themselves or migrate to areas along the river:

> Those who don't have any options, those who have students in the school and want them to continue, bring water from Logia town with their money. If they do not have money, they take credit from their relatives or from other people and bring water back to their children. (Interview with Informant 35, 14.11, 2014)

It was especially informants in Bergile who reported migration as a key coping strategy. They noted that 35 families had chosen to leave the village, even though they initially settled down to get access to education and other benefits. However, the lack of water had forced them to move. Some informants elaborated on how migration was the final option for many people:

> They [the government officials] bring [water] when we tell them that we are thirsty. If the government does not bring water during drought, we move from this place to the road around Assayita. There is no school at that time. We take our children and we go. We leave this place, and then we come back [when there is water in the dam]. (Interview with Informant 28, 11.11, 2014)

For many of the community members in Serdo *kebele*, migration was thus the best solution to solve the water problem, but at the ARSWRB, migration was pointed out as a problem that made it difficult to deliver water services. The Vice President stated, "They have no permanent place. So when you want to supply water to the community, the community should be settled... So the big problem is that people are scattered" (Interview with Vice President at ARSWRB, 25.11, 2014). In the Vice President's opinion, sedentarisation makes it easier to bring water to the communities. However, for the villagers in Bergile, the water issue became more pressing *after* they had settled down because of the deteriorating water development projects and insufficient water trucking.

Even if the communities in Serdo *kebele* reported that they depend on water trucking, these findings show that the water trucking has not led to disincentives or laziness suggested by dependency theories. Similar to the PSNP distribution, the water trucking is too unreliable and insufficient to create disincentives. When the water trucking fails, informants resort to traditional adaptation strategies such as migration or they buy water on their own initiative.

The lack of water in the area compromises the objective of the PSNP because some informants sell the food aid to afford water from Logia town. If people sell the PSNP cereals to buy water, the programme will not reduce food insecurity, thus failing to meet its objective.

That some people sell their food aid to buy water underscores the previous arguments that pastoralists do not consider food aid cereals as the most important priority in their livelihoods. Every informant noted that the lack of water and the unpredictable water trucking was a more pressing issue than access to food. In a group discussion in Bergile, it was stated,

> Our biggest problem is water. Most of the time, we ask for water and not for food. We do not care about the food, but it is difficult without the water. Sometimes, [the government or APDA] brings water automatically, but other times it takes a while before we get help. (Group discussion with Informant(s) 13, 31.10, 2014)

Since the government initiated development measures such as stationary schools and health posts *before* assuring water access in the area, water trucking has become a long-term solution to solve the water issue in Serdo *kebele*. Water trucking is usually considered drought relief, but even in dry periods that are not normally considered as 'droughts', the communities in Serdo town and Bergile depend on water trucking. Both APDA and the government's water trucking is insufficient and unpredictable, which puts the Serdo communities in an increasingly vulnerable situation as they report that temperatures rise and precipitation patterns become less predictable.

As a result of the government's drive toward sedentarisation, people in Bergile and Serdo town have become dependent on unreliable and insufficient external help. This underscores the conflict of interests between the central government's interest of settling pastoralists and integrating them into the market economy and many pastoralists' interest in maintaining a healthy herd of livestock. The continuous water trucking and the issues with the PSNP thus confirm that "[a]id contributions are outrageously low, slow to produce results and based on misguided development paradigms" (St.Clair, 2010, p. 188).

Disaster Risk Reduction strategies

No direct observations of APDA or the government's disaster risk reduction strategies were done in the field, but information was gathered through interviews with representatives from both actors. Government representatives and informants from APDA stated that their DRR strategies were integrated into every development project, because climate changes forced them to think preventative and reduce disaster risk through every initiative. This section discusses how the government and APDA work to build adaptive capacity through their DRR strategies and show that APDA adopts a more flexible and reflexive approach than the government.

If implementers manage to combine social and political transformation with short-term risk management, DRR and climate change adaptation can reduce poverty and longer-term vulnerability (IPCC, 2012; Lemos & Tompkins, 2008). The United Nations International Strategy for Disaster Risk Reduction defines DRR as "action taken to reduce the risk of disasters and the adverse impacts of natural hazards, through systematic efforts to analyse and manage the causes of disasters, including through avoidance of hazards, reduced social and economic vulnerability to hazards, and improved preparedness for adverse events and impacts and the formulation of local adaptation initiatives" (UNISDR, 2009, pp. 10-11). Focus in the past has for the most part been on response to disasters instead of preparing for shocks (S. Eriksen et al., 2013; Ireland, 2011). But it is argued that DRR can serve as a way to link short-term responses with long-term adaptation and sustainable development (S. Eriksen et al., 2013; IPCC, 2012; Lemos & Tompkins, 2008).

To link short-term responses with long-term adaptation, actors must combine social and political transformation with risk management, which is what Lemos and Tompkins (2008) terms the 'two-tiered approach'. The two-tiered approach involves long and short-term focus within disaster management. Tier one focuses on the short-term; on risk management institutions such as disaster preparedness plans, early warning and disaster relief. Tier two focuses on long-term social and political reform, or transformation (Lemos & Tompkins, 2008). Whereas individual adaptation initiatives can improve efficiency within existing technological, governance and value systems, social transformation involves changing these systems and addressing the root causes of vulnerability (IPCC, 2012; Lemos & Tompkins, 2008). Both long-term transformation and short-term adjustments and disaster response are

thus essential when building adaptive capacity through DRR (IPCC, 2012; Ireland, 2011; Lemos & Tompkins, 2008).

The government's DRM strategy and early warning response

On paper, the Ethiopian government's DRM strategy focuses both on short-term disaster risk management and on long-term development, and thus apparently addresses both tiers of Lemos and Tompkin's (2008) two-tiered approach. Ethiopia's new DRM strategy was launched in 2013 and had not been implemented in Dubti *woreda* at the time of fieldwork. But some parts of the DRR strategy, such as the early warning system, were already put in action. This made it possible to gather some information on the government's DRR strategy at local level in Serdo *kebele*. In short, the objectives behind the government's Policy and Strategy on Disaster Risk Management are to reduce dependency, to mainstream DRM and DRR into and across all development plans and programmes, to save lives and protect livelihoods during disasters and address the underlying factors of disasters (FDRE, 2013). Some of the policy's principles are that disaster risk management should be decentralized, community centred and participatory (FDRE, 2013). The Early Warning and Response Coordinator at the DPFSPCO stated that with these objectives and strategies, the new DRM strategy signalled a paradigm shift from disaster response to development:

> We are paradigm shifting from dealing with emergencies to development. Development is getting first. So we have to cover the whole cycles. Prevention, mitigation, preparedness, response, recovery, rehabilitation – 360 degrees. It is a cycle. So, the 1990s voice of Ethiopia on disaster risk management was focusing on humanitarian interventions only, not the development part. Now, it is development first. (Interview with Early Warning and Response Coordinator at DPFSPCO, 12.11, 2014)

The Early Warning and Response Coordinator furthermore stated that the government addressed the root causes of vulnerability through its DRR strategies and thus implicitly stated that the strategy is transformative. However, the government's overall development approach, which is focused towards sedentarisation, rather exacerbates people's vulnerability and reproduces power structures. Hence, even though the Early Warning and Response Coordinator signalled a paradigm-shift from relief to development, the government nevertheless does not meet tier two of Lemos and Tompkin's (2008) two-tiered approach

because it reproduces the winners and losers of the business as usual model of development through its sedentarisation pathway.

Participation of local stakeholders and integration of local knowledge are central elements in successful DRR (J. Ensor & Berger, 2009; Lemos & Tompkins, 2008). But despite the emphasis on community participation in the federal government's DRM plan and at the DPFSPCO, this did not concur with reality at local level in Serdo *kebele*. The Early Warning and Response Coordinator gave community data collectors as examples of how local stakeholders participate in the government's DRR work. In the government's early warning system, community data collectors at local levels use their traditional knowledge to report about local changes in environment and climate to an early warning committee in the *woreda* government. These community data collectors fill out a form which they send to the committee at *woreda* level weekly and to regional level monthly. At the end of each month, the DPFSPCO has an early warning and food security perspective meeting for all partners, donors and development workers. Here, they create a bulletin which they distribute to all stakeholders.

The Early Warning and Response Coordinator stated that his office embraces indigenous knowledge and local participation because community data collectors use their indigenous knowledge to inform the early warning committee at *woreda* level:

> We have community data collectors because we recognize the indigenous knowledge, traditional knowledge within these communities have its own value and importance. We have to accept and work with that knowledge… We have to highly participate the communities, train the capability of the communities and the communities can manage the problems themselves if they are capable to do that. (Interview with Early Warning and Response Coordinator at DPFSPCO, 12.11, 2014)

But contrary to what was stated at the DPFSPCO, local stakeholders in Serdo *kebele* did not express any notion of being empowered through participation in the office's early warning system. It did not seem like there were community data collectors in Serdo *kebele*, but there were local committees of different kinds, such as a community water committee. A representative from the water committee stated that their experience was that the government did not listen to them since it could take up to three months to get any response from any office or bureau they contacted. As a result, the water trucking was insufficient and unpredictable, thus influencing the vulnerability of the communities in the *kebele* in a

negative way. This shows that due to participation failures, the DPFSPCO's early warning system did not function as well as claimed by the Early Warning and Response Coordinator. Hence, despite the emphasis on participation at the DPFSPCO and in the new DRM plan, the government does not meet the first tier of Lemos and Tompkin's (2008) two-tiered approach; to have well-functioning risk-management institutions.

APDA's DRR training

Like the government, APDA states that it integrates DRR into all its initiatives. APDA's Programme Officer presented DRR as the backbone of every project because the organization cannot afford to respond to destructive disasters every time they happen, and therefore, every initiative has to be preventative to disasters. DRR is thus the central core of the organization's 'disaster response, recovery and land use' development sector. This sector entails access to water, veterinary services, rehabilitation of land, land use, reforestation and community feeder roads (Interview with Programme Officer in APDA, 25.11, 2014).

A central aspect of APDA's DRR strategy is community DRR training. In APDA's DRR training, the aim is to improve people's awareness and understanding of disasters and the consequences of not being prepared for them (Interview with DRR Officer for APDA, 26.11, 2014). APDA's staff gathers people from one *woreda* in one *kebele* and teaches them the difference between hazard and disaster. The Disaster Risk Reduction Officer for APDA defines disaster as "when [the hazard] becomes more than the capability of a person to cope with" (Interview with DRR Officer for APDA, 26.11, 2014). He emphasized that if people can cope, it is a hazard and not a disaster because nothing is damaged. He reported that during DRR trainings, APDA staff makes people draw their homes in the sand or on a piece of carton. When they finish, an APDA representative destroys the drawing to illustrate what a disaster is. Then, another person holds back the person that aims to destroy the 'home', it illustrates a hazard. The DRR Officer stated that they do everything together with the communities so that they can use the knowledge to prepare for future disasters.

During its DRR trainings, APDA staff also teaches communities about market fluctuations and the best time to sell their livestock. Animals should be sold and bought before drought, when the prices of livestock are high and wheat is cheap. In that way, people will get more income from the animals and more cereals for the *birr*. Since informants in Serdo *kebele* regularly complained that it was difficult to sell their livestock during droughts, APDA's training might enable them to prepare better for drought events.

APDA thus focuses on enabling communities to integrate the concept of climate risk into their livelihoods, which is an essential part of community-based adaptation initiatives because it increases people's resilience to both short-term variations in climate and long-term climate changes (J. Ensor & Berger, 2009). Through APDA's community-based DRR trainings, pastoralists can integrate the knowledge from the trainings into their everyday lives to secure their livelihoods from future shocks. In this way, APDA meets Lemos and Tompkins (2008) first tier of implementing risk management institutions in a community.

By giving power over the development process to the most vulnerable, APDA arguably also meets the second tier of political and social transformation. APDA provides training on how to build adaptive capacity, and then it is up to the pastoralists to use this knowledge as they find best. The organization bases its DRR training on pastoralists' culture and knowledge, focusing on how to secure their livelihoods. In this way, APDA strengthens pastoralists' capacity to face disasters by helping them to continue with their traditional adaptation strategies.

For DRR to offer a path to sustainable adaptation, governance needs to be flexible, learning-based and continuously open to change (Lemos & Tompkins, 2008). Assessing and understanding adaptation outcomes and how they might not always be good is also essential when building sustainable adaptation (S. Eriksen et al., 2011). Hence, initiatives that aim to build adaptive capacity should not be fixed blueprints and prescriptions. They should rather be based on guidelines developed from knowledge drawn from earlier adaptation outcomes (Lemos & Tompkins, 2008; Scoones, 1996).

If DRR initiatives are supposed to contribute to sustainable adaptation, they thus have to be able to change according to experiences from earlier initiatives, but findings presented in the sections above show that the government's DRR approach is tightly connected to sedentary development initiatives. The government believes that sedentarisation will make pastoralists stronger in the face of disasters (Interview with Early Warning and Response Coordinator at DPFSPCO, 12.11, 2014). But the government's development and relief initiatives are blueprints of the context of the Ethiopian highland, and Afar pastoralists have to transform their culture and livelihoods to fit the government's prescriptions. This approach is not flexible or open to change based on experiences on the sedentary initiatives' effects. If it was, it would have changed as the adverse effects of sedentarisation that does not deliver adequate services became apparent. The Disaster Risk Reduction Officer in APDA emphasized that the

organization changes its DRR approach over time; since the climate is changing, APDA changes its approach accordingly. A flexible DRR approach is indeed necessary in a changing climate.

Development pathways and sustainable adaptation

APDA and the government are two examples of how development policies that are shaped within different systems of governance have different adaptation outcomes. The two actors' governance systems are shaped in different ways because they are based on different interests, aims and different approaches to vulnerability, which are all aspects connected to the principles of sustainable adaptation. Different approaches to these aspects lead to adaptation initiatives that either maintain or strengthen the interests of the already powerful or transfer some power to the vulnerable, which in turn has implications for vulnerability.

In relation to the first principle of sustainable adaptation, the findings presented above show that the government's initiatives are based on a narrow outcome approach to vulnerability. This means that the government sees vulnerability as a linear result of impacts from climate changes, and does not take other stressors into account (K. O'Brien, Eriksen, Nygaard, & Schjolden, 2007). The informant from the DPFSPCO stated that vulnerability for the Afar comes from hydrological and geological factors. He stated that drought and lack of pasture are vulnerability drivers and that the sugar cane plantations along the Awash River are *opportunities* to reduce vulnerability rather than stressors because they create jobs. This narrow approach to vulnerability enables the government to implement sugar cane factories and sedentary development initiatives that from a contextual vulnerability perspective exacerbate vulnerability.

APDA adopts a broader, contextual approach to vulnerability and thus meets the first principle of adaptation. The APDA representatives connected vulnerability in Afar to multiple stressors. APDA's DRR Officer considered the government's sedentarisation programme and the sugar cane projects as major drivers behind the Afar's vulnerability. This was because they restrict the Afar's land rights and traditional adaptation strategies such as migration. The organization thus sees climate vulnerability as something appearing "in the context of political, institutional, economic and social structures and changes" (K. O'Brien et al., 2007, p. 76). APDA's contextual approach to vulnerability explains why the organization focuses on strengthening rather than transforming pastoral livelihoods.

In terms of meeting the second principle of sustainable adaptation, APDA representatives recognized that different values and interests affect adaptation outcomes of the sedentarisation programme. Government officials stated that the political interest of the sedentarisation

programme is to lift pastoralists out of poverty and build adaptive capacity to climate change. Poverty reduction is also articulated as the main goal of sedentarisation in the SDPRP.

Informants at local level and APDA representatives, however, had different opinions about the interests behind the government's sedentarisation approach than what representatives of the government claimed. Both the DRR Officer and the Programme Officer in APDA stated that the government had political interests with its sedentary development and relief initiatives. The Programme Officer in APDA stated, "[I]t's an obvious government thing; how to control and how to manage people. Sit down nicely in a row and behave. It's not going to work in the end, but people will naturally settle if they feel like it". A nomadic pastoralist pointed to his conflicting interests to the government in connection to livestock holdings and settlement: "The government tells us that they will help us and that we must have a health post and educate our people. But without our animals we cannot live. And they are saying that we can only have three camels" (Interview with Informant 8, 29.10, 2014). The government thus aims to transform pastoral culture and limit livestock numbers, whereas this pastoralist has interests in increasing his livestock holdings, thus strengthening his adaptive capacity.

The government justifies its sedentarisation programme by embracing modern, formal knowledge, whereas APDA incorporates the third principle of the sustainable adaptation framework into its approach and integrates traditional knowledge and values. Findings from pastoral areas in Kenya show that settled pastoralists who have left their traditional adaptation strategies and no longer are involved in pastoral production are poorer, more vulnerable to malnutrition and exposed to new health hazards compared to nomadic pastoralists (Little et al., 2008; McPeak & Little, 2005; Roth et al., 2005). This illustrates the importance of integrating traditional knowledge and values into development initiatives. Hence, since sedentarisation initiatives that do not deliver adequate services have adverse effects on pastoralists' vulnerability and poverty, supporting mobile pastoralism should be the cornerstone of poverty reduction programmes in pastoralist areas (Agrawal, 2010; Little et al., 2008). But this does not mean that the idea of settlement should be completely abandoned; it rather means that sedentarisation does not necessarily have to exclude traditional knowledge, values and adaptation strategies.

In terms of the government and APDA's approach to the fourth principle of sustainable adaptation, recognizing potential feedbacks between local and global processes, the findings presented above indicate that the government's overall development approach is driven by the

global modernization paradigm. This global development paradigm has, as illustrated, adverse impacts on local level. In contrast, APDA's Programme Officer connected the Afar's vulnerability to global economic fluctuations, sugar cane plantations and the government's sedentarisation programme. The Programme Officer thus recognized how global and national policies influence the vulnerability context at local level in Afar.

When development actors follow the first four principles of sustainable adaptation, it opens up for a reflexive development approach because the principles make actors question why initiatives are implemented the way they are and what the outcomes of them might be. APDA's Programme Officer emphasized that there are political interests connected to development initiatives, which implied that she also takes on a reflexive attitude:

> The question has to be raised: what is community development? What does that mean? Who owns this agenda? Who is going to be the beneficiary? Who should direct time frames? This is really what we should be talking about. But we're far from that now. The world is saying, "we are directors, [pastoralists are] not", [development] is not your agenda, it is ours, and you are objects to this whole thing. (Interview with Programme Officer in APDA, 25.11, 2014)

APDA's Programme Officer thus questioned who has the power to define the development agenda, what community development is and *why* it is defined in those ways, which are qualities inherent in triple-loop learning (Tosey et al., 2012). Development actors that apply triple-loop learning recognize the political nature of adaptation because they question *why* the initiatives are carried out the way they are.

Triple-loop learning is necessary if development and relief actors aim to transform development pathways because according to Chambers (2010), it is the most powerful that have the power to define the meaning of words and to set the development agenda. Since the development agenda is part of shaping the reality for the less powerful, development actors have to question how they think what they think, why they think like that, and also how their way of thought affects the most vulnerable (Chambers, 2010). When development actors takes on a reflexive attitude, it can give room to prioritizing the values, concepts and realities of the weakest within development (Chambers, 2010), which links to the fifth principle of sustainable adaptation.

The fifth principle of sustainable adaptation links to transformation of development pathways because it deals with the structural power relations that reproduces inequalities and vulnerability in Afar (S. Eriksen & Marin, 2015). Development actors must therefore give priority to the most vulnerable people's interests, knowledge and problem understandings (S. Eriksen & Marin, 2015). APDA follows the fifth principle of sustainable adaptation by giving pastoralists power to be agents of development in their own communities. According to APDA's Programme Officer, this builds self-sufficiency:

> For people who so recently have come into development like the Afar – it is their right to hold on to the development agenda themselves and to do it themselves and to do it in a way that is going to bring them the self-sufficiency that is typical for Afar culture. Afar culture is self-sufficiency. ("Interview with Programme Officer in APDA," 2014)

To empower pastoralist in the development process, APDA helps the communities in Afar in electing development committees and gives these representatives training and knowledge that they can bring home to their communities.

In contrast to APDA's bottom-up community development approach, the government takes a top-down approach as it continues its modernization development pathway, aiming to transform pastoral lifestyles through sedentarisation. Sedentarisation and modernization were indeed presented as the government's main strategies to build adaptive capacity at the DPFSPCO. The Early Warning and Response Coordinator stated that since the government has limited capacity to provide services to people who live as scattered as the Afar pastoralists, the way to build adaptive capacity is to promote settlement. He said that when pastoralists settle, the government is able to provide the services the Afar people need:

> We have to promote the [sedentarisation] policies to the communities. Then, if people understand us – our intentions and policies – they have to come together in one village. The government must provide water services, schools, health posts, markets and other facilities. So that is our number one strategy for the pastoral communities, in order to enhance their resilience and their capacity to face different challenges. (Interview with Early Warning and Response Coordinator at DPFSPCO, 12.11, 2014)

The DPFSPCO also focuses on road infrastructure to build adaptive capacity. The Early Warning and Response Coordinator stated, "We have to connect people with roads. If they access roads, communities' lives can change. They can access modern things, they can

involve in businesses, hotels and other alternatives". These strategies enable pastoralists to diversify their livelihoods, which the Coordinator emphasized as important to transform pastoralists' lives and increase their adaptive capacity:

> …the government has a plan to implement micro and small enterprises, and to develop the capacity of pastoralist children on mechanical things. We have huge sugar factories in Dubti, Assayita, Awash… We have to prepare human resource as an input to these factories… Pastoralists can become resilient when they diversify their strategy to adjust to climate change and the harsh environment. If they only rely on pastoralism, and drought happens, it can totally destroy their livestock. So, if they have a notion to diversify their livelihood, they may have a chance to remain with something. So I think diversification is the best strategy for this area. (Interview with Early Warning and Response Coordinator at DPFSPCO, 12.11, 2014)

The Early Warning and Response Coordinator stated, however, that it was difficult to transform pastoralists' livelihoods because they resist 'improving' their lives:

> The awareness of this community towards improving their lives still remains bad. Because they are resisting change, even to change their livelihood from pastoralism to agro pastoralism, as well as other new livelihood alternatives like trading, or alternatives like that – new livelihoods. (Interview with Early Warning and Response Coordinator at DPFSPCO, 12.11, 2014)

In sum, these quotes show that the DPFSPCO's overall strategy to build adaptive capacity in Afar is to transform pastoralists' culture, livelihoods and traditional adaptive strategies. The government equalizes pastoralism with poverty and considers pastoralists' persistence in continuing their traditional lifestyles as a barrier to development, thus justifying its interests in transforming rather than strengthening pastoral livelihoods. But the sections above show that pastoralists' persistence in continuing their traditional lifestyles is more a result of the government's inadequate development and relief initiatives than of a 'resistance to improve their lives', as the Early Warning and Response Coordinator suggested. Some nomadic pastoralists in Serdo *kebele* did indeed emphasize that settling down is a viable alternative for them if the government provides adequate services in the villages and if some members of their household can continue migrating with their animals. One informant reflected over the benefits this solution could bring to him and his family:

We can live [in the village] if we get food and water for our animals. One person can take the animals out to find water and the rest can stay behind. That is the easiest way. The smaller children will stay behind to go to school. (Interview with Informant 7, 29.10, 2014)

Nevertheless, findings from Serdo *kebele* in 2014 show that before this informant can access what he described as his best future scenario, the government has some challenges to overcome in terms of delivering adequate services in the villages while at the same time accounting for pastoralists' interests in continuing with livestock herding.

Chapter 6: Conclusion

The objective of this thesis is to understand how the Ethiopian government and APDA work in practice to reduce people's vulnerability and to identify whether they contribute to 'sustainable climate change adaptation' in Serdo *kebele*, Afar Region. A qualitative case study approach was used with semi-structured interviewing as main data collection method. A theoretical framework based on the concepts and key principles of sustainable adaptation and dependency theories inform the research questions, the interview guides and the analysis. The sub-questions presented in the introduction are keys to answering the overarching question of the thesis: *how do the Ethiopian government and APDA build local adaptive capacity to a changing climate in Serdo kebele, Afar Region?* To answer this question, the conclusion answers each sub-question that was presented in the introduction of this thesis.

Whereas APDA connects its animal supplementary feeding with longer-term adaptation measures, the government's PSNP food aid neither mitigates long-term chronic food insecurity nor helps the people in Serdo *kebele* through droughts. The PSNP does not meet its long-term and short-term objectives, because it is formulated from an agricultural context. Therefore, the food aid programme does not account for pastoralists' cultural practices, traditional adaptation strategies and power structures. This results in poor targeting, corruption and unpredictable timing of the PSNP food aid. APDA's animal supplementary feeding, however, targets pastoralist's livelihoods. The animal supplementary feeding enables pastoralists to sustain their livestock herds through droughts and build on their traditional adaptation strategies such as migration and resource sharing. By targeting livestock in relief, APDA helps pastoralists to sustain their livelihood buffers and better prepare for future shocks. In this way, APDA manages to connect its drought relief with long-term adaptation thinking.

The communities in Serdo *kebele* depend on water trucking after they settle because they lack access to subsurface water, but both APDA and the government's water trucking services are unreliable and unpredictable during droughts. As a result, people end up migrating away from the *kebele*. Since people continue to migrate and rely on their livestock during droughts, none of the relief methods appear to have led to disincentives or laziness amongst the community members, as suggested by dependency theories.

APDA meets the first principle of sustainable adaptation and applies a contextual vulnerability approach, whereas the government understands the local vulnerability context as a result of increasing drought and a 'backward' pastoral lifestyle. If the government applied a contextual vulnerability approach, it would have recognized how the sedentary initiatives exacerbate pastoralists' vulnerability when adequate services are not provided. From the government's perspective, pastoralism is a factor causing poverty and vulnerability, and the modernization pathway its solution. APDA, however, recognizes how sedentarisation has adverse effects on pastoralists' vulnerability and identifies the governmental and privately owned sugar cane plantations as stressors because they limit pastoralists' access to pasture in dry periods. The organization thus indirectly challenges the government's modernization approach by implementing initiatives that build on and strengthen traditional adaptation strategies.

The government does not address the second principle of adaptation because it does not recognize how its interest in promoting the modernization pathway through sedentarisation has adverse consequences for many pastoralists. The sedentarisation programme, as it was implemented at the time of research, disregards pastoralists' interests in maintaining a healthy herd of livestock. This also leads to a conflict of interests for pastoralists since they have to choose between maintaining healthy herds of livestock and accessing development and relief initiatives. APDA recognizes pastoralists' interests in continuing with their traditional adaptation strategies and at the same time accessing development initiatives. The organization's mobile and flexible initiatives allow pastoralist to migrate and keep their livestock healthy while at the same time accessing development initiatives such as informal education.

Whereas APDA meets the third principle of sustainable adaptation and recognizes traditional knowledge and builds its initiatives on Afar culture, the government views and promotes modern, formal knowledge as the valid knowledge. By embracing modern, formal knowledge instead of traditional Afar knowledge, the government justifies its sedentarisation programme where pastoralists have to transform their culture and embrace modern, formal knowledge to access development and relief initiatives. This illustrates the interconnectedness between the second and the third principles of sustainable adaptation. Development actors can promote their own interests by endorsing knowledge that supports these interests. APDA, however, builds its development and relief initiatives on pastoral culture and adaptation strategies. Cultural transformation is not a prerequisite to access the organization's development

initiatives. APDA's approach thus promotes the interests of those pastoralists who do not have access to alternative livelihoods because it enables them to sustain their livestock by migrating.

The two actors prioritize differently when it comes to the fourth principle of sustainable adaptation, but both actors consider the potential feedbacks between local and global processes in their development initiatives. The government responds to the global demand for sugar cane, and is interested in expanding the sugar cane plantations along the Awash river. When the government closes off larger areas along the Awash riverbanks for sugar cane production, it pushes pastoralists towards settlement thus excluding them from their dry period pasture and hence exacerbating their vulnerability. Therefore, the government might consider how expanding sugar cane plantations – and thus pastoralists' vulnerability – partly are results of global demands for sugar cane. But it prioritizes to take advantage of the opportunity to increase national revenues rather than reserving the dry season pasture for pastoralists' livestock. In contrast, APDA advocates giving the dry season pasture on the Awash river banks back to the Afar people. The organization also emphasizes that it is important to allow them to continue migrating. In this way, APDA recognizes how national policies and international demand for sugar cane have adverse effects on pastoralists' vulnerability.

Whereas APDA meets the fifth principle of sustainable adaptation by empowering pastoralists in influencing development pathways and climate change outcomes, the government's approach is only participatory on paper. The government highlights participation as an important element in development in pastoral areas, but for the most part, the government does not in practice include pastoralists in decision-making. The water trucking and the PSNP are furthermore based on top-down handouts. Participation has thus become a policy narrative that does not concur with reality at the local level in Serdo *kebele*. In contrast, APDA employs pastoralists from rural areas and gives them responsibility to start development in their own communities. APDA thus transfers some power over the development process to the most vulnerable. Still, whether APDA's approach alone allows pastoralists to influence and transform the business as usual development pathway is questionable due to the limited scope of its initiatives and power relations within the organization, which were not studied during this research because of time limitations.

To sum up, the government does not account for the principles of sustainable adaptation in various ways and does not deliver adequate services in the settlements. Therefore, its sedentary development initiatives exacerbate vulnerability rather than reduce it and its drought relief initiatives do not successfully integrate longer-term sustainable adaptation. In its drive towards modernization, the government's development and relief approaches allow the already powerful to strengthen their positions, whereas the weakest become more vulnerable. In this way, the government exacerbates inequalities and vulnerability through the business as usual development pathway.

Although pastoralists are amongst the poorest and most vulnerable in the Ethiopian society, the reason for this is not their lifestyles. Rather, the reason is that development and relief agents perceive pastoralism to be the main cause of poverty and vulnerability. A key challenge for the government is to see pastoral lifestyles and adaptation strategies as elements on which to build its development and relief approaches, rather than challenges to overcome.

While adopting a community development approach, development actors should try to actively influence the modernization development pathway in a direction that is beneficial for the most vulnerable. Development and relief initiatives should build more on pastoralists' culture and allow them to continue with their traditional adaptation strategies *if the pastoralists prefer to do so*. Pastoralism must be recognized as an opportunity to build adaptive capacity rather than a barrier to that. Policy makers and development and relief actors can use APDA's community development approach as a starting point, while taking it further by actively trying to challenge and change the business as usual development pathway.

Hence, rather than transforming traditional adaptation strategies, development and relief actors should strengthen them. To successfully contribute to sustainable adaptation in pastoral areas, development and relief actors should use pastoral cultures and lifestyles as starting points to build their development and relief initiatives on. This does not necessarily mean that the idea of any form of settlement should be abandoned, because pastoralism is not a static way of life; it changes as every other lifestyle. Sedentarisation can indeed be a viable and even preferable way to reduce vulnerability for many pastoralists. But this can only be accomplished if the government and other actors deliver adequate services in the settlements while combining it with an option of ad-hoc migration for those who rely on their animals. In this way, settlements can function as hubs where pastoralists have their base with access to health, education and water services while still migrating so as to access water and feed for

animals. These ideas depend on how the government and other development actors see the future; whether they see it as a static scenario where pastoralists live permanently in villages without room to choose or act according to their needs, or as a more flexible scenario, where pastoralists can influence their own future according to their needs and preferences.

The easiest and perhaps most sustainable way to strengthen traditional pastoral adaptation strategies in development and relief is to pay specific attention to the fifth principle of sustainable adaptation and empower pastoral communities in taking charge of their own development. This means that participation must be more than a policy narrative. Governments and organizations alike must practice participation as much in reality at the local levels as they embrace it in policy documents. Making research more accessible and understandable for local communities is an important part of participation and in empowering pastoralists in development processes. Research must thus be formulated and communicated in a language that these communities can understand and relate to.

Even though policy makers, organizations and researchers can use the principles of sustainable adaptation as analytical tools towards more sustainable development, the challenge is to develop them into practical tools. Researchers can, and should, find ways to bring the principles from the abstract academic sphere to the practical sphere. In that way, local communities can use the principles in practice in a way that helps them challenge adverse development pathways so as to benefit them. One way to explore how the principles can be developed into practical tools is to study APDA's work in more detail. A recommendation for future research is thus to explore how organizations such as APDA can communicate the principles to the vulnerable communities, and how these communities can in use the principles as practical guidelines in their own development processes.

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Appendices

Interview guide for APDA

- *Purpose: to get an overview over how APDA works to build adaptation capacity amongst the Afar people.*

APDA's perspective on vulnerability and climate resilience:

1: How does APDA define vulnerability?

2: How does APDA define 'community' in Afar?

3: How does APDA define 'risk', 'hazard' and 'disaster'?

4: Which changes in climate have you observed since APDA's start?

5: How does APDA work to reduce Afar communities' vulnerability to climate change?

(4: Do you have other strategies to strengthen people's resilience to climate change?)

5: What is your point of departure when you initiate a project aiming to strengthen communities' resilience to climate change? Or: What is the main focus of attention when you initiate a project aiming to enhance climate resilience?

- Can you please give an example?

Disaster Risk Reduction approach:

1: What risks does APDA see as most imminent for the Afar people in their everyday lives?

- Why are the Afar exposed to these risks?
- In which areas in Afar do you consider these risks to be highest?
- For which people in Afar do you consider these risks to be the highest? (men or women, youth, elder)

3: How do you work to limit these risks (challenges) in these areas? E.g. early warning systems.

Participation:

1: Does APDA integrate traditional knowledge in development projects?

- If so, how and why?
- If not, why?

2: Is there anything with your development approach that breaks with traditional knowledge?

3. In what way do you ensure that the communities can continue this practice in the future?

Mapping whether and how the actors deal with structural challenges that may be increasing people's vulnerability (if they take into account the different values and interests connected to the intervention):

1: When you introduce a certain intervention aiming to enhance climate resilience in a community - how do you go about it? Which members of the community do you consult? (Kebele leaders, men, women without formal titles)

2: Do you have a strategy or guidelines when it comes to empower the most vulnerable in the society?

- Why? Why not?
- If yes, how do you go about this?
- Can I get a copy of these guidelines/strategy?

APDA's connection to the CRGES and the government:

1: Is APDA's development approach linked to the CRGES?

- Is so, why? If not, why?
- If so, in what way is it linked to the CRGES?

2: In your opinion, what has the CRGES contributed with in terms of climate resilience amongst the Afar people?

4: Do you collaborate with the government and other organizations (e.g. UN, WFP) to enhance climate resilience in Afar?

- If so, with which organizations or part of the government?
- Why with these specific organizations?
- Can you tell me a little bit about how you collaborate with them?
- If not, why?

ASK FOR DOCUMENTS:

Need information from secondary data on:

1. **The organization (annual reports, web pages etc.)**
2. **Training and training materials**
3. **Documents (annual reports, studies, evaluations, assessments etc.)**

Interview guide for government representatives

(e.g. Productive Safety Net Programme - PSNP and Pastoralist Agriculture Development Bureau - PADB)

- *Purpose: to get an overview over how the government works to enhance climate resilience amongst the Afar people.*

The governmental institutions' perspective on vulnerability and climate resilience:

1: How does … define vulnerability?

2: How do does … define a 'community' in Afar?

3: How does … define 'risk', 'hazard' and 'disaster'?

4: Which changes in climate have you observed since the start of …?

3: How does … work to reduce Afar communities' vulnerability to climate change?

(4: Do you have other strategies to strengthen people's resilience to climate change?)

5: What is your point of departure when you initiate a project aiming to strengthen communities' resilience to climate change? Or: What is the main focus of attention when you initiate a project aiming to enhance climate resilience?

- Can you please give an example?

Disaster Risk Reduction approach:

1: What risks does … consider most imminent for the Afar people in their everyday lives?

- Why are people exposed to these risks?
- In which areas in Afar do you consider these risks to be highest?
- For which people in Afar do you consider these risks to be the highest? (men or women, youth, elder)

3: How do you work to limit these risks (challenges) in these areas? E.g. early warning systems etc.?

4. In what way do you ensure that the communities can continue this practice in the future?

Participation:

1: Are local people involved in the decision-making process and if so, which representatives are involved?

2: Do you integrate traditional knowledge in your development projects?

- If so, why and how? If not, why not?

3: Is there anything with your development approach that breaks with traditional knowledge?

Mapping whether and how the actors deal with structural challenges that may be increasing people's vulnerability (if they take into account the different values and interests connected to the intervention):

1: When you introduce a certain intervention aiming to enhance climate resilience in a community - how do you go about it? Which members of the community do you consult?

2: Do you have any strategy when it comes to empower the most vulnerable in the society?

- Why and how do you go about this? Why not?

Connection to the CRGES and collaboration with NGOs:

1: In what way is your development approach to enhance climate resilience influenced by CRGES?

2: What are the benefits with your connection to the CRGES?

2: Do you see any challenges with this? If so, why and what are these challenges? If not, why?

3: In your opinion, what has the CRGES contributed with in terms of climate resilience amongst the Afar people?

4: Do you collaborate with NGOs and other organizations (e.g. UN, WFP) to enhance climate resilience in Afar?

- If so, with which NGOs?
- Why with these specific NGOs?
- Can you tell me a little bit about how you collaborate with them?
- If not, why?

Interview guide for Serdo community members

- *Purpose: to find out how the interventions have been carried out in practice, whether they resonate with the local people's perceptions of their "risk landscape" and also whether the interventions, from the local peoples' perspectives have increased their climate resilience.*

A: Mapping the local people's 'risk landscape':

1: Can you please tell me a little bit about the risks you face in your everyday life?

2: Why are you exposed to these risks?

3: What do you do to overcome (mitigate) these risks?

4: Why then do you think disasters happen and do some people suffer more than others during disasters?

B: Mapping the vulnerability/climate resilience approach of the interventions in practice:

1: Can you please define what you consider as your community?

2: What projects have APDA/ the government initiated in your community?

- What benefits have these projects contributed with to the community as a whole?
- What benefits have these projects contributed with to you as an individual?
- Do you see any challenges with these projects? (has the project led to any additional costs, work load, other negative effects)
- Do you feel that the project has made your household/community stronger in terms of facing climate change? If so, why and in what way? If not, why not?

2: Can you please tell me about how your situation is today compared to your situation before the project(s) was/were introduced?

3: Are you facing any new challenges today that you did not before the project(s) was/were implemented?

4: Have you received any education in connection to the intervention?

5: Does your community have the means to maintain the project in the future? (I guess these two last questions are not always relevant, it depends on which type of intervention that has been introduced. The answers on the questions can nevertheless give important indicators on its sustainability.)

C: Mapping whether different values and interests have been accounted for (bottom-up or top-down approach?):

1: Were you part of the decision-making process or meetings about the project?

- If so, why and in what way were you involved?
- If not, why? Would you have liked to be involved?

2: In your opinion, does the project(s) represent the community's priorities?

3: Do you feel that the project treats everyone in your community equally?

D: Integration of traditional knowledge in the projects:

1: Has the project altered your traditional ways of dealing with climate change? If so, in what way? If not, why not?

2: What do you think about this (absence of) alteration of your traditional ways of dealing with climate change?