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THE MANDERA TRIANGLE

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SOUTHERN ETHIOPIA



The Global Water Initiative
A Partnership Funded by the Howard G. Buffett Foundation

Synthesis of Existing Knowledge and Experience on the Provision of Water Supplies to Pastoral Communities in Ethiopia



Magda Nassef with Mulugeta Belayhun

Version I

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Note to the reader:

This report is an unedited version I.

An edited version (Part I –Synthesis of Existing Knowledge and Experience on the Provision of Water Supplies to Pastoral Communities in Ethiopia, Part II: Annexes) will be published shortly and be made available on

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LIST OF ACRONYMS

ACDI/VOCA	Agricultural Cooperative Development International/ Volunteers in Overseas Cooperative Assistance
ACF	Action Contre La Faime
AFD	Action for Development
CDD	Community Driven Development
COOPI	Cooperazione Italiana
CRS	Catholic Relief Services
DA	Development Agent
DCA	DanChurchAid
DFID	Department for International Development
ELSE/ELMT	Enhanced Livelihoods in Southern Ethiopia/Enhanced Livelihoods in the Mendera Triangle
EPRDF	Ethiopian People's Revolutionary Democratic Front
EU	European Union
FAO	Food and Agriculture Organization
FIC	Feinstein International Centre
GL-CRSP PARIMA	Global Livestock Collaborative Research Support Program under the Pastoral Risk Management project
GWI	The Global Water Initiative
HRF	Humanitarian Response Fund
IDP	Irrigation Development Program
IIED	International Institute for Environment and Development
ILRI	International Livestock Research Institute
IRC	International Rescue Committee
IWRM	Integrated Water Resource Management
LDC	Local Development Committee
LVIA	Lay Volunteers International Association
MoARD	Ministry of Agriculture and Rural Development
MDG	Millennium Development Goal
MoFA	Ministry of Federal Affairs
MoFED	Ministry of Finance and Economic Development

MST	Mobile Support Teams
MoWR	Ministry of Water Resources
OFDA	Office of U.S. Foreign Disaster Assistance
OPDC	Oromia Pastoral Development Commission
PA	Peasant Association
PADD	Pastoral Areas Development Department
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PCAE	Pastoralist Concern Association Ethiopia's
PCDP	Pastoral Community Development Project
PLA	Participatory Learning and Action
PLI	Pastoral Livelihood Initiative
PRA	Participatory Rural Appraisal
PRSP	Poverty Reduction Strategy Paper
PSNP	Productive Safety Net Program
PSNP-PAP	Productive Safety Net Program Pastoral Areas Pilot
RDD	Regional Drought Decision
RDP	Rangelands Development Project
RDPS	Rural Development Policies, Strategies and Instruments
SC-UK	Save the Children UK
SNNPR	Southern Nations, Nationalities and Peoples' Region
UAP	Universal Access Program
UNDP	United Nations Development Program
WSDP	Water Sector Development Program
WSSDP	Water Supply and Sanitation Development Program
WSSP	Water Supply, Sanitation and Hygiene Program
WUA	Water Users' Association
VSF	Vétérinaires Sans Frontières

EXECUTIVE SUMMARY

Water development has the potential to bring lasting change in the long term – both positive and negative. In Ethiopia’s arid areas, where pastoralism is the dominant livelihood, practical field experience over the last forty years indicates that water point development divorced from an in-depth understanding of pastoral livelihoods can compromise sustainable development in the long term despite stemming water shortages in the short term.

To date, no broad overview exists of water development in Ethiopia’s pastoral regions. This report aims to fill this gap and presents a synthesis of experience over the last forty years in the water development sector in the country’s pastoral regions. The purpose of this report is to first and foremost inform and improve the quality of project partners’¹ work. It is also hoped that this synthesis usefully informs the water development sector more broadly.

The report presents an overview of past and current approaches to water development, who is involved, where, how, and whether lessons have been learned and approaches changed over time – all within the framework of national and regional policies, plans, and strategies. It essentially examines the work done by the partners and other actors, as well as takes a close look at policies relevant to water development in pastoral areas. The report also aims to identify opportunities on which to build which can enhance the positive effects of water development for lives and livelihoods.

It is recognized that pastoralists are not simply recipients of development, but are drivers of change themselves, as attested to by the complex Borana well systems in southern Ethiopia and the pastoralist-led introduction of *birkado*² to the Somali region in the 1960s. Pastoral water point construction significantly predates the involvement of the state and other actors. Customary water management practices were (and still are) tailored to a mobile livelihood system, which itself is a response to the requirements of dryland environments where climate is highly variable in time and space. Pastoralists use water management as a means to manage the wider rangelands, aware that access to and availability of water affects who and how many have access to surrounding pasture and grazing areas. At the same time, some pastoralist-led water developments have been shown to hinder pastoral livelihoods. The negative consequences of *birkado* for rangeland health and pastoral mobility were observed when people began to permanently settle in wet season grazing areas, using the rangelands year-round in areas formerly allowed to rest and regenerate for parts of the year. The concentration of livestock in limited areas also made herds more vulnerable to disease. These impacts have today been recognized in some areas by pastoralists and others (notably some development organizations), and pastoral communities have begun to take active first steps to address the problems by putting in place binding customary agreements. In other parts, *birkado* continue to be a popular feature on the water development options list.

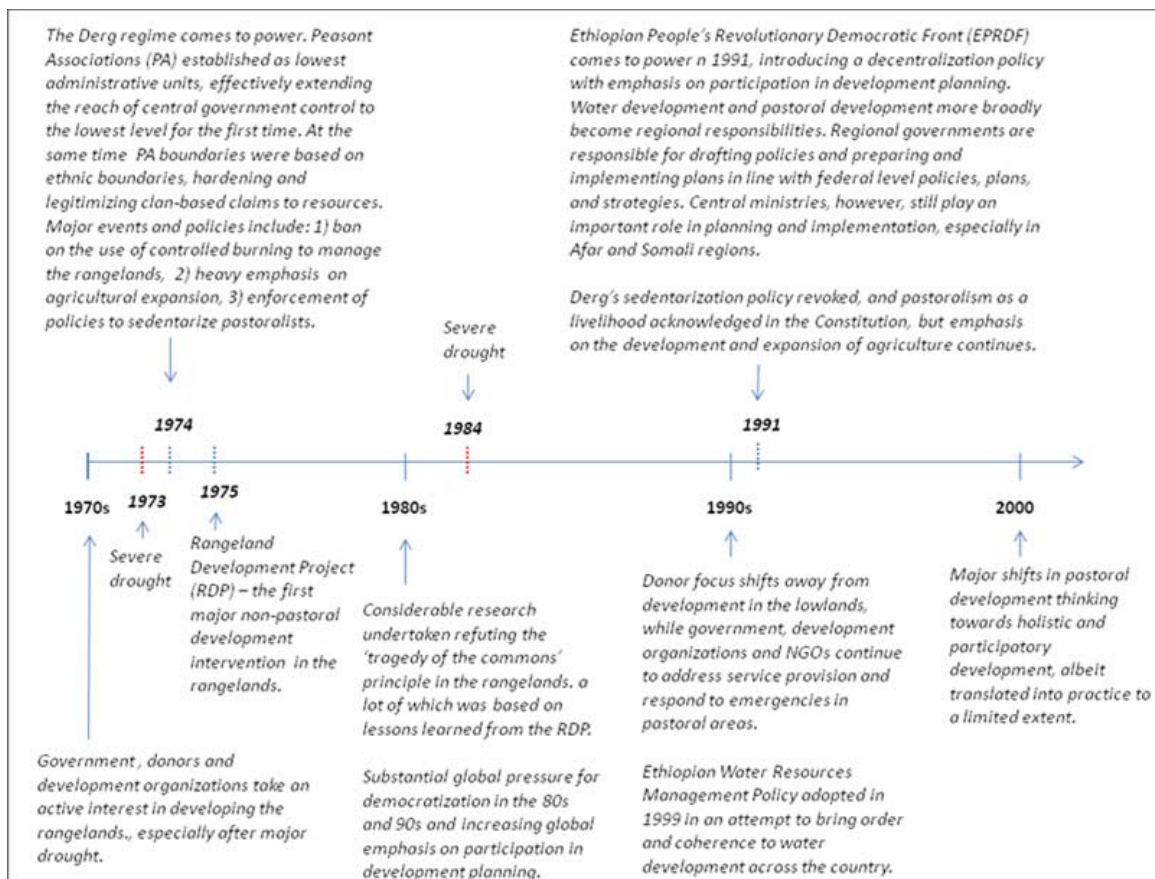
From the 1970s, especially after severe drought in 1973, pastoral regions became a focus of attention for government as well as national and international development and humanitarian agencies. Solutions to water shortages at the time were technocratically driven and top down, with little participation from the grassroots. Interventions aimed to settle pastoralists – to ‘bring order’ to their way of life which was seen as backward and outmoded. There was little understanding that mobility is a sophisticated response to the unique characteristics of dryland environments, and is

¹ The partners are the RiPPLE Programme, funded by UKaid from the Department for International Development through ODI, SC-US working through the USAID funded Enhanced Livelihoods in Southern Ethiopia/Enhanced Livelihoods in the Mendera Triangle (ELSE/ELMT) programme, and CARE Ethiopia, working through the Howard G. Buffet Foundation funded Global Water Initiative.

² Cement lined underground cisterns.

central to ensuring that the pastoral livelihood remains sustainable in an environment where other sedentary land uses have failed.

In turn, early water developments were inserted into pastoral areas with little understanding of pastoral land use dynamics and the logic behind their natural resource management strategies. Early water interventions thus contributed to the erosion of traditional water management systems and to land degradation and conflict. The construction of large ponds, for example, made water available year-round, encouraging permanent settlement and year-round grazing in areas which were previously only seasonally used to allow pasture to regenerate. Overgrazing and erosion were frequently observed around these water points, and increasingly sedentary herds amplified the incidence of human and livestock health problems. Furthermore, water points were owned and managed by local administration which often lacked sufficient manpower, know-how and capacity to effectively perform this role. This resulted in poorly controlled access and poor maintenance. In turn, disused and damaged water points proliferated and violent conflict sometimes arose at grassroots level over access and control. Conflict sometimes also occurred where water development was politically motivated or where practitioners constructed water points with little understanding of local social, cultural, and political dynamics (see figure).



Shifts in thinking regarding water development in pastoral areas are now emerging as a result of lessons learned over the last forty years. These shifts have been observed in practice in a number of government, donor and development organization projects and programs. However, on the whole, translation into action is still rare. These changes nevertheless represent islands of hope and should be widely shared and built upon to enhance the positive effects of water development. These changes include:

- Increased awareness that water points can alter patterns of resource use to the detriment of rangeland quality and livelihoods. This has prompted practitioners to attempt a better

understanding of the existing natural resource base in a location (water and pasture) and how these resources are customarily used prior to developing new water points.

- Increased recognition that pastoral livelihoods are influenced by internal and external social, cultural and political aspects which often differ from those in sedentary highland communities. These aspects should be properly understood to help ensure appropriate water development.
- Increased recognition that pastoralists have an important role to play in the water development process, especially given their detailed knowledge of the rangelands. Pastoralists can help planners understand available resources, human-resource dynamics, and development needs and priorities at ground level. More emphasis is therefore placed on grassroots participation and approaches are evolving from end users simply expressing demand for water and being tasked with the operation and maintenance of water points planned and implemented by outsiders, to encouraging a more participatory approach to planning, construction, and management.
- Increased awareness that water development must be coupled with addressing other development needs in the rangelands to reduce vulnerability and overcome poverty. This includes improving marketing opportunities and channels for livestock, veterinary services, and rangeland health/condition, among other needs.
- Increased recognition that the 'software' component of any water development is as important as the physical infrastructure. Therefore focus on planning, management and sustainability of water points is increasing to ensure that they are appropriate to the local context, that they effectively serve the needs of different users, and that they remain functional.
- Increased emphasis on rehabilitating existing water points to avoid the risks associated with new developments, especially when project duration is short (for example in emergency relief interventions).
- Increased emphasis on linking emergency relief interventions to longer-term development objectives, to better adhere to the 'do no harm' principle.
- Increased emphasis on promoting community buy-in to water development (either by requiring an in-cash or in-kind contribution by communities) and on selecting simpler water point technologies which are familiar at the local level, and whose parts are easily obtainable. There is also increasing focus among practitioners on training local artisans to construct and maintain water points to build a cadre of local expertise and decrease dependency on external support.
- Increased emphasis on promoting partnerships and collaboration. Partnerships and dialogue between different stakeholders are beginning to emerge indicating cross-fertilization of ideas and approaches to development in the rangelands (e.g. USAID's Pastoral Livelihoods Initiative and the CARE-led Global Water Initiative).

Despite these shifts, much that occurs in the water development arena continues to follow business as usual based on water delivery approaches designed for sedentary communities. Along a continuum of practice ranging from a technocratic approach with generic methods of promoting participation (which are often only symbolic) to highly participatory approaches which are specific to particular localities and socio-political settings, the technocratic approach still predominates. Water is often developed in isolation from broader natural resource management even though it is recognized as a key resource. It is also frequently developed without due attention to other critical development needs such as access to markets, health services for people and livestock, and education.

Policies related to development in arid areas play a major role in shaping water development strategies, plans, and practice. The current policy setting (see the 2008 draft policy statement for the sustainable development of pastoral and agro-pastoral areas of Ethiopia) paints a conflicting and

confusing picture of how sustainable development is to be achieved in the rangelands. In the short term, national policy aims to support customary pastoral production systems. But in the long term, national policy focuses on 'voluntarily' settling pastoralists by providing livelihood diversification opportunities most notably fixed on irrigated agriculture. This may encourage rather than reduce the sedentarizing effects of water schemes. The long-term policy vision for pastoral areas is influenced by the belief that pastoralism cannot survive in its current, mobile form. Widespread thinking among decision makers is that increased population (which has trebled over the last forty years and continues to rise), poverty, and competition over natural resources, coupled with reduced quality and extent of the rangelands and increased incidence of climatic shocks renders the pastoral system incapable of surviving in its current form. However, the significant economic contribution of pastoralism to national economies is today much better known, and the healthy economic performance of the pastoral production system in some of the harshest landscapes in the country attests to its value, despite the challenges faced. For example, it was shown that pastoralism consistently outperforms sedentary ranching to a significant degree in terms of meat production, generating energy or providing cash, and yields a higher return per hectare of land than ranching (IIED and SOS Sahel, 2010). The livestock sector is also the second largest foreign exchange earner after coffee, and in 2006 the country earned \$121 million from livestock and livestock related products (ibid). The direct value of pastoralism is estimated to be 1.68 billion USD per annum (SOS Sahel Ethiopia 2008), which excludes the substantial unofficial trade in livestock and livestock products that is not reflected in this figure. In Somali region, for example, the value of unofficial cross-border trade in livestock and related products is said to be 3-6 times that of the official figures for the whole country (Scott-Villiers, 2006). Studies have shown that service delivery in pastoral areas which is tailored for sedentary populations constrains mobility – a central strategy which ensures the viability of this production system – affecting productivity and reducing economic performance. Why service delivery which encourages sedentarization continues unabated therefore deserves further analysis, and clarifying ways forward at the policy level in terms of what constitutes sustainable development in arid areas is of critical importance with important implications for water development. It is recognized that today's realities in many of the country's arid areas cannot be ignored, including the fact that population is increasing, that people require diverse livelihood opportunities which may lie outside pastoral production, and that highland populations are being resettled to the lowlands and will require livelihood options. However, the multiple needs and priorities in the rangelands must be acknowledged, and all options fully and fairly explored (importantly including pastoral production³) to enhance national economic growth and ensure sustainable livelihoods.

Ambitious government targets for water supply and irrigation expansion also influence water development practice. Pressure to meet targets could see continued emphasis on hardware construction at the expense of participation and buy-in from the grassroots and also at the expense of embedding local capacity to operate, manage, and maintain water schemes. These aspects may fall by the wayside unless actively prioritized. This is not helped by observations at field level which indicate that much more attention is given to reporting outputs at the expense of quality or effectiveness, and very little is done in the way of measuring impact on livelihoods. Failure to focus on the software aspect of water interventions could decrease the likelihood that water schemes will be locally suitable and sustainable. Furthermore, persistent incoherence in approach to water development among actors, ranging from NGOs and development organizations to government agencies, in addition to weak linkages between them, creates an environment where it is easy for inappropriate water development to go unchecked. This lack of coherence is recognized by all actors as an impediment to sustainable development in the rangelands and moves are being made to improve dialogue between the various stakeholders.

³ For example, the Oromia regional government's prominent Oromia Growth Corridors Plan has declared that a large portion of pastoral land in Oromia should be maintained as rangeland and should not be converted for agriculture.





Agreed upon guidelines for water development in pastoral areas do not exist in Ethiopia. This also frustrates moves towards streamlining practice across the water development sector. However, there are a number of existing guidelines on water, participatory mapping and conflict sensitive planning⁴. These may prove useful as a foundation on which to build a broadly applicable set of guidelines for water development for productive use, which are versatile enough to allow context specific planning in pastoral rangelands. These guidelines could then be mainstreamed into practice through the multiple existing coordination groups concerned with development and development-oriented emergency relief in pastoral areas. Doing so could redress the fact that there are currently no specific coordination efforts on water for productive use in the rangelands, and in turn no coherence across agencies and no common set of indicators of success.

Despite longer-term developments beginning to emphasize software aspects of design, such projects and programs are dwarfed in number by the more widespread short-term emergency relief projects. The short term nature of emergency relief compels implementing agencies to address water shortages and meet targets at the expense of appropriate planning and ensuring sustainability, which requires much more time. The need to strengthen linkages and improve complementarities between humanitarian and development approaches and activities is recognized, and there is interest among humanitarian donors to improve the effectiveness of emergency interventions by tapping into the experience of development programs. For example, using impact assessments from development oriented programs is being explored to help gauge the impact of emergency relief interventions on livelihoods. Furthermore, an emerging trend observed in the last 10 years is the introduction of a longer term livelihoods approach to humanitarian interventions in some programs. There are also a number of cases of NGOs using their experience with communities in a humanitarian relief context as an entry point for longer term development.

Earlier-mentioned shifts in thinking generally represent what practitioners in Ethiopia consider good practice in the water development arena. But as mentioned, very little is done in the way of measuring impact on livelihoods. Using impact assessments can help guide practitioners towards using evidence based 'best practice,' and can help them better navigate evolving livelihood and natural resource contexts as each additional generation puts further demand on existing resources.

Water development can potentially undermine rather than promote development in pastoral regions if local needs, land use patterns, livelihood systems, and ecological functions (and the relationship between them) are not sufficiently understood and considered. A fragmented approach to water development also contributes to entrenching bad practice. The following table outlines common practice, potential outcomes and recommendations:

4 These include the Ministry of Water Resources' Implementation Guidelines for Water Supply, Sanitation and Hygiene Projects in Pastoral Areas (2006), the Ministry of Agriculture and Rural Development's National Guidelines for Livestock Relief Interventions in Pastoralist Areas of Ethiopia (2008), the international Livestock Emergency Guidelines and Standards (2009), the international humanitarian Sphere guidelines which include a section on water, sanitation and hygiene, Catholic Relief Services' Guidelines for the Development of Small-Scale Rural Water Supply and Sanitation Projects in East Africa (2005), the SC-US and ELSE/ELMT Technical Working Group led introductory volume and guidelines on participatory rangeland management (forthcoming, 2010), the guidelines on participatory resource mapping developed independently by the government's Productive Safety Net Program and USAID's Pastoral Livelihoods Initiative, and CARE's Guidelines for Conflict Sensitive Programming (2008).

Common Practice	Develop water points based on technological and geomorphological considerations to meet immediate water shortages and demand.	
Potential Outcomes	 <p>Demand for water met, and human lives and livelihoods protected.</p>	 <p>Unforeseen negative consequences despite well-intentioned development including rangeland degradation, conflict, and increased vulnerability (for example, increased incidence of disease due to high concentrations of livestock for protracted periods of time).</p>
Recommendations	  <ul style="list-style-type: none"> • As 'good' and 'poor' practice in relation to impact on livelihoods is hardly measured or documented, promote the use of impact assessments such as those used under USAID's PLI program to measure the impact of water developments on livelihoods and learn from documented 'good' and 'poor' experiences. This is currently a major gap in practice and applies across the board from development and humanitarian agencies to local NGOs and government. • Thoroughly understand the local social, environmental, economic and political context to inform planning. • Develop common guidelines for water development in the pastoral context, flexible enough to allow for context specific planning. Streamline the use of these guidelines through existing coordination fora dealing with development and emergency interventions in pastoral regions. • Ensure that water is developed as part of a participatory rangeland development system/process, with a prerequisite in-depth analysis of broader political, institutional and funding priorities to inform this process. • Promote effective participation through the involvement of recognized institutions or groups representative of local communities. These groups or institutions may exist (customary institutions, water user associations, pastoral associations) or may still need to be established. For example, customary institutions may not represent all livelihood groups in a given area (Muir, 2007), and often do not represent the needs and views of women, while water user associations may not sufficiently represent pastoral needs and concerns and generally do not incorporate or build upon existing natural resource management strategies. Furthermore, existing institutions have evolved with time, including traditional pastoral institutions. This change must be acknowledged and the nature of the change carefully documented to help identify institutional strengths and weaknesses, and to establish modalities of engagement with these institutions. To date, the role of customary institutions is poorly researched in Ethiopia and development practitioners often view these institutions as fossilized entities retaining a set of characteristics described in historical texts. This is no longer the case, as pastoral customary institutions have changed with time in response to changing circumstances. Establishing new groups or adjusting the configuration of existing groups may thus become necessary. • Simultaneously address other development needs in the rangelands besides the need for water (e.g. human and livestock health and access to markets) to effectively address vulnerability and poverty long-term. 	

	<ul style="list-style-type: none">• Make better use of existing research to inform water development planning and implementation and promote knowledge sharing between practitioners and projects. This can be done through establishing learning and practice alliances.• Create an enabling environment where local groups representative of water users in a given area have the capacity and authority to construct, operate, manage, and maintain water points, effectively making them implementers rather than merely recipients of development.• Promote the consortium approach to water development among development and humanitarian practitioners. This approach can help harmonize activities and has been viewed favourably by agencies in the water development sector in Ethiopia. Alternatively, link development and humanitarian practitioners to existing (or potential) technical working groups that handle water issues, such as the Natural Resources Management Technical Working Group.
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Section I. Introduction

I.1 Introduction

Water scarcity is a perennial challenge in Ethiopia's pastoral regions. For centuries, pastoralists have developed and managed water resources, harvesting rainwater, managing access to rivers and groundwater-fed permanent water sources. Forty years ago, non-pastoral actors – namely government, donors, and development organizations – have joined in the effort, especially following the major drought in 1973, and have become active participants in the water development arena in these regions ever since.

As much as water development can help address water deficits in the short term, it is increasingly recognized that it has the potential to bring lasting change in the long term – both positive and negative. For example, hand dug wells along rivers give communities much needed access to clean water, while oversized ponds encourage sedentarization and overconcentration of people and livestock in potentially fragile landscapes. Experience over the last forty years indicates that water development divorced from an in-depth understanding of pastoral livelihoods, and the unique land use and customary natural resource management strategies central to these livelihoods, can compromise development⁵ in pastoral regions. Having said this, it is recognized that pastoralists are not simply recipients of development, but are also drivers of change themselves. Water developments in Somali region are a case in point, where the proliferation of *birkado*⁶ was originally instigated by Somali pastoralists in the 1960s. The negative consequences of *birkado* for rangeland health and mobile pastoral livelihoods have today been recognized by pastoralists and development partners and steps taken at community level to begin to address these negative aspects (Gomes, 2006) in some parts of the country. In other parts, *birkado* continue to dominate the water development options list among development agencies.

This paper looks at experience in the water development arena in pastoral regions of Ethiopia over the last forty years; ever since development organizations and government began taking an active interest in the drylands. It presents an overview of past and current approaches to water development by different actors to determine how thinking may have changed over time. It also aims to identify opportunities on which to build, which can enhance the positive effects of water development for lives and livelihoods.

I.2 Rationale and purpose of the report

Aware of the lack of broad strategy documents to guide implementers in the pastoral areas of Ethiopia, a group of interested partners came together to prepare a synthesis of current policy and practice specifically focused on water development to identify the lessons learned to-date. These partners included the RiPPLE Programme, funded by UKaid from the Department for International Development DFID through the Overseas Development Institute (ODI), Save the Children/US (SC-US) working through the USAID funded Enhanced Livelihoods in Southern Ethiopia/Enhanced Livelihoods in the Mendera Triangle (ELSE/ELMT) programme, and CARE Ethiopia, working through the Howard G. Buffet Foundation funded Global Water Initiative. The partners intend for this report

⁵ 'Development' here is meant as per Amartya Sen's definition; a model which goes beyond fulfilling basic physical and monetary needs – freedom from poverty – to include expanding people's freedom to do the best for themselves and their societies – freedom to take beneficial action (as described in UN OCHA Pastoralist Communication Initiative's 'The Future of Pastoralism', 2007).

⁶ Cement lined underground cisterns.

to inform their own work and help them implement higher quality water development interventions in pastoralist areas and with pastoralist communities in future.

It is hoped that in addition to facilitating learning amongst the partners that the findings will also inform other actors engaged in water development in pastoral areas, and perhaps encourage increased reflection on current approaches and practice leading to more appropriate, and it is believed 'successful', water development in pastoral areas.

The research informing this overview was not restricted to a review of the partners own work, but also mapped out the bigger picture of who is involved, where, how, whether and how approaches to water development have changed over the last few decades, and what some of the current major interventions are – all within the framework of national and regional policies, plans, and strategies. It also explores the level of coordination between different actors in the field, whether activities build on existing pastoral natural resource management know-how, and lessons learned from previous water development interventions.

Based on an extensive review of published and unpublished documents, and over fifty in-depth interviews with development practitioners and representatives of government and donor agencies engaged in water development in pastoral regions, this report also highlights 'good' and 'poor' practice as identified by interviewees. For the purposes of this report, 'good' and 'poor' practice is presented as: 1) approaches that are unanimously seen to work in the pastoral context, 2) approaches that are seen as problematic, 3) approaches which appear promising but where more field level research and documentation is likely to be necessary.

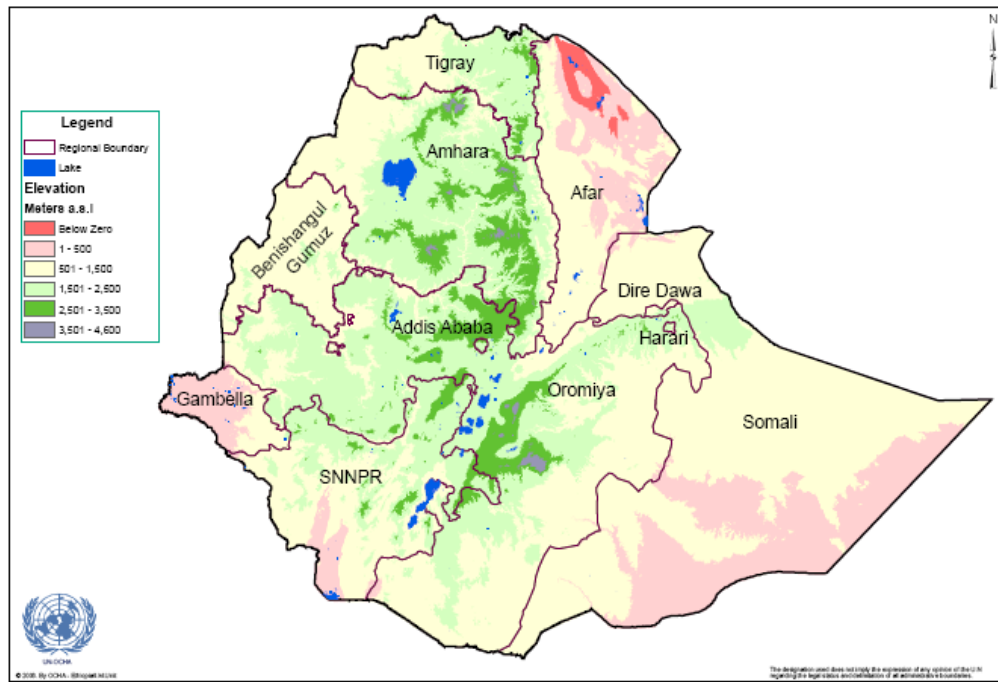
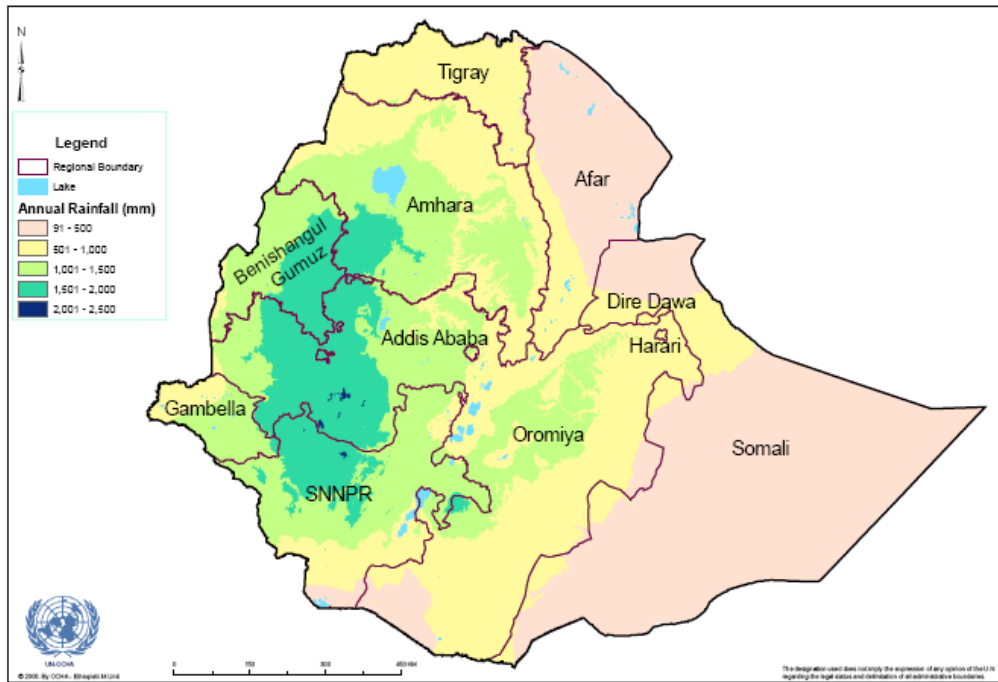
1.3 Scope and structure of the report

The partners specifically restricted the content of this report to a discussion of water development for livestock use (and human use⁸) in arid areas where livestock keeping is the dominant livelihood, and where agricultural production is limited due to insufficient and unreliable rainfall. Therefore the main thrust of this report is on water development for human and livestock use in regions predominantly inhabited by pastoralists (rather than agro-pastoralists or farmers). The areas covered are those regions or areas where absolute rainfall is low. These areas generally occupy the lowland areas of the country. Regions included in this review include Afar, Somali, and the arid zones of Oromia and the Southern Nations, Nationalities and Peoples' Region (SNNPR) (See Figures 1 and 2). It was not within the scope of this report to include information from other pastoralist areas such as parts of Gambella, Benishangul-Gumuz and Tigray.

Figure 1: Rainfall distribution and elevation maps, Ethiopia.

7 Meant here as developments which will address water shortages and meet the demand for water without encouraging conflict, the degradation of the rangelands and the weakening of rangeland-dependent livelihoods.

8 Since water for human use is also generally water for livestock use in pastoral regions.



Source: UN-OCHA Map Centre⁹

⁹ <http://ochaonline.un.org/MapCentre/ReferenceMaps/tabid/2953/language/en-US/Default.aspx>

Within pastoral areas, it is recognized that land use patterns are changing in line with government intentions to diversify pastoral livelihoods by introducing and expanding medium and large scale irrigation schemes and promoting agro-pastoralism (Box 1). Yet it is beyond the scope of this paper to give a detailed analysis of the socio-economic ramifications of agricultural expansion and resulting

Box 1: Promoting irrigated agriculture

In the last 50 years, as per 2003 estimates, nearly 50-60,000 ha of key dry season grazing areas have been developed for irrigated agriculture along the Awash River. In Somali region, the Gode irrigation scheme is in place with 27,000 ha earmarked for irrigation expansion. In South Omo in SNNPR, large-scale commercial irrigation schemes are planned which may also result in the loss of key grazing lands. Estimates in 2003 indicate that about 1.9 million hectares have been excised from the rangelands for crop production, (Yemane, 2003) and today this figure is undoubtedly higher as irrigation expansion is a continued pursuit in Ethiopia's pastoral regions.

sedentarization. It is acknowledged, however, that the expansion of irrigation is a contentious issue in pastoral areas given the central importance of land and resource access for pastoral livelihoods, with many voices for and against it. Several authors argue that regardless of the profits to be had from farming, "the economic losses and social costs of declining pastoral production often outweigh it" (UN OCHA Pastoralist Communication Initiative, 2007; 8). But to do justice to the topic of water use for irrigation in the Ethiopian context, a separate undertaking is recommended to understand how the expansion of irrigated agriculture will enhance or handicap local livelihoods. It also deserves a detailed economic analysis to determine whether it is more profitable as well as beneficial for the state and for local people, to develop land for irrigation, to maintain and improve rangelands for pastoral livestock production, or to explore a combination of the two. Despite the fact that this report does not go into detail regarding the implications of agricultural expansion in pastoral regions, it is recommended that development in these regions should not be looked at in isolation from development plans for the rest of the country, since the lowlands play a considerable role in government plans to reduce population pressure and poverty in the highlands. Further studies exploring the relationship between development in the highlands and development in the lowlands, the synergies (or lack thereof) between the two, and the implications for pastoral and non-pastoral livelihoods are therefore recommended.

Given the limited timeframe for this study, it was not possible to capture the complete range of current water development experience. This report therefore presents a selection of highlights, based on what practitioners put forward as 'good' practice, rather than a comprehensive list of all water development activities in the country's pastoral regions. Highlighted approaches and practice are project or area specific, and are therefore not meant to serve as general blueprints. Rather, they should be taken as inspiration for potential ways forward and are meant to promote dialogue and debate around issues related to water. Furthermore, the author acknowledges that there are other examples of 'good' practice which may not have been captured in this overview, and that this does not detract from the value of other experience which may have been missed in this report.

A note on terminology

The terms 'capacity building', 'participation' and 'community', among other terminology, often appear in reports dealing with development in pastoral rangelands. Yet frequently these terms lack clarification on what exactly is meant by them. Even the term 'development' has different interpretations. As this report is not based on primary research but rather aggregates and analyses the experience of others, it is difficult to present an exact meaning for some terminology unless an explanation has been provided by the person interviewed or by the literature consulted. Where clarifications are given, these will be provided. Otherwise, it is acknowledged that a lack of standard definitions presents some blind-spots in what can be understood under the different policies, plans, strategies, and programs highlighted.

This report is structured in 4 sections. Section 1 provides an overall introduction to the report. Section 2 presents an overview of pastoralism and its challenges in Ethiopia. It outlines traditional natural resource management strategies (primarily related to water), highlights how pastoralism is perceived by different actors, and provides a history of water development and natural resource management in the rangelands up until 1991, when the current government came to power. Section 3 provides an overview of water development since 1991, and includes an overview of national and regional level policies which guide and influence development in the country in general and in the regions in particular. It also provides an overview of stakeholders and how they are involved and a selection of the major programs and projects associated with the different actors. Section 4 provides lessons learned and key observations in the water development sector as well as potential ways forward and recommendations. The final section also presents an example set of guidelines – essentially an amalgamation of existing guidelines – which could serve as a starting point on which to build to establish common guidelines for water development in the pastoral context.

1.4 Methodology

The data for this work was collected over a 2 month period primarily in Addis Ababa with visits to SNNPR, Somali and Afar regions. One-on-one semi-structured interviews were conducted with over fifty representatives from national and regional government, development organizations, donors, research institutions, and pastoral associations. An extensive review of published and unpublished documents was also conducted. An Ethiopian consultant was brought on board to focus on interviews and documentation review in Somali and Afar regions to determine whether feedback at regional level corroborates findings at federal level. Data, viewpoints, and documentation were also obtained through email communications with several international experts with expertise in pastoral development.

The semi-structured interviews used were designed to allow an understanding of:

- Current projects, plans, programs and strategies, and the rationale behind selected approaches to water development in pastoral areas.
- Perceptions of what is happening in the water development sector more broadly and what some of the strengths and weaknesses are.
- Past interventions (over the last 40 years - since the start of government, donor and NGO involvement in Ethiopia's drylands) and the influence these have had on shaping approaches over the last 10 years.
- The policy setting in the past and today and how this influences development in pastoral regions.
- Whether existing customary natural resource management practices are understood, considered in planning and built upon as part of the organization's/entity's approach.
- What different actors – including the partners – consider good and bad practice, and why.
- Some of the knowledge gaps.
- Planned interventions in pastoral regions.

Literature was also collected from experts and practitioners in the field or from resource centres in Addis Ababa and elsewhere. Material collected and reviewed includes: 1) documents which describe government, donor, and development organizations' plans, programs, policies and projects in pastoral regions, 2) research and academic literature related to pastoralism, customary natural resource management strategies, and development interventions in the pastoral context, 3) grey literature which may be unpublished or not widely available related to specific projects (evaluations and assessment reports), policies, plans and guidelines, project newsletters, unpublished scholarly writing, and other similar literature.

Section 2. Overview of pastoralism and development in pastoral regions up to 1991

2.1 The mobile pastoral production system and customary natural resource management

Table 1: Pastoralist and agro-pastoralist populations in selected regions

Sources: FDRE, 2007; PCDP II, 2008; Oromia Water Works Design and Supervision Enterprise, 2009.

Region	Population	Pastoral	Agro-pastoral
Afar	1.4 million	1.26 million	0.14 million
Somali	4.4 million	3.74 million	0.66 million (<i>includes other livelihood groups</i>)
Oromia	27 million	4.32 million	

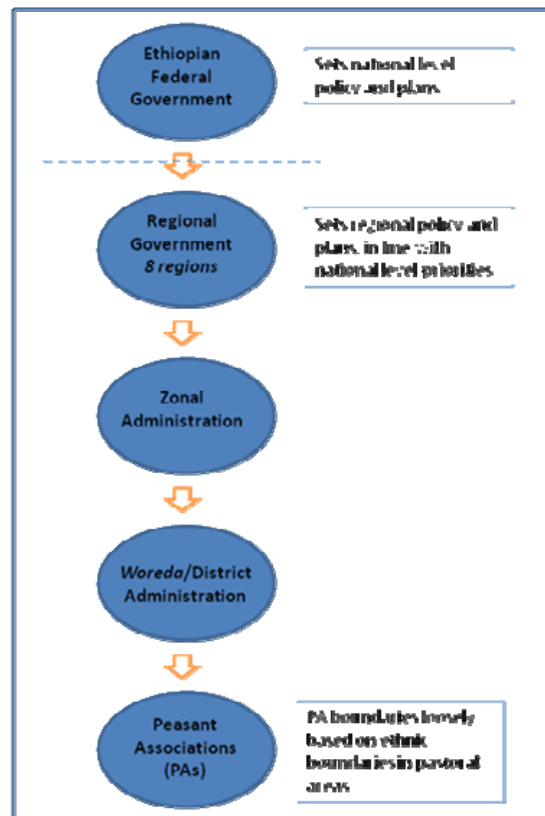
Pastoral production remains the dominant land use in Ethiopia's lowlands, which occur below 1500m elevation and constitute between 54% and 61% of the country's surface area (Coppock, 1994; Oromia Water Works Design and Supervision Enterprise, 2009). Of the estimated 1.4 million people in Afar region, 90% are pastoralists¹⁰ and 10% agro-pastoralists¹¹ while of Somali region's 4.4 million people, 85% are pastoralists, and the remainder a combination of agro-pastoralists, farmers and urban dwellers (FDRE, 2007; PCDP II, 2008). Pastoralists also represent a significant proportion of the population in Oromia and SNNPR's arid lowlands (PCDP II, 2008). To date, agricultural production is limited in many of the country's pastoral regions. In Afar, only about 0.3% of the total land area is used for crop farming and in Somali, 5.5% of the total land area is used for mostly rain fed agriculture, and 0.2% for irrigation (Ibid). However, crop production is becoming more widespread in some parts. About 40% of Oromia region is considered pastoral, where most of the land cover constitutes rangelands and about 5% is under cultivation (Oromia Water Works Design and Supervision Enterprise, 2009). In parts of this region, however, where changing land use is predominant, a study has shown that in the late 1990s 16.3% of the total land area of the study site was set aside for crop production, up from only 1.4% in 1986 (McCarthy et al, 2001). The extent of land enclosed for grazing has also grown alongside, with an additional 3.67% enclosed and privatized, indicating recent changes in property rights dynamics in some areas (ibid). Furthermore, whereas 30 years ago only 10% of the study sample contained households who practiced cultivation, by the late 1990s about 80% of the sample included households engaged in crop production (ibid).

¹⁰ Consistently defined in various literature as people who obtain more than 50% of their income from livestock and livestock products. Pastoralists also characteristically practice mobility to avoid risk, respond to variable climatic conditions and ensure healthy livestock and rangelands.

¹¹ Consistently defined as people who obtain less than 50% of their income from livestock and livestock products, and most of the remaining income from cultivation. Mobility is practiced but to a more limited extent as compared to pastoralists.

Despite these localized changes, pastoral livestock production remains the dominant land use across pastoral regions. It also contributes significantly to the national economy. The livestock sector is the second largest foreign exchange earner after coffee, and in 2006 the country earned \$121 million from livestock and livestock related products (IIED and SOS Sahel, 2010). Pastoral livestock production contributes about 30% of GNP and 90% of the hard currency generated from live animal exports (Kassahun, 2003 in Kassahun et al, 2008). The direct value of pastoralism is estimated to be 1.22 billion USD per annum. In addition there are a large number of indirect economic values (including draught power, manure, tourism, and rangeland products such as gums and resins) which are estimated to exceed 458 million USD, leading to a total of at least 1.68 billion USD per annum (SOS Sahel Ethiopia 2008). Still this is very likely an underestimation as many official livestock sales figures do not reflect reality. For example, the actual value of cross-border livestock sales in Somali region is said to be 3-6 times that of the official figures for the whole country (Scott-Villiers, 2006).

Figure 2: Formal governance structure in Ethiopia



Pasture and water are essential for pastoral livestock production. Pastoralists depend on mobility to make use of the regions' extensive rangelands, where presence/absence of pasture is dictated by scarce and variable rainfall. Water, therefore, plays a critical role in pastoral decision-making and influences how and when pastoralists move. In the rainy season, pastoralists disperse over wide areas with their herds, making the most of pastures revitalized and made accessible by rainfall and surface water ponds. In the dry season, pastoralists move to grazing areas around permanent water sources such as rivers or groundwater-fed wells. The seasonal movement between wet and dry season grazing areas, organized through customary institutions, allows pasture to recover ensuring that the pastoral production system remains sustainable. Dry season grazing areas, in particular, are critical to the survival of the pastoral production system, without which the system would collapse. These areas are also generally near water bodies, which is often where irrigation areas are earmarked.

Pastoralists have for centuries translated scarce and variable resources into a thriving production system, and as mentioned above, have developed specialized management strategies based on mobility to do so. Besides supporting livestock production, pastoral natural resource management strategies are also recognized to contribute to maintaining rangeland health. Extensive grazing opens up pasture, stimulates vegetation growth, fertilizes the soil, aids in seeds dispersal to maintain pasture diversity, prevents bush encroachment and enhances the cycling of nutrients through the ecosystem (Thebaud, 2004, in Hesse and MacGregor, 2006). In fact, much more pasture degradation is apparent in areas around permanent settlements than in open rangelands where mobile pastoralism continues to be practiced (Niamir Fuller, 1999).

Communal land tenure accommodates pastoralists' need to be mobile. Groups are often associated with specific territories which contain critical natural resources such as grazing land and water resources, but boundaries between these territories as well as membership within them is often ill-defined or 'fuzzy' to accommodate for mobility between them in times of scarcity (Mwangi and

Dohrn, 2006). Spatially variable rainfall means that the location of rainy season and dry season pastures may vary from year to year (Helland, 1980: 60). To accommodate for this variability, access from rain poor to rain rich territories is either allowed or negotiated (if the visiting herders are unrelated) between neighbouring groups. This type of arrangement helps pastoralists deal with climatic variability, and reciprocity – a key feature of pastoral systems – is expected when the tables are turned (Beyene and Korf, 2008). Therefore movement between territories is based on negotiation and reciprocity, and traditional institutions are in place to represent different clans or groups in decision-making regarding access to land and water (Thébault, 1995 in Gomes, 2006). Communal tenure cannot therefore be equated with ‘free’ or ‘open’ access regimes which lack ownership or management plans (Lane, 1996 in Gomes, 2006). In turn, the tragedy of the commons theory expounded by Hardin in the late 1960s, which argues that in such a situation of ‘open access’ individual herders maximize short term gain through the indiscriminate use of pastures to increase their herd size, eventually leading to overgrazing and depleted pasture (Hardin, 1968), does not reflect reality in the rangelands. However, tragedy of the commons thinking has greatly influenced approaches in the early years of development in Ethiopia’s lowlands, and unfortunately continues to do so even though the validity of the theory has been repeatedly challenged.

The pastoralist livelihood strategy is still considered a highly rational and flexible land use for much of the arid lowlands, as attested to by the persistence and performance of the livelihood in this setting (where mobility is still practiced relatively unimpeded). Devereux (2006) found that where mobility is unhindered, pastoral households are more economically and food secure than their settled counterparts. In Ethiopia, it was found that livestock are more at risk of succumbing to drought in areas where pastoralists are settled into a semi-sedentary lifestyle. In 2004 and 2006 many pastoral settlements were partially or entirely abandoned, as people moved to evade the drought (Devereux, 2006). Little et al (2008) reached a similar conclusion, showing that households were less likely to lose their livestock assets and become food insecure if they remained mobile. However, certain realities in parts of the rangelands cannot be ignored, including the fact that population is increasing, that people require diverse livelihood opportunities which may lie outside pastoral production, and that highland populations are being resettled to the lowlands and will require livelihood options more than likely based on agricultural production. The multiple needs and priorities in the rangelands must therefore be acknowledged, and all options fully and fairly explored (importantly including pastoral production¹²) to enhance national economic growth without compromising sustainable livelihoods.

2.2 Challenges facing the rangelands and pastoral livelihoods

Despite the positive contributions of pastoralism to livelihoods, the economy and to rangeland health, there are persistent challenges. These include the continued degradation of the rangelands, the shrinkage of land available for grazing, and reduced opportunities for mobility. These challenges have clear implications for pastoral production and for livelihoods. The stubborn encroachment of *Prosopis juliflora*, the continued excision of key grazing areas for irrigation expansion (see Box 1) and other uses such as national parks and crop cultivation (the latter by some pastoralists, as well as immigrants and refugees), the proliferation of pasture enclosures for private use, increased sedentarization and the proliferation of water points which promote settlement, and poor rangeland management all contribute to the persistence of these problems. Increasing population, poverty, conflict, frequent drought, and policies which promote sedentarization exacerbate the challenges.

These conditions have been associated with decreased per capita holdings of livestock, and an increased trend towards agro-pastoralism among Ethiopia’s pastoral communities (Yemane, 2003). Furthermore, the numbers of pastoral dropouts – those who have lost their livestock assets and do

¹² For example, the Oromia regional government’s prominent Oromia Growth Corridors Plan has declared that a large portion of pastoral land in Oromia should be maintained as rangeland and should not be converted for agriculture.

not engage in agricultural production, settling in permanent settlements in search of petty labor – are also observed to be on the increase, as shown in a study conducted in the Borana zone of Oromia region (Desta et al, 2008). Government, donors, and development agencies continuously grapple with these challenges with multiple approaches taken to address the various pressures. These approaches run along a continuum from staunch support for mobility to encouraging sedentarization. Government at national level seems to lean towards promoting settlement as a long term objective, believing this to be the only lasting and sustainable solution to protect livelihoods. At local level, many government personnel living in pastoral regions, themselves from pastoral families, inevitably keep livestock. For those who do, they are aware of the importance of livestock mobility including the need for rangelands to be sufficiently rested to recover before they are again grazed. Among NGOs, many continue to make water development decisions based primarily on technical considerations with insufficient consideration of livelihood dynamics. At the same time, more NGOs understand the rationale of livestock mobility and make efforts to accommodate it, and many NGO staff recruited from pastoral areas own livestock and are therefore aware of the benefits of livestock mobility. Though there are multiple approaches and perspectives, all stakeholders seem to share the sentiment that there is a need to ensure access to diversified economic opportunities for those who no longer remain in the pastoral system.

2.3 Social organization and customary land and water management strategies¹³

Identity plays a central role across Ethiopia in terms of who has access to which land. In Somali and Afar regions for example, clans or sub-clans are associated with specific home areas, even though other groups are allowed access based on established relationships and negotiation (Hogg, 1997; Getahun 2004). Traditionally in Borana, being Borana is an entitlement in itself and “every Borana has the right to graze his livestock wherever he wants within the Borana areas” (Helland, 1980: 47). Although in practice most Borana graze their livestock within quite defined areas, in the rangelands they have grown to know best.

Access to and availability of water affects who and how many have access to surrounding pasture and grazing areas (Bassi, 2005; Helland, 1980). Water availability in the past influenced how many livestock the ecosystem could support, and livestock exceeding the capacity of dry season water points would not survive (Helland, 1997). Water, therefore, played a limiting role. Density-independent factors also affected population numbers (and still do), including disease epidemics and drought (Helland, 1997), which resulted in a cyclical rhythm of population build up and decline in the arid lowlands in response to these episodes of density-independent events. These natural dynamics in the rangelands counter Hardin’s hypothesis that human action is solely to blame for environmental degradation and livestock asset depletion.

Customary rules and regulations modulating water access and use exist among different pastoral groups across the country. A few common characteristics are shared between them. In the wet season when rainfall opens up wet season grazing pasture, anyone with grazing rights in a given area has access to water collected in natural pans for as long as it naturally lasts, and therefore to surrounding pastures (Helland, 1980 in Sandford, 1983). Access to traditional seasonal water points such as ponds involves some regulation, and some labour is required to maintain the water point (Hogg, 1997; Helland, 1980). Access to water from permanent water sources in dry season grazing areas is likely to be strictly controlled. In times of scarcity, control on water use is even stricter. Water and pasture need to last through the dry season, and water points are therefore managed to support a limited number of people and livestock (Helland, 1980 in Sandford, 1983).

¹³ It is recognized that customary institutions have evolved over time and are not fossilized entities which conform to historical descriptions. The extent to which these institutions have evolved requires further analysis to help development practitioners identify appropriate modes and levels of engagement, with the ultimate goal of properly informing development.

The following broad overview touches on how some pastoral groups in different regions manage land and water.

Borana

Traditionally, management of land (pasture) is not a clan responsibility among the Borana, but the responsibility of 'territorial units' (Tache, 2000) called *dheedhas*. These *dheedhas* do not have hard and fast boundaries, but rather may change according to resources available, are highly porous, and are simply 'known' rather than being clearly defined and written down. Further though 'territorial' in nature they are administered by a complex social organization. This complex customary administrative structure, known as the *gaada*, applies the customs and laws of the Borana (*ada seera*).

The smallest territorial unit among the Borana is the *warra*, which constitutes a Borana household. A group of *warra* with associated cattle enclosures constitute an *olla*, or village. Clan affiliation is not necessary to ensure cooperation within a village (Tache, 2000) where several clans may exist, and *warra* members cooperate based on being Borana and sharing territory. Adjacent villages together constitute the next territorial unit up, the *ardaa*. At this level, a council of elders (*jarsa ardaa*) is nominated to deal with the management of communal pasture, and intervenes when there are signs of pasture depletion (Ibid). Decisions are made at this level regarding lactating stock (*loon warraa*), which graze around the villages, and dry stock (*loon foora*), which has to be grazed further away to avoid pasture depletion in the vicinity. Neighbouring *ardaa* together constitute a *reera*, with no rigid boundaries between them. At this level, there is cooperation to mobilize labor for important occasions, and also cooperation on the use of ponds. The next level up is the *maddaa*, which consists of several *reera* and is commonly named after a permanent water point (Ibid). A collection of *maddaa* together makes up the largest Borana unit, the *dheedha*, which together make up the entire Borana territory.

Being Borana technically entitles any Boran to graze anywhere¹⁴, and different controlling mechanisms are put in place by the different territorial units to make sure that pasture is not overused (limiting where and when people can settle, restricting grazing by stock type, establishing calf reserves or *kaloo* whose location changes from year to year to avoid overgrazing, and establishing wet and dry season grazing locations) (Ibid). However, access to water, especially dry season water, is the decision of clans who manage permanent wells. Therefore clan-based decisions on water influence which pasture can be used when and by whom.

Ethiopia's Borana have some of the most elaborate water control and management systems in the country. For ponds and pools which fill up in the rainy season, anyone can use these structures as long as they contribute to their maintenance. However, *reera* members are expected to use ponds within their own territory and are discouraged from using those in other *reera* to avoid overusing neighbouring resources (Ibid). If water levels in ponds drop too fast and it is feared that the supply is overused, precedence is given for the domestic use of the closest *ollas*, adult cattle are excluded in favour of calves, and if necessary, even calves will not be allowed access. The animals denied access must then be moved to other ponds or wells (Bassi, 2005). Ponds and other surface catchments are usually constructed by *reera* families, and management and maintenance of the water point is communal at this level.

For traditional wells, which 'belong' to clans, access and use is managed much more strictly, as considerable labour inputs are needed both for construction of the well and extraction of water from the well. An individual instigates the digging of a well, called the *konfi*, who must recruit assistance for well excavation. This is usually from within his own clan, but also from other clans and lineages, who provide the labour and the cattle to sustain the digging crew during the construction work, and

¹⁴ This entitlement is applied to various degrees in Borana areas, and is influenced by various social, political and economic factors which differ between locations.

thereby earn permanent access rights to the well. The well is however managed by the clan or lineage of the *konfi*. The *konfi* is considered the 'father of the well' or *abbaa ellaa* and is the person responsible for it. This does not translate into absolute ownership, but the *abbaa ellaa* does have access priority and makes decisions concerning the well (Bassi, 2005). He is closely observed by clan elders who make sure that the *konfi* makes decisions in line with the customs and laws of the Borana (*ada seera*) (Helland, 1980). Traditional regulations dictate that access to the well is structured by day and position in the queue for that day, and those clans or lineages who contributed to construction have right of access (Bassi, 2005). However, Borana who have not contributed to well construction are also extended temporary access rights in times of need. Turns at the well are decided by the 'father of turns' or the *abbaa herregaa*, who is chosen by the *abbaa ellaa*, and the number of positions in the queue are restricted by the amount of water available and by the rate of water seepage¹⁵ (Bassi, 2005).

A well council, or *cora ellaa*, composed of those with permanent rights of well usage (primarily those who have contributed to its construction), has overall authority over the well (Helland, 1980) and decide who gains access; a decision informed and guided by the *ada seera*. Gaining access to a well critically depends on the contribution of labour commensurate with the herd size to be watered, and on "establishing and legitimizing links with the well council [where] the organizational units of Borana society, such as the lineage organization, the Gada system, the age sets and the relationships between them, provide a grid of potential links among individuals" (Helland, 1980: 71). Failure to provide labour requirements or to adequately convince the well council of claims to water will result in exclusion, and water must then be sought elsewhere.

Somali

Unlike the Borana, territories in Somali are associated with particular clans and sub-clans, with fluid boundaries between them. Boundaries in the past were not fixed and shifted based on power dynamics between neighbouring clans (Hogg, 1997). Rivers, ponds, shallow and deep wells and *birkado* are common water sources within the different territories. In the past (prior to the 1960s) the Haud plateau, now dominated by numerous *birkado*, was predominantly wet season grazing land, with associated permanent dry season water points located in Somaliland. Pastoralists would use grazing areas in the Haud during the wet season, and fall back to the permanent water points in Somaliland in the dry season (Walker and Sugule, 1998). However, *birkad* construction by pastoralists allowed people to settle permanently around these structures in the Ethiopian Haud, effectively establishing dry season nuclei across a formerly wet season landscape and changing land use dynamics (Gomes, 2006).

Today, water use systems in Somali differ according to location within the region, and are differentiated by dry season water resources and how they are used (Devereux, 2006). In most arid parts of the region, water is often only obtainable from *birkado* in the dry season. As *birkado* are generally privately owned, water access is usually against payment. The private ownership of *birkado* means potential exclusion from water access for those with no means to pay (or for other reasons), which in turn means exclusion from surrounding grazing (for those *birkado* which are also used for watering livestock), forcing herders to seek out other *birkado* with more agreeable owners or provoking conflict over access (Devereux, 2006). *Birkado* are usually owned by wealthier individuals (or sometimes groups) who have the means to pay for the considerable construction costs. Those who cannot afford to construct their own *birkado* have to pay for access, where the price of water is negotiated on an individual basis and depends on the season, at its highest in the dry season (Ibid).

¹⁵ Each well has its own capacity to produce water. When pastoralists drain water out, the water accumulated in its bottom decreases, but it is constantly fed by seepage. Seepage varies with the season and can be slow or fast, which affects the number of cattle that can be watered daily. Good wells and localities are those that are less affected by droughts. The use of mechanised pumps in the vicinity of traditional wells is likely to deeply affect this capacity (Marco Bassi, *personal communication*).

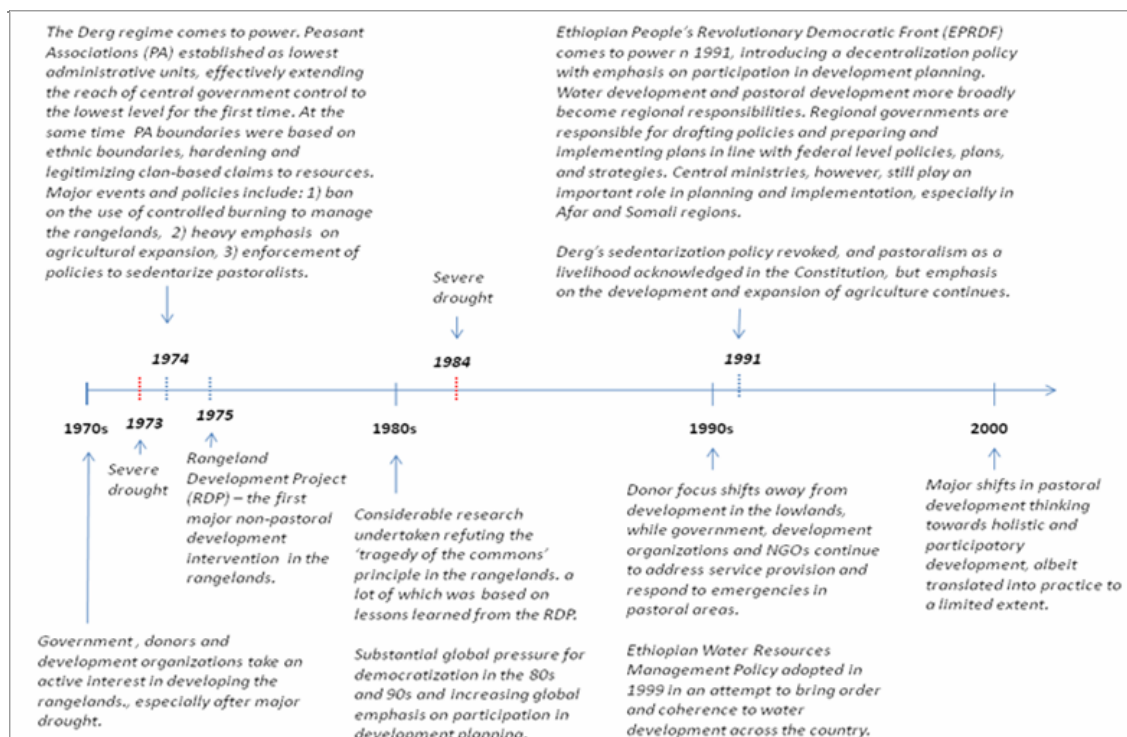
In areas of adequate groundwater, hand dug wells are common. These usually belong to clans, but are sometimes owned individually. When water is plentiful, clan owned wells are open access to other clans living in the area and for those migrating in search of water. Water is free, and water sale is not a usual practice. However, access to water follows an established hierarchy, which is strictly enforced especially in times of scarcity. The person who constructed the well and his family are first in line to the water, followed by clan members, and non-clan members last (Ibid). Deep wells, which require considerable labour for excavation and water extraction, follow a similar management system as for the Borana.

Afar

Indigenous pastoral law determines access to and control of natural resources. Land in Afar is divided into sultanates, which are further divided into tribe and clan territories (Getahun, 2004). Each clan usually presides over a number of strategic resources, such as wet and dry season grazing areas and water points. Decisions on access and control of natural resources are made by the village council, which consists of the clan leader, clan elders, local wise men, and a traditional rule-enforcing unit (Hundie, 2006). In the wet season, Afar livestock graze open rangelands, which are managed by the different tribal units. However, scarcity of water in the dry season leads pastoralists back to the Awash River which is the principal dry season water source. Grazing around the river is delineated and managed by clans through a leader's council (Law, 2000 in Getahun, 2004), where territorial affiliations are strong, and infringements on traditional law are penalized by traditional management units (Ibid).

2.4 History of 'external' water development from the 1970s up to 1991

Figure 3: Timeline of events influencing development practice in Ethiopia



The Derg regime

Prior to the 1970s, not much attention was given to pastoral regions in terms of sustaining and protecting livelihoods, and interventions concentrated almost solely on developing land for commercial irrigated agriculture along rivers. Measures and policies implemented under the Derg regime (1974 to 1991), however, left a lasting impact on land and people in the rangelands. The most important of these include: 1) the ban¹⁶ on using controlled burning¹⁷ to manage the rangelands, which saw an increase in bush encroachment and shrinkage of land usable for grazing; 2) the aggressive promotion of agricultural expansion, which also reduced the extent of the range; 3) the creation of Peasant Associations (PAs) as lowest level official administrative units¹⁸; 4) the enforcement of policies to sedentarize pastoralists (Kamara et al, 2003); and 5) land nationalization in the highlands.

Approaches to rangeland development under the Derg were top down with solutions prescribed based on what was believed 'best' for the rangelands and in turn for pastoralists, with little participation from the grassroots. The 1975 Nationalization of Rural Lands Proclamation states that "the government shall have the responsibility to improve grazing areas, to dig wells and to settle the nomadic people for farming purposes" and that nomadic associations were "to induce the nomads to cooperate in the use of grazing and water rights" (in Hogg, 1993: 30). Even though the 1975 Land Reform in principle granted pastoralists rights to access grazing land, their priorities came second to those of the state (Elias, 2008). The Reform nationalised all commercial agricultural concessions granted under the emperor Haile Selassie, and the regime aggressively pursued the expansion of state farms with special support provided for agricultural development. Choice areas set aside for state irrigation projects often lay in key pastoral dry season grazing areas which were essential for livestock survival in times of drought (Helland, 2006).

The establishment of PAs effectively introduced a parallel system of natural resource governance in the rangelands, alongside customary governance. Where access to land and water resources were previously negotiated between different pastoral groups and boundaries between them were 'fuzzy' to accommodate for mobility, PA boundaries "legitimized and hardened clan-based claims to land and water resources" as PA boundaries were loosely based on *maadda* boundaries in Borana and on the home areas of Somali sub-clans in Somali region (Hogg, 1997). PA chairmen, usually officials with the received wisdom of the agricultural highlands, had little knowledge or appreciation for traditional land management systems already in place, or for the logic behind these systems, and were vested with the authority to allocate land, preside over issues related to resource use, and make decisions on water rights, effectively replacing the role of traditional elders (Kamara, 2003). It is therefore unsurprising that agriculture was actively promoted.

The overlap of, and often conflicts between, official and customary governance systems weakened the authority of pastoral elders. As traditional decisions on land and water use did not hold sway in the official arena, individual pastoralists (and non-pastoralists) could disregard the codes and decisions of customary institutions and seek potentially more favourable outcomes from PA authorities (Sandford, 1983; Tache, 2000). This dual land management system, in effect, made space for the exception to dominate the rule, and individuals (pastoralists and non-pastoralists) could now benefit or manoeuvre at the expense of the wider community. Also with communal tenure not being formalized, and the continued appropriation of grazing land for farming and irrigation, a common

16 This ban was enforced across regions but was not based on any official legislation or policy but rather on what was perceived as 'correct' land management practice at the time.

17 A traditional land management practice used by pastoralists.

18 Similar to today's *kebeles*.

observed response was for individuals to seek new ways of ensuring access to rangelands, which included the creation of private reserves for different purposes within the commons (Helland, 2006).

Water development under the Derg

The Rangelands Development Project (RDP)¹⁹, initiated in 1975 and funded by the government and the World Bank, was considered the first large scale range improvement effort by government and donors. The development of water infrastructure was a central feature. The RDP is considered a key project among water development practitioners in Ethiopia (across the spectrum from government to non-government) which illustrates what not to do in terms of water development in the rangelands.

The RDP aimed to “restructure low output traditional range practices and improve efficiency of production” (World Bank, 1991), and therefore promoted ranching and settled forms of livestock production as a solution to the perceived irrational and unproductive pastoral use of the rangelands (Hogg, 1993). In essence, the project did not recognize the productivity of mobile livestock production systems. The World Bank completion report published in 1991 admitted that there was a lack of knowledge of pastoralists’ behaviour and the drivers behind traditional land use practices.

The construction of water points was one of the only components of the project where headway was made. Boreholes were constructed on ranches where water catchment was restricted, and ponds proliferated in wet and dry season grazing areas. The project rationale for water point construction in wet season grazing areas was that it would open up and allow more ‘efficient’ use of pasture in these areas to reduce pressure on dry season grazing areas (Gebre Mariam, 1982). Large ponds were also constructed in dry season grazing areas (World Bank, 1991).

The RDP inserted water points in pastoral areas with little understanding of pastoral dynamics and the logic behind pastoral natural resource management strategies. The project did not take on board what local people considered appropriate, and water points were planned and constructed in a top-down fashion by technical persons with little participation from the grassroots. Water points were also government owned, and management and maintenance were the ultimate responsibility of local administration. Therefore, project water points were completely external to traditional systems, which brought with it a loss of control over who, how many, and when people and livestock had access to grazing land. In addition, the often weak management capacity by local administration saw conflict arise at the grassroots over control and access to water points, and many of the water points constructed at the time fell into disrepair.

Assessments of the project reflected on some of the impacts of water point development:

- Non-local ownership and management responsibility of water points resulted in poorly controlled access and poor maintenance. Sandford (1983: 29) states that the government’s claimed right to control access to water points meant that “additional people who would otherwise have been excluded from water points giving access to certain grazing areas are now allowed in.” Points were also often inadequately sited and inappropriately spaced.
- The construction of large ponds encouraged permanent settlement so that people could now make year-round use of surrounding pasture. Overgrazing and erosion (pasture degradation) were frequently observed around large capacity water points. Alternative modes of production, such as small-scale crop cultivation, also began to appear with the year-round availability of water, introducing a competing land use in predominantly rangeland areas (Gebre Mariam 1982).

¹⁹ Implemented through the Southern Rangelands Development Unit (SORDU), the Jijiga Rangelands Development Unit (JIRDU), and the Northeast Rangelands Development Unit (NERDU).

- Insufficient recognition of distinct communal grazing areas (albeit with ‘fuzzy’ boundaries to allow for reciprocal mobility between them in times of scarcity), the importance of water for the traditional regulation of resource use in these grazing areas, and the relationship between the people with traditional grazing rights in each, saw frequent fighting around access to project water points.

Helland (1980; 72) hypothesised the following 30 years ago, which seems to have come to bear in some pastoral areas:

“In technical terms, the pastoral resources of Borana [and other] land can easily be expanded by digging stockpounds or sinking boreholes. The sociological implications of this, however, are likely to be far-reaching. If water is made freely available, this means that the existing social organization, which regulates labour inputs, access to water and control over pasture, is stripped of a major function. At this stage, one can only predict that this loss of function will weaken the social controls of the existing system. If the social controls are weakened, however, one may further predict that...free access to water may be advantageous for the individual in the short run, but will have serious maladaptive implications. The short term expansion of the pastoral resource will be followed by long term degradation.”

In sum, the RDP did little to improve rangeland management or livestock productivity, and decisions regarding water development eroded traditional water management systems, introduced private forms of land use in the communal rangelands (in parts of the country), and fuelled land degradation and conflict. A lesson learnt from the RDP is that the “participation of intended beneficiaries in defining the project concept is fundamental” (World Bank, 1991:27).

2.5 Changes in thinking

Although early experiences in water development had obvious negative impacts in the rangelands, they also provided a valuable opportunity for practitioners and researchers to learn about what works and what does not in the pastoral context. Some significant changes in approach and thinking have been observed since. Water development in the rangelands is now more focused on protecting lives and livelihoods, and the pastoral production system is a recognized form of land use mentioned explicitly in the current government’s constitution, as well as in national development plans and programmes (e.g. the Plan for Accelerated and Sustained Development to End Poverty, the Productive Safety Net Programme, the Poverty Reduction Strategy Paper, and others). The RDP and other such interventions across East Africa also prompted researchers to critically review the relevance of rangeland development approaches, which had an avowedly commercial basis (driven by the World Bank and others) and were based on equilibrium grazing systems²⁰ and informed by the ‘tragedy of the commons’ theory. Findings indicate that neither model nor theory applies in the pastoral lowlands, and a large body of research has been generated since the 1980s touching on these points (see for example Behnke, 1994). At the same time, towards the end of the 1980s, the World Bank funded The Fourth Livestock Project. This initiative was the first real attempt at rangeland development with an emphasis on pastoral participation to avoid the pitfalls of previous approaches. However, the project never really took off as it was hampered by the political situation at the time and by the costs of sustaining a bloated pastoral development bureaucracy (Hogg, 1993).

²⁰ Behnke (1994: 6) defines equilibrium grazing systems as “characterized by relatively high levels of climatic stability resulting in constant levels of primary production...livestock populations in these settings can expand to the point where they have a considerable impact on the vegetation, both in terms of its species composition and density”. Conversely, non-equilibrium environments are “subjected to extremely variable rainfall, [where] fluctuations in rainfall may have a much stronger effect than animal numbers on vegetation.”

Specific to water development, several trends and practices have been noted. These include:

- Increased awareness that pastoral areas - where mobile livestock keeping is a central feature - require a different approach to highland areas where sedentary farming practices predominate. Also recognized is that pastoral areas are not homogenous and needs and dynamics in towns and settlements are different to those in open rangelands, requiring context specific planning.
- Increased recognition that the pastoral livelihood is more than just livestock production, and is influenced by internal and external social, cultural and political aspects, which differ between and within regions. These must be properly understood to better inform decision making related to water development.
- Increased recognition that mobility is an important strategy to respond and adapt to increasing resource variability, and that understanding mobility patterns can better inform water development planning.
- Increased focus on understanding the existing natural resource base in a location (water and pasture) and the way people use these resources to inform planning, in recognition that water points function within the broader landscape and can alter patterns of resource use. Water points can add value when placed strategically and sustainably.
- Increased awareness that water provision in the rangelands is not only about availing water for people and livestock, but also about supporting and improving livelihoods. By extension, value is added to the wider economy when livelihoods are supported. Water development is beginning to be coupled with improving livestock marketing opportunities and channels, veterinary services, rangeland health/condition or rehabilitation and other development interventions.
- Increased recognition that the 'software' component of any water development is as important as the actual physical infrastructure. Focus on planning, management and sustainability of water points is increasing to ensure that water points are appropriate to the local context, that they effectively serve the different needs of users, and that they remain functional.
- More emphasis is placed on the rehabilitation of existing water points to avoid the risks associated with new developments, especially when project duration is short (for example in emergency relief interventions).
- To address sustainability issues, more emphasis is placed on promoting community buy-in to water development (either by contributing in cash or in kind) and on selecting water points which do not require sophisticated construction or maintenance, where construction materials and spare parts (where needed) are easily obtainable at the local level. There is also increasing focus among practitioners on training local artisans to construct and maintain water points in order to build a cadre of local expertise and decrease dependency on external support (which may or may not be available).
- Increased awareness of the value of combining scientific and customary knowledge systems. Practitioners increasingly recognize that pastoralists have an important role to play in the water development process, especially given their detailed knowledge of the rangelands, to help planners understand needs, dynamics and the bigger picture at ground level. In Ethiopia, as a result of lessons learned from early projects (such as the RDP) and under the current government, more emphasis has been placed on grassroots participation in the water development process. This is highlighted in the current government's focus (in policy and strategy documents) on development being driven from the *woreda* level. Approaches to participation are evolving from end users simply expressing demand for water, and being tasked with the operation and maintenance of water points planned and implemented by outsiders, to

encouraging a more participatory approach to planning, construction, and ensuring the sustainability of water points.

- Recognized need to improve partnerships and linkages between different projects and programs across the rangelands to streamline approaches to water development.

Section 3. Water development today

This section presents an overview of stakeholders, policies, plans, strategies, projects and programs related to water (and pastoral) development in Ethiopia’s rangelands, with a discussion to follow in Section 4.

3.1 Stakeholders and selected interventions

Stakeholders engaged in water development in pastoral regions can be grouped into four broad categories – pastoralists, government, development organizations/NGOs, and the private sector. This report primarily focuses on activities by government and development organizations/NGOs, including community-based organizations.

Donors are also major stakeholders, but play more of an influencing role in how practitioners engage in the rangelands. Major donors funding long term development initiatives featuring water include USAID, EU, UNDP and the World Bank. Major humanitarian donors include OFDA and UN-OCHA. Among donors funding long term development, much more emphasis is placed on effectively involving communities in the planning and management of water schemes. Among humanitarian donors, emphasis continues to be on short-term emergency interventions, which automatically translates into less focus on the software component of water schemes (i.e. building local capacity to manage and maintain water points, ensuring fair and equitable access, etc). However, a few examples of livelihoods based emergency interventions are currently under way in Ethiopia (e.g. USAID’s Pastoral Livelihoods Initiative and ECHO’s Regional Drought Decision²¹), suggesting the beginnings of a trend among certain donors towards ensuring community resilience to shock rather than simply providing emergency relief. It also appears that donor influence is generally stronger on development organizations/NGOs than on government, with the exception of a few major government projects (discussed in Section 3.1.2.3).

Table 2: Water development under humanitarian response and development scenarios

	Duration	Activities	Push factors	Observations
Emergency Response	Typically 3-6 months	Water trucking Rehabilitation of water points Construction of water points	Increased incidence of drought and floods and weakened capacity to cope, aggravated by poverty and conflict, firmly entrench the need for reactive emergency response.	<ul style="list-style-type: none"> Due to the short-term nature of interventions, practitioners are compelled to focus much more on hardware and technical interventions than planning, participation and sustainability.
Development	A year or more	Rehabilitation of water points Construction of water points	Increased awareness that root causes of vulnerability must be addressed and adaptive capacity increased to decrease the need for, and dependence on, emergency response.	<ul style="list-style-type: none"> There is little communication or collaboration between emergency response and development donors as well as practitioners. This is true even within organizations where emergency response and development are handled

²¹ A program which aims to prepare pastoralists across the Horn of Africa region for increasingly unpredictable and failing rains.

by different departments. This frustrates ambitions for longer term development.

- More awareness that root causes of vulnerability need to be addressed to reduce the need for emergency response, as illustrated by the emergence of livelihoods-based emergency response (as done under the ECHO programme and USAID's Pastoral Livelihoods Initiative)

3.1.1 Pastoralists

Pastoralists have for centuries managed water resources and constructed their own water points. The most common types of water points constructed by pastoralists include shallow and deep wells, ponds, and *birkado*, the latter common in Somali region and introduced to other regions by non-pastoralists.

As water scarcity (and now pasture scarcity) is a persistent challenge, communities make appeals for water to government and development organizations/NGOs, either to remedy water shortages or to open up new pasture. Communities either make direct appeals to local NGO offices, or they submit appeals to government at district level. If the latter approach is taken, local government either addresses the water shortage directly or writes an endorsement letter for NGOs to attend to the issue.

In terms of pastoral influence on the planning and siting of water points, this differs depending on the entity constructing (and funding) the point and the type of water point constructed. Communities lead decision making when it comes to traditional structures such as ponds, springs and customary deep wells. For structures funded and constructed by non-pastoralists, especially those which are technically more complex (like boreholes) decision-making is primarily driven by government or other funding agencies (donors/development organizations). The degree to which communities participate in decision making then depends on the disposition of the entity constructing the water point. If community participation is high on an organization's agenda, as is currently the case among many donor agencies which fund long term development, then more attention is given to enabling participation in planning, management, and maintenance. Where it is not as much a priority, as is the case among many NGOs and local government bureaus, participation is often symbolic. However, overall, there are signs of improved focus on participation among both government and development organizations²², yet this is by no means mainstreamed in terms of practice across the country.

Labour or cash contributions are increasingly expected of communities towards the construction, operation and maintenance of water points to encourage a sense of ownership for infrastructure.

²² As reflected by increased emphasis on participation in government planning and strategy documents and the development of guidelines for participatory and context-specific planning among government and development organizations within projects and programmes.

Eliciting payments for water from local communities remains a considerable challenge, whereas labour is much more readily provided.

To date there is no structured way in which local pastoral communities engage with local government or NGOs. Demand is expressed on a case by case basis. This results in disjointed demand and promotes an uncoordinated response. Some projects, however, encourage more streamlined communication between customary institutions and local authorities, as illustrated by USAID’s Pastoral Livelihoods Initiative.

At regional level, Pastoral Associations have been formed by pastoralists in the last four years to directly and formally voice pastoral concerns to government. These have been established in Oromia and Afar regions, the former in 2006 and the latter in 2008. The Oromia Pastoral Association was formally recognized by regional government and it is well regarded by both pastoralists and by government (Fekadu Abate²³, personal communication). These Associations could act as a vehicle to organize and streamline communication between local communities and government (as well as development organizations) and could open up necessary discussions on priority macro-level issues related to water and pasture at regional level. Links between Pastoral Associations and more localized community/government interaction should also be identified and promoted.

3.1.2 Government

Following the coming to power of the Ethiopian People’s Revolutionary Democratic Front (EPRDF) in 1991, and the decentralization policy pursued in the context of a federal state devolved on ethnic regional lines, water development and pastoral development more broadly have become regional responsibilities. Regional governments are responsible for drafting policies and preparing and implementing plans, in line with federal level policies, plans, and strategies.

3.1.2.1 National level actors, policies and strategies

Three line ministries play a central role in guiding water development and pastoral development in the regions: the Ministry of Water Resources (MoWR), the Ministry of Agriculture and Rural Development (MoARD) and the Ministry of Federal Affairs (MoFA). By extension, the Ministry of Finance and Economic Development (MoFED) also influences planning. The MoWR and the MoARD focus on water supply and irrigation, while the MoFA focuses on pastoral issues and technical and capacity support to emerging pastoral regions²⁴.

Table 3: Ministries involved in water and pastoral development.

Institution	Mandate	Observations
Ministry of Water Resources (MoWR)	<ul style="list-style-type: none"> Responsible for the country’s water supply and for planning and implementing large-scale irrigation projects. Sets policy and coordinates planning and development related to water in Ethiopia. Produces strategies and programs, develops and implements water sector laws and regulations, conducts studies and research activities, and provides technical support to regional water 	<ul style="list-style-type: none"> Even though planning and implementation are regional responsibilities, central ministries are heavily involved in planning and technical expertise provision at regional level in Afar and Somali regions, and also in the pastoral areas of Oromia and SNNPR.

23 Executive Officer, Oromia Pastoral Association.

24 Emerging regions include Afar and Somali regions.

	bureaus.	
	<ul style="list-style-type: none"> Provides technical and institutional support to the emerging pastoral regions (Afar and Somali), to embed capacity at regional level to plan and implement projects. 	<ul style="list-style-type: none"> There is an overlap in responsibility for water related issues between the MoARD and the MoWR. Both are involved in irrigation development (MoWR develops large schemes, MoARD and the regions develop small and medium schemes) and both ministries supply water for livestock (MoARD explicitly for livestock and MoWR for human as well as livestock consumption).
Ministry of Agriculture and Rural Development (MoARD)	<ul style="list-style-type: none"> Plans, develops, and manages the country's agricultural resources and develops policies, strategies and programs. Develops small and medium-scale irrigation projects and is also responsible for the livestock sector, including water development for the sector. Provides coordination support for small-scale agricultural activities to Afar and Somali regions, as well as technical backstopping for Oromia and SNNPR when needed. 	<ul style="list-style-type: none"> MoFA responsible for pastoral livelihood issues which cut across sectors, including agriculture and water. MoFA is therefore very involved in setting cross-sector priorities for these areas together with relevant ministries.
Ministry of Federal Affairs (MoFA)	<ul style="list-style-type: none"> Hosts the Pastoral Areas Development Department (PADD) which provides development and capacity building support to emerging regions (Afar and Somali), drafts pastoral policies and designs specific development programs for pastoral regions informed by the country's rural development vision and strategies. Facilitates vertical support between line ministries and regional governments, as well as horizontal support between regional governments of developed and regions and those of less developed (emerging) regions. Actively participates in preparing regional down to woreda level action plans and is directly involved in monitoring and evaluation of development activities. 	
Ministry of Finance and Economic Development (MoFED)	Responsible for budget allocations to line ministries and also engaged in national policy coordination, therefore plays an implied role in sectoral activities.	

Ministry of Water Resources (MoWR)

The MoWR was established under proclamation number 4/1995 in response to a lack of a central institution which sets policy and coordinates planning and development related to water in Ethiopia. The ministry's mandate includes planning, developing, and managing water resources, developing policies, strategies and programs, developing and implementing water sector laws and regulations, conducting studies and research activities, and providing technical support to regional water

bureaus²⁵. The ministry's intervention priorities, as outlined in the country's national water policy (adopted in 1999) are water supply and sanitation followed by irrigation, hydropower, and flood control. It is responsible for producing plans and strategies for the provision of water supply, and also for planning and implementing large-scale irrigation projects. For pastoral regions specifically (especially the emerging regions of Afar and Somali), the ministry provides technical and institutional support through the Water Development Works Affirmative Support Coordination Department, whose task it is to ensure that there is sufficient technical capacity and skilled human resources at regional level to plan and implement projects.

The Ministry of Agriculture and Rural Development (MoARD)

The MoARD's mandate includes planning, developing and managing the country's agricultural resources, developing policies, strategies and programs, and providing support to regional rural and agricultural bureaus. The ministry is responsible for the development of small and some medium scale irrigation in pastoral regions, and also for supporting livestock production²⁶. It develops water for both irrigation and for watering livestock, the latter provided primarily through harvesting surface water, which includes pond and *birkad* construction.

Box 2: The Livestock Policy Forum under MoARD

The Livestock Policy Forum, established with support from the Feinstein International Centre (FIC) at Tufts University, is a first of its kind platform which brings together 70 NGO representatives, the private sector, bilateral and multilateral donors, Ethiopian research institutions, professional associations and government departments (Behnke et al, 2008). It allows members to share and learn from field experience and develops guidelines on emergency livestock interventions, which introduce a more livelihoods based approach to emergency relief. The five working groups under the forum include emergency water supply, veterinary care, supplementary feeding for livestock, market and destocking support, and restocking and the forum is a strong vehicle for policy dialogue (Pantuliano, 2008).

Special support for pastoral regions is provided through a coordinating body within the ministry called the Emerging Regions Development Coordination Office. This office coordinates small-scale agriculture activities in emerging regions (Afar and Somali) and also provides technical backstopping for SNNPR and Oromia when needed. The recently established Livestock Policy Forum under the MoARD is also a strong platform where critical issues related to pastoral livelihoods are discussed (Box 2).

The Ministry of Federal Affairs (MoFA)

The Ministry of Federal Affairs was established in 2001, and its duties include supporting development in the emerging regions of Afar and Somali (among others). MoFA's Pastoral Areas Development Department (PADD) supports development and capacity building in these emerging regions, assists in appropriately structuring government institutions from regional down to local level, drafts pastoral policies, and designs specific development programs for pastoral regions based on the country's rural development vision and strategies (Tekele, 2005). It also actively participates in preparing regional down to woreda level action plans, provides technical backstopping, and is directly involved in the monitoring and evaluation of development activities (Ibid).

25 <http://www.mowr.gov.et/>

26 The focus has been on livestock products divorced from the livelihood system producing these products. However, recent developments like the Livestock Policy Forum indicate that there is better recognition of the role of the pastoral livelihood system and the need to support it to achieve positive outcomes in terms of productivity.

MoFA carries out its duties by facilitating vertical support between line ministries and regional governments, as well as horizontal support between the regional governments of developed and less developed (emerging) regions.

The inter-ministerial board

Most line ministries at federal level have units or desks which handle development in pastoral regions. MoFA chairs an inter-ministerial board which brings together representatives from the various line ministries, to take stock of current activities in pastoral regions and to discuss planning. MoFA then communicates outcomes and decisions to regional government and facilitates the exchange of information between ministries and the regions.

Horizontal coordination

Emerging regions are given support by neighbouring developed regions. MoFA coordinates and facilitates the delivery of this support. Current examples of inter-regional support include capacity building, technical and implementation support by Amhara and Tigray regions to Afar regional government. At present, the Amhara and Tigray regional Bureaus of Water Resources handle the study, design and construction of small-scale irrigation projects in Afar. For Somali region, the Oromia-Somali Joint Commission was established for similar purposes.

Prior to 2008, support to Afar and Somali regions was provided by the Somali Coordination Department and the Afar Coordination Department under MoFA. These departments ensured that there was appropriate backstopping from federal level to the respective regional governments and that transfer of knowledge and expertise between neighbouring regions occurred. However, these departments did not work towards time-bound targets. Since 2008, both these departments were subsumed under the new Ensuring Equitable Development Directorate. Under

Box 3: Ensuring Equitable Development Directorate – MoFA

Under the new Directorate established in 2008, which includes the Somali and Afar Coordination Departments, strategic goals have been set to close the development gap between regional states, and a roadmap developed to meet this goal over the coming six years. Steps include:

- Identifying gaps between developed (like Oromia and SNNPR) and relatively less developed regions together with international partners (including USAID, UNDP, DFID, and others);
- Developing a programme on how to close these gaps, in collaboration with international partners;
- Drawing annual plans from the overall programme.
- Developing performance measurement and management systems; and
- Implementing annual plans.

MoFA and partners are currently conducting a desk review of the gaps.

this directorate, strategic goals and objectives have been introduced with the aim of closing the development gap between developed and ‘emerging’ regions in the next six years (Box 3).

Policies, laws and strategies

Policies outlining national development priorities, in addition to national land laws clearly have implications for water development in pastoral regions. The current policy direction suggests that the sedentarizing effect of some water schemes may be encouraged rather than mitigated in the pastoral context. The MoFA’s 2008 Draft Policy Statement for the Sustainable Development of Pastoral and Agro Pastoral Areas of Ethiopia, for example, states that ‘in the long-term, the government envisions a stable pastoral and agro pastoral community through the facilitation of gradual and voluntary transition towards permanent settlement especially along the perennial river banks’ (MoFA, 2008: 2). Even though this is a sentiment shared by central government ministries, many practitioners in the field believe that sedentarization is likely to gravely exacerbate the challenges facing pastoral livelihoods.

National policy paints a conflicting picture of how sustainable development can be achieved in the rangelands. It appears that in the short term, government aims to support customary pastoral production systems. However, the long term focus is on ‘voluntarily’ settling pastoralists by providing livelihood diversification opportunities most notably fixed on irrigated agriculture. The long-term policy vision for pastoral areas is influenced by the belief that increased population, poverty, and competition over natural resources, coupled with reduced quality and extent of the rangelands and increased incidence of climatic shocks, renders the pastoral system incapable of surviving in its current form. Tenure security for pastoral communal rangelands also does not seem high on the national or regional agenda.

Table 4: National strategies and laws which influence development in pastoral areas.

Policy/Strategy	Relevance to pastoral development
<p>Poverty Reduction Strategy Paper (PRSP) 2001</p>	<ul style="list-style-type: none"> • Emphasises irrigation development in the lowlands and supports the long-term vision of sedentary livelihoods for pastoralists. • Supports mobile pastoralism in the short-term through mobile service provision. • Recognizes that pastoralists possess important traditional knowledge that should be considered and brought on board to make national policy more relevant for pastoral regions.
<p>Plan for Accelerated and Sustained Development to End Poverty (PASDEP) 2006</p>	<ul style="list-style-type: none"> • Echoes the PRSP in terms of emphasis on irrigation development in the lowlands as well as the long-term vision of sedentary livelihoods for pastoralists. • Deeper discussion of pastoralism-related issues as compared to the PRSP. E.g. recognizes that mobility and livestock are central to the pastoral system and that restricted mobility disrupts livelihoods. Also acknowledges that drought, poor market access, poor veterinary services, water shortages, range degradation, and poor infrastructure impede pastoral development. • Recognizes that formal institutions have limited understanding of pastoral communal range management strategies, which is a challenge for pastoral livelihoods. Highlighted are the need to 1) recognize traditional institutions and leadership, 2) promote linkages between state and traditional governance, 3) develop policy innovations which build on traditional norms as well as state priorities, 4) develop participatory land use policies based on communal land management systems, 5) consult pastoral communities in designing and implementing development projects in their areas. Also states that it is important to understand and balance the economic advantages of interventions with the social costs. • No clear road map or plan provided for how to achieve the above aims.
<p>Rural Development Policies, Strategies and Instruments (RDPS) 2001</p>	<ul style="list-style-type: none"> • Since agricultural development is earmarked as a central economic growth strategy, the RDPS guides development in rural areas to achieve rapid growth in the agricultural sector. • In pastoral areas, short and medium term strategies focus on availing water for livestock production, with little mention of how this should be approached. In the long term, pastoralism is seen as an unsustainable livelihood and sedentarization is encouraged with irrigated agriculture as a core livelihood activity.

	<ul style="list-style-type: none"> Recognizes the value of strengthening customary land management practices as well as the value of local pastoral knowledge. Participation is explicitly mentioned, but no mention made of how this should be achieved.
Federal Rural Land Law 2005	<ul style="list-style-type: none"> Supports the private holding of land be it for individual farmers to claim agricultural land or for pastoralists to claim a portion of the rangelands. Does not recognize the rationale of traditional communal landholding.

The Poverty Reduction Strategy Paper (PRSP)

The 2001 Poverty Reduction Strategy Paper (PRSP) emphasises the importance of bringing available areas in the lowlands under cultivation and states that settlement is the only long-term solution for pastoralists. Special agricultural assistance can then be provided once pastoral groups have settled in a fixed location. In the interim, it mentions that mobile services such as health and education should be provided in a manner which accommodates pastoralists who continue to be mobile.

The PRSP recognizes that in pastoral regions drinking water cannot be looked at in isolation from pasture, given that livestock – dependent on pasture - are frequently kept wherever there are people. It states that “it is of paramount importance to integrate the supply of drinking water and that of pasture so as to accelerate and improve animal resources development” (PRSP: 58). It also acknowledges that pastoralists possess important traditional knowledge that should be considered and brought on board to make the national policy more relevant for pastoral regions. Consultations were therefore held with pastoralists, but the final document benefited little from this consultative process and regional manifestations of the policy differed marginally, if at all, from national strategies (Pastoralist Forum Ethiopia, 2009).

Specific to water, the strategic development plan envisions: 1) the promotion and construction of ponds and other water harvesting technologies, 2) the construction of water points near to range resources, 3) the use of roadside run-off for crops, and 4) assistance to local irrigation practices. Access to improved water supply should also be facilitated for settled/semi-settled pastoralists to encourage them to stay (PRSP, 2001; Section 7.3.5 (a)).

Plan for Accelerated and Sustained Development to End Poverty (PASDEP)

The PASDEP (2006) guides all development activities in Ethiopia from 2006 to 2010 and essentially provides a national strategy to achieve priority national goals, including economic growth with emphasis on the commercialization of agriculture, industry and urban development, as well as scaling up efforts to meet development objectives as outlined in the Millennium Development Goals (MDGs). It is essentially a follow up to the PRSP, hence it echoes many of the sentiments expressed in the PRSP.

The long term view for pastoral development is in line with most other policy documents, which is the ‘voluntary’ settlement of pastoralists and diversification into agriculture and other non-livestock related livelihoods. Settlement is seen as the only long term solution to the challenges faced in the lowlands.

In terms of water development, the PASDEP emphasizes interventions to improve livestock production, including water development adjacent to grazing areas. At the same time, the development of small and medium scale irrigation is encouraged to promote the permanent settlement of pastoralists. The PASDEP states that “technical support through extension services

will be given to pastoralists to encourage them to practice agricultural activities side by side with their regular activities through the introduction of small-scale irrigation” (PASDEP, 2006: 70).

At the same time, the document provides a wider and deeper discussion of pastoral areas. It recognizes that mobility and livestock are central to the livelihood and that restricted mobility disrupts livelihoods. It also acknowledges that drought, poor market access, veterinary services and infrastructure, as well as water shortages and degraded rangelands impede pastoral development. It states that “a proper understanding of pastoralism requires an understanding of the multi-dimensional reality of the pastoralist situation today” (PASDEP, 2006: 195).

The document states that the abandonment of traditional grazing systems has had a serious impact on the natural resource base, resulting in overgrazing and land degradation. These are major challenges to pastoral livelihoods and represent constraints to development at large. It further recognizes that formal institutions have a limited understanding of pastoral communal range management strategies, which has resulted in impediments to pastoral livelihoods. It states that in response, “Government has set a policy that protects pastoral lands, although it is not yet implemented fully” (PASDEP, 2006: 195).

Traditional management systems are recognized in the PASDEP. Within the policy statement, it is acknowledged that it is important to: 1) recognize traditional institutions and leadership, 2) promote linkages between state and traditional governance, 3) develop policy innovations which build on traditional norms as well as state priorities, 4) develop participatory land use and ownership policies based on communal land management systems, 5) consult pastoral communities in designing and implementing development projects in their areas. It further states that it is necessary to understand and balance the economic advantages of interventions with the social costs. However, there is no clear road map or plan for how to achieve these aims.

Strategies mentioned to improve conditions in the lowlands include protecting and rehabilitating rangelands and developing water, but the relationship between water and the use of pasture in the lowlands is not discussed except perhaps tangentially through mentioning that the abandonment of traditional grazing has contributed to rangeland degradation, and that it is necessary to encourage traditional natural resource management mechanisms.

As was done for the PRSP, consultations were held with pastoralists to discuss the PASDEP and bring on board pastoral considerations prior to finalizing the program. Yet again the final document benefited little from this consultative process, and regional manifestations of the national policy were very similar to the national level strategy (Pastoralist Forum Ethiopia, 2009).

Rural Development Policies, Strategies and Instruments (RDPS)

Since the agricultural sector has been earmarked as central to the growth of the national economy, it was recognized that a national policy document was needed to guide development in rural areas and achieve rapid growth in the sector. This recognition culminated in the publication of the RDPS document, produced by the Ministry of Information. The development policies and strategies outlined in this 2001 document focus predominantly on crop cultivation and the extension and promotion of agriculture and irrigation as a central way forward for economic growth and food security in Ethiopia.

In pastoral areas, short and medium term strategies focus on availing water for livestock production, with little mention of how this should be approached. In the long term, however, pastoralism is seen as an unsustainable livelihood and sedentarization is encouraged with irrigated agriculture as a core livelihood activity. The document states that “settlement in pastoralist areas is more than just a change of place; it is a change of lifestyle. It is transferring a person who used to be engaged in

nomadic livestock husbandry to a sedentary farmer...[and] it will require a major cultural change” (RDPS, 2001: 77).

Participation is explicitly mentioned, but phrases such as “democratically persuade the people and make them participate” (RDPS, 2001:133) do not clarify how participation is to be promoted or implemented²⁷. Yet at the same time, the document recognizes the value of strengthening customary land management practices as well as the value of local pastoral knowledge. It states that “in collaboration with tribal leaders and people representatives, a lot has to be done to improve the management and protection of the rangelands” (RDPS, 2001: 74). It also mentions that using “the tribal structures of the people” may be an appropriate platform from whence to “democratically motivate the people for development” (RDPS, 2001: 149).

Federal Rural Land Law

Issued in 2005, this law supports the private holding of land be it for individual farmers to claim agricultural land or for pastoralists to claim a portion of the rangelands. In essence, it does not recognize the rationale of traditional communal landholding, and has been criticized as going against the federal constitution (Abdulahi and Adenew, 2007). Also argued is that although the constitution does mention pastoral rights to grazing land, this needs to be further developed at the regional level, where Abdulahi and Adenew (2007) note that regional laws relating to pastoral rights are ‘vague.’

Ethiopian Water Resources Management Policy (MoWR, 1999)

The Ministry of Water Resources introduced the country’s first national water resources management policy, outlining the country’s vision for the development of rural and urban water supply, irrigation, and hydropower generation. The policy was adopted to address specific shortcomings in the water development sector [Box 4].

This policy does not specifically disaggregate between highland and lowland areas, although the policy prescriptions, if followed, should ensure that local contexts are considered.

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Box 4: Ethiopian Water Policy

A comprehensive water resource management policy was set out in 1999 to begin to address:

- The lack of a comprehensive water resource management strategy;
- The prevalence of unrealistic and unattainable plans and programs;
- Non-objectives oriented programs and projects;
- Uncertain and ambiguous planning;
- Intensive centralism of management with no focus on rural development;
- Lack of institutional sustainability; and
- Ad hoc development practice lacking coherent objectives and continuity.

The policy also recognizes that competition for water and pasture could lead to ethnic tension, and as such, appropriate water policy must be developed for pastoral regions.

.....

Water supply focuses on availing water for human and livestock use, where livestock water supply is recognized as an integral part of the overall water sector. Water for livestock is explicitly mentioned and its importance emphasised for lowland areas. The policy states that “livestock water supply is an integral part of the overall water sector” (MoWR, 1999: 22), while irrigation is meant to improve food security through the implementation of small, medium and large scale interventions.

27 This approach to participation is not specific to pastoral areas but applies more broadly.

Water supply

Governance and capacity

The policy outlines that efficient and sustainable management of water supply requires management that combines federal level guidance with regional level implementation - with strong vertical linkages. Management should be at the lowest level of institutional setup, allowing for user participation and effective decision making. Within this context, stakeholder roles and responsibilities need clear definition, including those of government actors at federal, regional, zonal, *woreda*, and *kebele* levels, as well as those of external actors such as NGOs, development organizations and donors. The policy also explicitly recognizes the need for building and strengthening water management capacity at both federal and regional level, highlighting specific areas of focus including institutions, manpower, and legislation.

Water user involvement

Emphasis is given to promoting participation from the grassroots. This includes the need to identify and involve local stakeholders at the outset of any water development, provide a legal basis for meaningful participation of stakeholders (including water users' associations), support traditional and localized water harvesting techniques, build on and improve existing traditional water sources to improve rural water supply, and promote community involvement in management, operation and maintenance with a clear understanding of realities on the ground.

Coordination and linkages

Linkages and partnerships between different actors are explicitly encouraged. The policy recognizes the need to develop a framework for partnership and collaboration between community, government, and external agents (NGOs etc.) and the need for dialogue between them through the establishment of fora for discussion and consultation.

Irrigation

Two main strategies for irrigation development are outlined in the policy, the development of medium and large scale irrigation projects to address food security at national level, and small and medium scale irrigation projects to address household level food security based on user participation and management. The policy explicitly calls for the support and enhancement of traditional irrigation practices, and the promotion and meaningful participation of all stakeholders in all phases of planning, studies, implementation, and operation of irrigation schemes of all sizes. Furthermore, it calls for the need to "provide for the harmonious co-existence of indigenous peoples and irrigation projects" (MoWR, 1999).

Ministry of Federal Affairs Draft Policy Statement for the Sustainable Development of Pastoral and Agro Pastoral Areas of Ethiopia (MoFA, 2008)

Page 2 of this document states that:

"...in the short term, this policy envisages that the needs of pastoralists and agro pastoralists will be reflected in all national policy and planning frameworks, that the vulnerability of poor people to climatic shocks, particularly droughts and floods, will be reduced and capacities strengthened to respond to climate change, and, that the inhabitants benefit from systems of good local governance. In the long-term, the government envisions a stable pastoral and agro pastoral community through the facilitation of gradual and voluntary transition towards permanent settlement especially along the perennial river banks. In addition, the Government will provide support for the expansion of irrigation through water harvesting at household levels and strengthen the constructions of multi-purpose dams to support

irrigation which ultimately enable pastoral and agro pastoral people pursue sedentary life with diversified and sustainable income.”

The implications of this policy are inevitably the continued and concerted focus on agricultural development in pastoral regions, and the provision of sedentary services. In addition, it may also lead to a shift away from a livestock-based economy. The economic significance of such a shift bears consideration especially given that livestock production is the second largest foreign exchange earner for the country. The pastoral system is valued at an estimated 1.68 billion dollars per year, which is a conservative estimate. This besides the value of mobile pastoralism as a means of sustainably managing and maintaining grazing land.

3.1.2.2. Regional level actors and policies

Regional governments have the autonomy to adapt national plans and policies to suit regional contexts. Strategic plans touching on water are prepared by the different bureaus responsible for water, agriculture, and pastoral development. However, regional plans and policies often do not differ substantially from national plans and policies, and continue to emphasize agriculture and sedentary livelihoods. Policies related to land tenure, which affects all land users in the lowlands, are also prepared at regional level and are the mandate of agricultural and rural development bureaus.

In Afar region, the Bureau of Water Resources Development and the Bureau of Agricultural and Rural Development are both involved in planning and implementing water development for productive use (both water supply – which is also used by livestock – and small to medium-scale irrigation). In Somali region, the Water, Mines and Energy Bureau plans, implements and manages water supply schemes, while the Bureau of Livestock, Crop and Natural Resources is engaged in developing medium-scale irrigation. Policies, plans and strategies do recognize that livestock are part and parcel of pastoral landscapes, yet water supply and irrigation projects are primarily designed to serve people. In the past 5 years, however, the fact that in many pastoral areas water for people cannot be disaggregated from that for livestock has promoted the adoption of Multiple Use Water Services (MUS)²⁸ principles, and livestock troughs are being constructed around water points designed for human supply). This is logical for the drylands and is currently mentioned in the PASDEP and in the Universal Access Programme (UAP).

Issues specific to pastoral livelihoods, where water development is often a dominant feature, are handled by specialized bureaus dedicated to pastoral development in regions where pastoralists represent only a portion of the total population. This is the case in Oromia and SNNPR. In Oromia, the Oromia Pastoral Development Commission (OPDC) is the responsible institution, while the Pastoral Affairs Bureau is the responsible entity in SNNPR. These commissions/bureaus are meant to ensure development appropriate to the pastoral context. In regions considered entirely pastoral, agricultural and rural development bureaus assume this responsibility. In Afar, the responsible institution is the Agriculture and Rural Development Bureau, while in Somali region it is the Natural Resources, Livestock, and Crop Bureau.

Regional policies related to land tenure

Pastoral tenure rights in the regions remain uncertain even though there has been some headway made in SNNPR and in Afar (see below). Uncertain pastoral tenure rights makes communal land

28 MUS is water service delivery designed to meet water demand for both domestic and productive uses ([Faal et al. 2009](#)), introducing an integrated approach to a sector dominated by primarily single use service delivery.

vulnerable to conversion for other land uses perceived as more suitable. Abdulahi and Adenew (2007) highlight some of the regional level policies related to land tenure in pastoral regions.

- SNNPR: The SNNPR Rural Land Administration and Utilization Proclamation No.110/2007 recognizes the existence of communal land and specifies how it should be registered (the 2007 SNNPR Rural Land Law), with some provisions to protect pastoralists.
- Oromia: The Oromia Rural Land Use and Administration Proclamation No.130/2007 largely excludes pastoralists and does not recognize communal ownership. The term ‘possession’ is used in such a way as to focus on individual ownership.
- Afar: The Afar Regional State’s draft Rural Land Administration and Use Proclamation (No. ---/2009) recognizes, as per the constitution, that pastoralists have the right to the use of grazing land. It further mentions that traditionally communal grazing land cannot be privatized. This seems to extend exclusive rights to pastoralists over the use of communal rangelands. However, the proclamation also mentions that land is ultimately owned by the state and that communal land, provided the consensus of local communities, can be privatized and/or given to investors when considered appropriate.
- Somali: The regional government is currently in the process of drafting the region’s new Land Use Proclamation.

3.1.2.3. Major Government Programs and Projects

A large number of projects and programs are in place across Ethiopia’s pastoral regions, some addressing water specifically and others coupling water development with broader pastoral development (rangeland rehabilitation, improved veterinary services, etc.). Following is a selection of current approaches used by government (and in later sections by development organizations/NGOs). Insofar as these examples do not capture the full range of experiences in the field, they illustrate examples along a continuum from a technocratic approach with generic methods of promoting participation (which are often only symbolic) to highly participatory approaches which are specific to particular localities and socio-political settings.

Standard practice in pastoral areas is for communities to express demand for water from the local authority. Local government (or NGOs) respond to this demand, and the type of water point to be constructed is then selected from a menu of options (shallow wells, deep wells, ponds, *birkado*, spring capping, etc.) based on the hydrogeological context of the area. Placement of the water point is also primarily based on hydrogeological considerations. Sometimes, decisions on water point construction are guided not by need but by local government’s ethnic and socio-political affiliations. More water points can be observed in areas which are home to the majority of local administrative staff, as observed in Jijiga woreda in Somali region.

Notable departures from this ‘generic’ approach have been observed in the last 10 years. The following projects provide a range of examples, some which follow the standard approach but which attempt to better integrate participation and other key issues (addressing other development needs, context specific planning, etc.), and others which focus on grassroots participation as a central feature of their strategy. However, each of the following endeavours applies its own approach to what constitutes appropriate water development in the rangelands, which suggests that ministries as well as regional offices work independently of one another with little coordination around water development issues and limited sharing of best practice. Incoherence in approach to water development and weak linkages between stakeholders creates an environment where it is easy for inappropriate water development to go unchecked.

The Pastoral Community Development Project (PCDP) (2001-2015)

Launched in 2001, MoFA's \$60m PCDP project pursues long term development in the rangelands which addresses "pastoral communities' priority needs, improves their livelihoods and reduces their vulnerability...through community driven development interventions"²⁹. The PCDP was developed in response to the failed top-down development interventions in pastoral areas in the past, and is a 15 year program, currently in its second 5-year phase from 2008-2013 (PCDP I was implemented from 2003-2008). It is jointly funded by the Ethiopian government, the World Bank and IFAD.

All PCDP activities are meant to be community³⁰ driven, using the Community Driven Development approach (CDD³¹). Participation is meant to be promoted through tools such as Participatory Rural Appraisal (PRA)³² and Participatory Learning and Action (PLA) (Assaye Legesse³³, personal communication).

Local communities are responsible for project design, implementation and management and receive technical training to do so. Mobile Support Teams (MSTs) are supposed to work closely with communities to assess and address capacity gaps for people to be able to implement and manage project activities themselves. They are also meant to act as facilitators between sectoral experts at regional/woreda level and the community. MSTs are trained in how to use participatory tools (PRA and PLA), and the PCDP has benefited from input from development organizations who have considerable experience applying these tools, such as Farm Africa (Assaye Legesse, personal communication). To ensure appropriate community buy-in/commitment and the sustainability of interventions, communities are expected to make a 15% contribution, at least 5% of which should be in cash and the remainder in kind.

Water development under PCDP

Water is almost always cited as a priority issue by communities, regardless of whether they are mobile, sedentary or semi-sedentary (e.g. pastoralists or agro-pastoralists), and it is especially a priority among women (Assaye Legesse, personal communication). In terms of disaggregated demand for water, the following trends were observed (Ibid):

- Pastoralists' main concern is usually water and pasture, ranked equally in terms of importance.

²⁹ www.pcdp.org.et/

³⁰ PCDP recognizes that 'community' "differs from region to region, and also within regions, requiring a flexible approach to identifying social groupings with which the Project can work...therefore, all community based interventions will be informed by a participatory analysis of local socio-economic structures... [and] a coalition of community groups, including traditional organizations and groups representing specific interests will work together to set community development priorities." (World Bank PCDP Project Appraisal Document, 2008: 18).

³¹ The World Bank broadly defines CDD as an approach which gives community groups and local government control over planning and investment decisions and operates on "the principles of local empowerment, participatory governance, demand responsiveness, administrative autonomy, greater downward accountability, and enhanced local capacity." It also states that "given clear rules of the game, access to information, and appropriate capacity and financial support, poor men and women can effectively organize in order to identify community priorities and address local problems" by working together with local government and other institutions (web.worldbank.org).

³² Distinguished by "the use of local graphic representations created by the community that legitimize local knowledge and promote empowerment" (www.iisd.org). There are some associated risks: a) when the PRA agenda is externally driven to create legitimacy for projects or institutions, b) when PRA is conducted by teams working to tight project deadlines showing up abruptly and hurrying the process, rendering the exercise 'exploitative', c) when expectations are raised and nothing tangible emerges, leading to community disappointment (www.iisd.org).

³³ Senior Agricultural Economist, Rural Development, World Bank

- Agro-pastoralists' priorities are 1) Health posts, 2) Schools, 3) Water. Water ranks lower because these communities are usually already settled and have existing water sources.
- Dropouts' priorities are opportunities for income diversification.

Communities express demand for water. However, the type of water point selected is a technical decision in the woreda water bureau, and the decision depends on the water resources available, the agro-ecological context, and the funds available. Interventions are also meant to be checked against World Bank Environmental and Social Screening Lists to make sure that environmental and social impacts are considered. This, however, rarely occurs.

The main types of water points constructed under PCDP I were ponds, shallow wells, deep wells, spring development, micro-dams and river diversion, to serve both humans and livestock (World Bank Implementation Completion and Results Report, 2009). It was also noted that for wet season grazing areas, smaller water catchments were more suitable – large enough to hold water for a limited period but small enough so as not to encourage settlement – whereas in dry season grazing areas, focus was on rehabilitating existing water points and enabling community access to rivers (Assaye Legesse, personal communication).

For PCDP I, some challenges encountered include:

- A scarcity of skilled human resources and high turnover of staff at woreda level.
 - The CDD approach had a “positive impact on local stakeholders’ (sector office experts, etc.) attitude to communities and their ability to initiate, implement effectively and ensure the development sustainability of community-based projects” (Beneficiary Assessment, May 2007, p.19 in World Bank Implementation Completion and Results Report, 2009). However, “training [and] responsiveness to community needs identified during implementation, was not sufficiently addressed, and as a result the introduction of CDD processes fell short of the high expectations set” (World Bank Implementation Completion and Results Report, 2009: 6). During implementation, it was also observed that project stakeholders sometimes ignored and bypassed communities’ advice on water point development. This was put down to high turnover of staff at woreda level, and the associated lag-time in training and orientation on the CDD approach (Ibid).
 - Mobile Support Teams were stretched beyond their capacity, and the teams were therefore not spending sufficient time on the ground consulting with and training pastoralists, resulting in dissatisfaction and insufficient involvement of communities in driving development efforts (Ibid).
 - The number of projects implemented far exceeded the manpower available for supervision and follow up. Implementation thus often deviated from the planned course of action (Ibid).
- Environmental and Social Screening Lists were not used in most cases, and a budget was not made available for mitigating environmental and social impacts. It was observed during field assessments that *birkado* are contaminated and poorly maintained, and poor environmental conditions were observed at a number of water points (Participatory Assessment Report, MoFA, 2007 in World Bank Implementation Completion and Results Report, 2009).
- Performance indicators emphasized delivering targets rather than clear measureable outcomes of capacity and livelihood improvement. Focus on delivery overshadowed the quality of community development processes and the sustainability of outcomes (World Bank Implementation Completion and Results Report, 2009).

Under PCDP II the World Bank Project Appraisal Document (2008) emphasizes:

- Improving understanding of social dynamics in pastoral areas and strengthening community participation.
- Financing small water schemes such as hand dug wells, shallow wells fitted with hand pumps, ponds, *birkado* and hafir dams, because the negative aspects of large-capacity water developments have been identified (including a tendency towards settlement and pasture degradation).
- Awareness that management and ownership concerns include the risk of control by one community over a large source of water, leading to exclusion or inequity within communities and increased potential for conflict.
- Awareness that technical concerns include the lack of financial and technical capacity at community level to operate these schemes, requiring more focus on training and capacity building.
- Increased focus on measuring social impact and impacts on livelihoods.
- Establishing a Regional Steering Committee which will ensure complementarity between the PCDP and the government's Productive Safety Net Program (PSNP). Even though there are many synergies between the two programs, some issues are still outstanding. For example, PSNP provides cash for work, whereas PCDP insists on monetary contributions from communities. This is especially an issue in the 9 woredas where PCDP and PSNP overlap (Belayhun Hailu, personal communication).
- Increasing focus on community driven, action-oriented and participatory research which may look at indigenous knowledge, local innovation and promising technologies, to offset the dominant top-down approach to research in pastoral areas.

The Water Sector Development Program (WSDP)

In 2002, the MoWR launched the 15 year WSDP, which consists of programs and projects covering subsectors including water supply and irrigation. The main objectives under the WSDP are in line with the national water policy, in that priority is given to making clean water available for people, including their livestock, in nomadic and other special areas. Priority is also given to expanding land use for irrigated agriculture (WSDP, 2002). Targets under the WSDP have been updated in 2009 to align them with later policy and strategy documents such as the PASDEP and the UAP (Universal Access Programme) (Box 5). These targets are now much more ambitious than those originally set.

Box 5: New water development targets

The water development targets under the revised 15-year WSDP have increased for water supply from ensuring water provision for 60% of the population by 2015 to providing water for 98% of the population by 2012, in line with the UAP (discussed below). The target for irrigation development has increased from developing 270,000 additional ha by 2015 (roughly half of which were to be federal-led large scale schemes and half regional small and medium scale schemes) to developing 430,000 additional ha by 2010, in line with the PASDEP. In 2006, irrigated land stood at an estimated 197,250ha. This area covers 'modern' irrigation schemes and does not include the area covered by traditional small-holder irrigation (Atnafu, 2007).

Very ambitious targets for water supply and irrigation expansion are likely to see a continued focus on hardware construction at the expense of the 'soft' component of interventions, even though participation and building local capacity are explicitly mentioned in the overall program. Poor focus on software decreases the likelihood of scheme suitability and sustainability. Pressure to deliver on targets increases the chance that ensuring participation and buy-in from the grassroots and embedding local capacity to operate, manage, and maintain developed water schemes may fall by the wayside unless actively prioritized.

Although the WSDP principles are set nationally, targets in the Water Supply and Sanitation sub-sector are developed regionally, largely based on population projections.

Pastoralists (termed nomadic people in the document) are mentioned occasionally. Although pastoralists are mentioned, the WSDP goes into little detail regarding their particular needs and how these should be addressed. The provision of water for livestock in nomadic areas is listed as one of six priorities, although this is not elaborated upon. However, issues of participation are explicitly mentioned (Box 6).

Box 6: Participation under WSDP, 2002

WSDP 2002 recognizes that public sector-led approach to water development “is usually carried out without the involvement of the people for whom services and facilities are being provided or constructed. This unfortunately means that the people least concerned address the sustainability of the provided services...and does not allow communities to adjust the blueprints developed by the public sector institutions to reflect their needs”. It also recognizes that the representative approach, driven by the political agenda of elected officials is also not ideal. Elected representatives “cannot plan and implement day-to-day economic activities of communities” and that their approach is often political rather than consensual, whereas “consensus must be a pre-requisite of development at community level”. Therefore a ‘participatory approach’ is encouraged through the involvement of community organizations so that systems of local governance, development administration and resource mobilization should work effectively.

The Water Supply and Sanitation Development Program (WSSDP)

As part of the WSDP, the WSSDP promotes stakeholder participation in the planning, design, implementation, rehabilitation, operation and maintenance of water supply schemes. Major stakeholders include federal and regional government, local communities, the private sector, and NGOs.

Separate arrangements are made for domestic and livestock needs in the pastoral lowlands. Use of domestic water for livestock is not encouraged, and only when no natural sources are available nearby (springs, rivers, lakes, ponds) then cattle troughs are constructed at domestic water sources. Otherwise, specialized constructions such as ponds are planned.

Different water developments are planned for different regions mostly focused on hardware construction. Types of water points selected for human water supply mainly rely on groundwater resources; including deep wells, hand dug wells, and spring development for Afar, Oromiya, SNNPR, and Somali, with additional interventions like river-based water schemes and dams cited for Somali. For livestock, planned interventions include *birkad* and ponds as well as shallow wells, hand dug wells, spring development and deep wells for SNNPR.

The Irrigation Development Program (IDP)

Irrigation schemes in Ethiopia fall under 4 broad categories: 1) Traditional small scale schemes of up to 100 ha established and operated by farmers with government support. These tend to be managed by community water users’ associations handling construction, water allocation, operation and maintenance; 2) Modern communal schemes of up to 200 ha established by government with farmer participation, meant to support livelihoods through the production of market oriented crops, irrigated via simple river and stream diversion techniques, and managed by water users’ associations with technical support in some regions from zonal departments of agriculture, water and irrigation; 3) Modern private schemes of up to 2000 ha owned and operated by private investors (e.g. irrigation projects in the Upper Awash established in the 50s and 60s), located primarily in Oromia, SNNPR and Afar regions; and 4) large scale public schemes of over 3000 ha owned and operated by the state, most of which are concentrated in Afar region, followed by Oromia, SNNPR and Somali regions respectively. Small-scale community driven agriculture and large scale state led enterprises dominate the irrigation sector in Ethiopia, followed by modern small to medium size schemes. 83%

of total regional investment target 4 regions. These 4 regions include SNNPR and Oromia, which host pastoral populations (WSDP 2002).

The main implementation strategy outlined calls for capitalizing and building on existing institutional structures, promoting decentralized management involving communities in local water governance, bridging technical capacity gaps, and promoting partnerships at all levels. However, for both water supply and irrigation, the WSDP recognizes that low community participation in project identification, construction, operation and maintenance is an overarching constraint to the implementation of the program, and special emphasis is put on the establishment and involvement of Water Users' Associations (WUAs). It also recognizes other major constraints, such as the shortage of skilled manpower at all administrative levels and insufficient capacity to implement.

The WSDP also notes the potential impacts of the program on communities and their institutions. Special attention is to be given to how community institutions and local government interact. It also recognizes that program activities could affect the livelihoods of vulnerable and marginalized social groups, specifically mentioning pastoralists and agro-pastoralists in the lowlands, and that careful consideration is required for these issues in program implementation.

The Water Supply, Sanitation and Hygiene Program (WSSP)

In 2004, the MoWR launched the Water Supply, Sanitation and Hygiene Program (WSSP) which outlines plans to construct about 5,500 community-managed rural water supply schemes. Pastoral communities in Afar, Somali, Oromia and SNNPR Regions are major beneficiaries (MoWR, 2009). In 2006, it was realized that implementation of the WSSP in pastoral regions could not be achieved without special consideration for the needs of lowland areas. This resulted in the development of Specific Implementation Guidelines for Pastoralist Areas which take into consideration "the environmental, social, technological, and other peculiarities of pastoral communities." Box 7 discusses and highlights some of the central themes mentioned in the guidelines.

Box 7: Central themes and highlights of the WSSP for Pastoral Areas (based on Giovannetti 2006)

- *Water point selection and placement:* The way in which the guidelines are presented suggests that water point selection and placement is guided more by technical and cost considerations rather than how the water point will impact on local people/livestock/landscape interactions.
- *Mobility:* Explicitly recognized in the document. The guidelines promote context specific planning, stating that "a case-by-case basis of the actual movements of a given community is paramount to approaching properly its water supply issues." Also recognizes that sedentarization threatens the balance between livestock, pasture and water.
- *Settlement:* The guidelines recognize different settlement patterns in pastoral areas. For Afar and Somali, 4 different settlement patterns are identified: 1) permanent sedentary settlements without pastoralists, 2) permanent sedentary settlements where pastoralists are present for several months with their livestock, 3) permanent sedentary settlements where pastoralists spend a few days to a few weeks with their livestock, 4) non permanent settlements of pastoralists with significant but temporary presence of livestock.
- *Participation:* The guidelines recommend that defining who the 'community' is should be done on a case by case basis. Participation is envisioned as expressing demand for water supply, participating physically and/or financially in construction, and taking care of operation and maintenance. A user elected Community Water, Sanitation and Hygiene Committees should represent the community in planning and management of water facilities.
- *Highland influence:* The guidelines recognize that due to low technical capacity in pastoral regions, professionals from highland regions are usually brought in to fill gaps bringing with them highland approaches which are different to those appropriate in the lowlands.
- *Impact:* The document acknowledges that large capacity water points could attract too many livestock for a given area. It recommends that water points not exceed a size that waters a maximum of 4,500 head of cattle a day and that they are spaced about 20km apart to avoid overgrazing.
- *Community Contribution:* The guidelines recommend that the community should contribute 5% in cash and 5% in kind to construction. However, it also mentions that requiring a cash contribution could exclude most communities from the benefit of the WSSP.

The Universal Access Program

The Universal Access Program (UAP), adopted by the Ethiopian government in 2005, is meant to provide access to safe water for 98% of the rural population of the country by 2012, focusing on the use of low cost technologies at the community level. To meet UAP/PASDEP targets, the current growth rate in water point development and access coverage needs to double. Accordingly, 110,460 new rural water supply schemes, 82% of which are low cost technologies, are planned for the period 2009-2012 to meet this target (MoWR, 2009). The rehabilitation of existing schemes is also planned, with a target of reducing malfunctioning schemes from 30% to 10% by 2010 (MoWR, 2009). Box 8 discusses some of the main themes of the UAP.

Box 8: Comments on the UAP (revised in 2009)

- The program plans to construct an additional 110,460 water supply schemes in the period 2009-2012. This suggests a major focus on hardware construction in the coming years.
- No mention is made of pastoral areas, where communities are both mobile and sedentary, each with different needs. There is also little mention of livestock.
- Planning, design, and placement of schemes is primarily tasked to technical staff at zonal, woreda, and kebele levels. Beneficiary involvement in planning and implementation will be through Water, Sanitation and Hygiene Committees, which are user elected committees set up based on generic selection criteria imported from the highlands.
- Water use for livestock, and other multiple uses, is only briefly mentioned in the recommendations, with little elaboration.

Opportunities

A need to consider local contexts and conditions in pastoralist regions is evident. Two opportunities present themselves:

- Guidelines for UAP planning and implementation management are currently being drafted.
- The Plan recommends developing “community mobilization, planning and management and technology guidelines” with opportunities to tap into this process.

Food Security Program and the Productive Safety Net Program – Pastoral Areas Pilot (PSNP PAP)

Under the MoARD, this program was designed to focus on the development of long term solutions to food security issues as an alternative to crisis response based solely on food aid appeals, which were found to do little to protect livelihoods, preserve or generate community assets. The Food Security Program is meant to complement the emergency response system, and focuses on a) providing a safety net for chronically food insecure people, b) supporting household and community asset building, c) resettlement (World Bank, 2009: Productive Safety Net APL III).

Originally launched in 2005 as part of the Food Security Program, the PSNP aimed to protect and build household assets and increase resilience to shock among the country’s chronically food insecure, by injecting food or cash into communities in exchange for contributions to the construction of public works. Multiple donors contribute to funding the program, including USAID, the World Bank, DFID, the EU and Irish Aid.

Pastoral areas were not included in the early phases of PSNP due to capacity constraints and a recognized need for a different approach in terms of program design and implementation in the pastoral context. Consequently a pilot programme for pastoral areas was designed, the outcomes of which should provide clear guidelines for full-scale implementation (The Productive Safety Net Programme in Pastoral Areas: Pilot Design, PTF Version 4, 2007). Piloting on a small scale allows learning by doing, and aims to minimize large scale negative impacts. Proposed pilot areas include nine woredas in Somali, six in Afar, three in Oromia, and three in SNNPR.

Major elements of the PSNP PAP include:

- Timing of projects adjusted to the seasonality of livelihoods in the lowlands;
- Pilot woredas implement options suitable to local circumstances;
- Projects identified with participation from different livelihood groups and respond to community needs - backstopped by technical expertise;
- Public works developed in the context of livelihood and landscape zones so as not to interfere with mobility systems and instigate competition between different groups;
- Social and environmental impacts considered;
- Clans and communities consulted to ensure that access and use rights are not encroached upon, and that ownership/management structures are discussed which should “follow traditional communal management structures, together with traditional user rights” (Ministry of Agriculture and Rural Development Food Security Programme 2010-2014, 2009: p.57). Range management and range ecology experts at woreda and regional level also consulted to ensure that development does not lead to range overuse and degradation;
- Partnerships between woredas and NGOs piloted to address capacity shortages at woreda level;
- A Pastoral Taskforce, constituting Government, donors and other stakeholders, set up to coordinate planning and implementation;
- Mobility and access to critical natural resources supported to increase resilience to drought. The MoARD led National Livestock Policy Forum is currently drafting four drought protocols for pastoral areas to clearly define modalities on how to achieve this;
- Applied studies of range and water management carried out in one or two woredas to provide guidelines for approaching district level water and range management planning, to serve as a model for scaling up;
- Natural resource and socio-economic mapping and analysis used.

Types of projects to be implemented should be disaggregated based on settlement patterns in different areas. In pastoral areas with high mobility and irregular use of services, projects should focus on environmental rehabilitation, natural resource mapping and community action planning (Box 9), improved access to water sources, and improved water management, possibly including reduction of some poorly sited water sources. For agro-pastoralists and others who are semi-settled, interventions should include the development of service infrastructure (schools, clinics, etc.), water supplies for human consumption, and water development for irrigation.

Applying a livelihood zone approach rather than a *kebele* based approach to public works planning should be considered and guidelines developed accordingly specific to the pastoral context. This approach involves “considering migration patterns and grazing land/water point usage rather than simply administrative boundaries.” (Ministry of Agriculture and Rural Development Food Security Programme 2010-2014, 2009: p.57). The preparation of Community Action Plans³⁴ around livelihood zones could be a promising practice, and involving whole affected communities at zonal or inter-woreda level (not just *kebele* residents) in site selection is critical to avoid development induced conflict. Zonal level administration can play an important coordination role, especially as livelihood zones, clans and customary institutions cross district borders.

Traditional institutions are also explicitly mentioned. The *Gada* system in Oromia, the *Guurti* and clan elders in Somali, and the *Medaa* in Afar are recognized to play an important role in communities, and their role in the PSNP is envisioned as:

- Helping, where needed, in identifying beneficiaries;
- Helping ensure that public works implemented in the rangelands or in close proximity to water, are compatible with extensive livestock production;

³⁴ Where communities identify their own development needs.

- Help ensure that public works do not encroach on customary rights of access or use;
- Support the resolution of issues regarding long-term ownership or management.

Box 9: Use of Natural Resource and Socio Economic Mapping and Analysis in PSNP (from Draft Guidelines for the Implementation of the Productive Safety Net Program Pastoral Areas Pilot, Version 2, 2007: 52)

A Development Agent (DA) will use simple mapping kits to bring on board local knowledge as brought to the table by the planning team - comprised of the community leader at kebele level, four male headed households representing different social groups, four female headed households representing different social groups, one youth representative, one religious representative, and others as required by the community.

The process involves:

- Marking obvious features on the ground, which could be the pastoral unit boundaries, roads, hill tops, rivers, settlements, etc.
- Adding more detail to the map which includes the location of different natural resources such as pasture, water sources, agricultural land, forest, etc. and any areas where degradation is observed. At this stage, features of traditional natural resource management should be marked, including customary land divisions for grazing management, customary water management arrangements, and patterns of mobility (of both local and visiting communities).
- Identify and discuss any problems which exist in relation to mapped items, including natural resources, traditional systems, mobility, and conflict. Different maps can be produced to capture different aspects, for example a map for natural resources, one for social services and one for mobility.
- Jointly prioritize issues to be addressed, identify potential solutions and identify community/external (public works) actions which can rectify the problem.

Prioritized public works as identified through the above planning process should then be presented, discussed, amended and approved in a general assembly representing the wider community. Agreed upon public works should then be included in the *kebele* plan which is submitted to woreda level for approval. The *kebele* plan should include a short technical description of proposed projects, a list of intended activities, the number of participants in the implementation process and their levels of effort, requirements for technical and administrative input, and a maintenance plan for new infrastructure.

The PSNP PAP Progress Report, published in 2008, identified some weaknesses in pilot implementation, which include:

- Overall delayed implementation and weak recruitment of necessary staff;
- Training on implementation guidelines was incomplete;
- Even though NGOs are on board there is need for better coordination;
- Program activities were not sufficiently explained to communities in pilot woredas;
- No information available whether regional government and NGOs have held appropriate discussions with target communities to generate information regarding situation assessments in the pilot woredas, or to decide on pilot options to suit local contexts.
- Many of the planning activities had not yet been implemented and little information provided on progress with regards to identifying beneficiaries or deciding which public works to carry out.
- A change of PSNP staff occurred in Somali region with limited awareness and understanding of pilot objectives.
- No official reports had been submitted either by government or by NGOs related to progress on training implemented and pilot options.
- Weak coordination and information sharing between regional government and NGOs, and no coordination mechanisms in place in pastoral regions.

A final assessment of the pilot phase is currently being undertaken. However, there is pressure to implement the next phase of the PSNP (current phase ended in 2009), and Government plans to roll out the PSNP PAP in 2010. In turn there is a risk that lessons from the final assessment may not be fully integrated into the planning and roll-out of the full PSNP for pastoral areas. Therefore lesson

sharing on water development best practice is critical to inform ways forward, and debate and dialogue on current practice is needed.

Oromia Growth Corridors Plan³⁵

The 5 year Oromia Growth Corridors Plan was prepared in 2006 by Oromia regional government in response to what was seen as a failure of previous development efforts to bring sustainable solutions to existing challenges in the lowlands. It was concluded that piecemeal development efforts could not bring about sustainable development or food security, and a holistic and concerted regional development effort was needed to achieve this objective, by using water as an entry point. The plan foresees that constructing deep wells tapping into 'permanent' groundwater, supported by surface water harvesting, will make possible multiple land uses including livestock production as well as irrigation. Detailed land use planning - a tool used for the first time at government level to inform development in the rangelands - will inform types of land uses suitable for different areas. According to the Oromia Water Works Design and Supervision Enterprise, "with the perspective of the PRSP towards achieving the MDGs and ensuring further economic growth, investing in water infrastructure is not a matter of fashion or option but essential and inescapable."

The trigger for the Plan was to explore resettlement potential in the lowlands to alleviate pressure on the degraded and dwindling land resources of the highlands. The vision for the Growth Corridors Plan is that food insecure areas in the lowlands could be transformed into development centres which will relieve pressure on degraded resources in the highlands. Three 'development corridors,' including South East Oromia Development Corridor, Central Oromia Development Corridor (which consists of the Rift Valley and the central Oromia highlands), and the Western Oromia Development Corridor are targeted. The Plan would ensure "equity and balanced development" (The Oromia Development Corridors Approach Strategic Plan, 2008³⁶: 2) in these regions.

The Plan focuses on integrated development in the region, to include: 1) good governance, 2) effective and sustainable land use and management systems, 3) human and livestock health, 3) infrastructure development (roads, power, communication, health and access to markets), 4) improved productivity of livestock and dryland farming, 5) strengthened implementation capacity at local level (Ibid: 6).

The multi-sectoral approach

Land use plans are prepared in an integrated manner "incorporating all essential aspects of development" (Taye Alemayahu, personal communication, 2009) and with input from all sectors. Because it is multi-sectoral, implementation of the plan is beyond the scope or capabilities of any one regional bureau. Thus the Oromia Land Administration and Environmental Protection Bureau was established to guide the implementation of the plan and to draft regulations regarding land use - with backstopping from the Oromia Water Works Design and Supervision Enterprise.

The Deputy General Manager of the Oromia Water Works Design and Supervision Enterprise, Taye Alemayehu, believes that the multi-sectoral approach is what sets this program apart from early rangeland development projects such as the RDP. The premise is that covering the multiple development needs in the rangelands (including human and livestock health, infrastructure, etc.) must go hand in hand with availing water. He also notes that different land use needs in the region are recognized and considered, made possible through detailed land use planning, and that community participation plays a much more central role.

35 This initiative is the only exception to the federal level projects highlighted so far, as it has been planned and is being implemented at regional level in Oromia regional state only (so far).

36 This document is the master strategic plan guiding the initiative. All other documents cited in the description of this initiative fall under the umbrella of this master strategic plan.

However, the development model for the Growth Corridors Plan still aims for the 'voluntary' settlement of pastoralists in the long term. As pastoralists are increasingly observed to settle, development in pastoral regions is planned with a view towards providing livelihood diversification opportunities with an agricultural emphasis, especially for youth. For livestock production, a more settled model is envisioned as it is concluded that current pressures faced by pastoral communities are not conducive for mobility, and recurrent heavy losses of livestock have made pastoralists more open to settling (Taye Alemayehu, personal communication. 2009). Even though settled forms of livestock production failed in previous rangeland development approaches it is believed that these models will work in today's context because the project also provides other necessary development needs such as roads, communication, access to market information, schools, and health services, besides just water (Ibid).

Water Development – the entry point

In Hararge, nineteen deep wells have been drilled in the lowlands, of which sixteen are observed to be highly productive. Water quality in most wells is deemed suitable for domestic and agricultural use. In East and West Hararge, eight water supply schemes targeting existing and new settlement areas in five food insecure districts are currently under construction, including more than 496km of pipeline, 320 distribution points and 164 cattle troughs (The Oromia Development Corridors Approach Strategic Plan, 2008).

In Borana, eight food insecure districts are targeted for the construction of water supply schemes, primarily centred on deep wells. So far fourteen deep wells have been drilled with 'sufficient water of acceptable quality' (Taye Alemayehu, personal communication. 2009). The construction of more than 2000km of pipeline has therefore begun in three localities, guided by the proposed land use plan (Ibid).

Land use planning

Integrated land use planning was introduced under this project as a tool to guide decision-making on best uses of land. It was concluded that a serious impediment to appropriate development is a dearth of knowledge about available resources and their potential uses, which has resulted in unsuitable land use leading to deforestation, land degradation, decreased productivity, and increased vulnerability to food insecurity (The Oromia Development Corridors Approach Strategic Plan, 2008).

The outputs of land use plans include semi-detailed soil maps at district level, and the initial identification of suitable areas for cash food crops and animal feed production (either rain fed or irrigated, but with more focus on irrigation), areas for agro-industrial development, areas for livestock production, areas for resettlement, and areas for tourism and market development. Technical land use manuals have been developed to guide sustainable land use, and a draft land use proclamation for pastoral areas will be produced.

Agriculture

Agriculture is identified as a key development focus to achieve sustainable growth and food security in Oromia (Oromia Land Use Guided Valley Development Program, 2009), and irrigation is seen as the "only strategy to exercise sustainable agriculture."

The region is believed to possess about 1.7m ha of potentially irrigable land using surface water, only a fraction of which is used for this purpose (Ibid). The Fentale I and II irrigation schemes were thus established to expand irrigation. About 28,000ha have been set aside for irrigation development under Fentale I, of which 900ha have already been developed. For Fentale II, 8000ha have been set aside. The objective is to provide livelihoods for Kerrayu and Itu pastoralists by shifting their livelihood strategies away from total dependence on 'unsustainable' pastoral production to agricultural production (Taye Alemayehu, personal communication, 2009).

Irrigation potential may be higher than the figure stated if groundwater resources are explored and tapped. A recent presentation made by the Oromia Water Works Design and Supervision Enterprise states that “extensive land resources are suitable for different agricultural activities if problems related to water and moisture deficits are addressed” in lowland areas. “Water resource evaluation works undertaken in three areas of the region have proved the presence of large regional aquifers that can be used to irrigate millions of hectares of land” (Taye Alemayehu, personal communication, 2009).

Pastoral rangeland development

Socio-economic studies and land use plans (final drafts of which have been completed) will inform and guide the implementation process. Community consultations will be held to introduce and discuss land use plans (completed in Borana and Hararge). Based on these consultations, area based development programs will be drafted, which represent more focused context-specific development planning. These area based development plans will be “based on land use study findings, community needs, stakeholder contributions, and other country experiences.”

Land use plans have been completed for 10 sub-basins across Borana, and East and West Hararge Zone. For the pastoral lowlands in Borana, land use planning revealed that 2 of the 3 basins included in the Plan are most suited for livestock production³⁷, where it is recognized that dry season grazing areas are vital for pastoral livelihoods (Taye Alemayehu, personal communication, 2009).

A major necessity identified for developing pastoral areas is the revision of pastoral land holding systems. Because land use plans once finalized will result in the gazetting of areas for particular land uses, ‘fuzzy’ communal ownership must be replaced by defined individual or communal ownership. The planned multiple uses of the lowlands will also be beyond the capacity of traditional pastoral institutions to manage (Taye Alemayehu, personal communication, 2009).

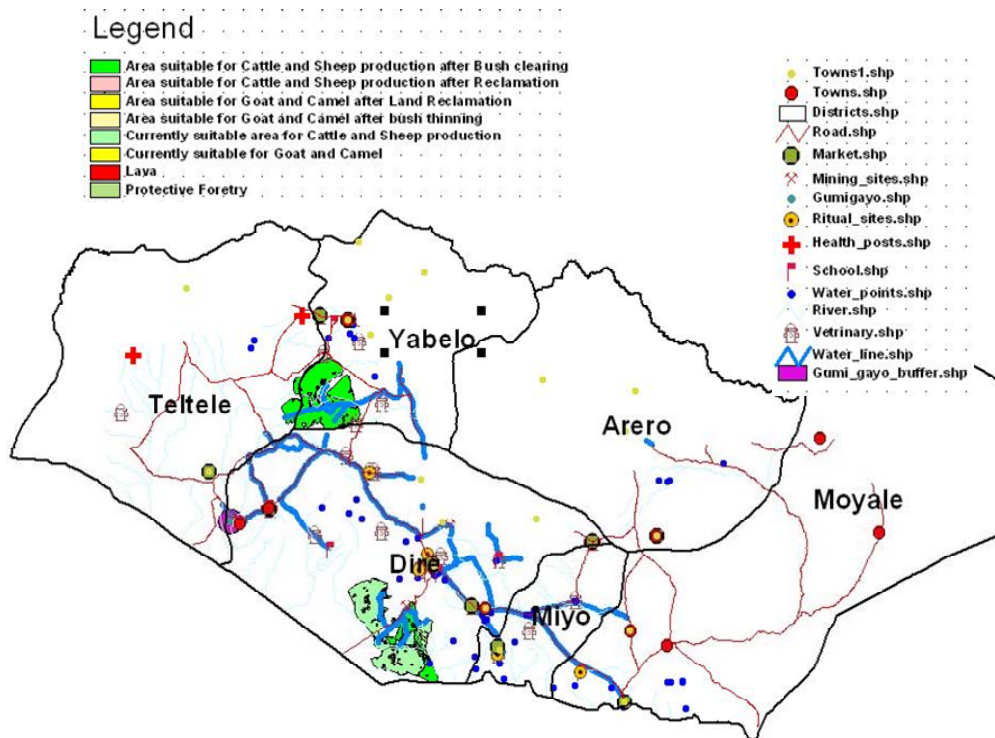
According to the Pilot Phase Land Use Implementation Plan Document (2009), rangeland development will focus on:

- Improving rangeland productivity, and in turn livestock production. Rangeland carrying capacities are to be identified and a more settled form of livestock production envisioned in the long term;
- Enhancing research and studies on rangeland and livestock resource productivity;
- Introducing and testing improved range management technologies. Rangeland management will build on current best practice in this field (including the Pastoral Livelihood Initiative’s (PLI) successful controlled burning interventions to combat bush encroachment) and will incorporate lessons from the PCDP (Taye Alemayehu, personal communication, 2009). There is also a plan to formalize the involvement of Gada institutions in rangeland management, but how this will be done has not yet been established (Ibid).
- Improving water supply schemes and ensuring even distribution as per rangeland conditions.

Two pilot areas are selected for the implementation of the rangeland management approach (pending funding), one in Yabello, in Ade Gelchat, and the other in Magado, in Dire District (Figure 4). Implementation begins when water development has been completed. So far, 32% of the water supply scheme has been completed for the pilot areas in Borana Zone. Lessons from the pilot will set norms and standards for full implementation.

³⁷ This is possibly the first time that a government program recognizes that livestock production is more suitable than crop production in certain areas.

Figure 4: Proposed pilot land use plan implementation areas in Borana Zone³⁸



Overall planning is conducted at expert level within government. However, it is noted that community participation is necessary to ensure the sustainability of the development endeavour. The Land Use Guided Valley Development Program (2009) indicates that “community has to participate in implementation, monitoring and evaluation of projects to be implemented under the program starting from project identification and preparation. Since the community at the grass root is the primary beneficiaries of the program/projects they need to make their contributions to implementation of the projects in labour and/or cash as per their current background.” To help coordinate community participation, a Community Coordination Committee is planned, comprising all social groups among beneficiary communities, to include elders, women, youth and the various village structures.

It is assumed that communities will contribute to program implementation and display a “readiness to benefit from the development interventions undertaken.” Risks associated with the program include a lack of full community participation, conflict of interest in the proposed project areas, lack of support by stakeholders, and weak implementation capacity (Land Use Guided Valley Development Program, 2009).

For the Pilot Phase of the Land Use Implementation Plan (2009), a basic assumption is that pastoralists can be persuaded to accept the concept of “modern rangeland management”. It is recognized here that potential disagreement could arise over the plan to promote the privatization of the rangelands to accommodate the intended gazettement of different areas as per their assigned land uses, therefore intensive “awareness raising” is planned prior to implementation.

Tragedy of the commons thinking is also clearly still in evidence, where a risk highlighted for plan implementation is that “the tragedy of the commons could occur in course of the implementation of the plan, especially on herd management vis-à-vis the carrying capacity of the pastureland.”

³⁸ Provided by the Oromia Water Works Design and Supervision Enterprise

Other regions

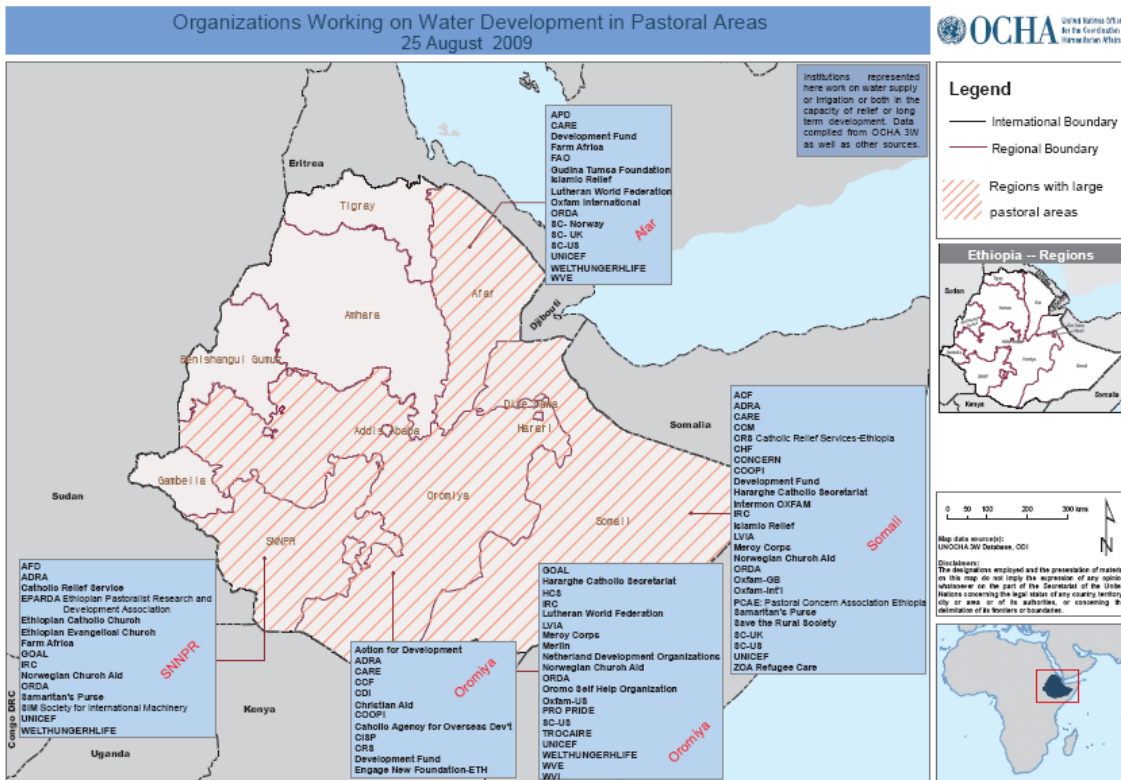
The Oromia Growth Corridors model is currently being imported by Somali and Amhara regions. SNNPR regional administration has also expressed interest in adopting a similar model (Kaidaki Gezahegn³⁹, personal communication).

Box 10: Comments on the Oromia Growth Corridors Plan

Even though this regional initiative focuses on integrated development in the rangelands, providing services and infrastructure which are sorely lacking, it clearly intends to settle pastoralists by promoting settled forms of livestock production (i.e. ranching) and promotes the privatization of land. For decades it has been noted that settled forms of livestock production have not been successful in the rangelands and that communal landholding is a necessity for pastoralists to effectively practice their livelihoods. Despite mention of participation and consultations at the grassroots, it remains unclear how project interventions can enhance pastoral livelihood resilience given that mobility and communal landholding have been central to helping pastoralists effectively respond and adapt to the challenging lowland environment. Among the many benefits of mobile pastoralism, it mainly prevents land/soil exhaustion, protecting the integrity of the rangelands, and avoids the concentration of livestock, which would otherwise increase the incidence and spread of disease.

3.1.3 NGOs/Development organizations

Figure 5: NGOs/development organizations working on water



Many international and local NGOs as well as international development organizations are engaged in water development in pastoral regions mainly in the construction and rehabilitation of water points, the development of small scale irrigation, and the provision of capacity building and training.

There is no uniform approach to the way that NGOs or development organizations engage in pastoral areas. Individual organizations usually work in isolation from government and from one another, meaning that just as for government, NGO approaches run the gamut from conventional technocratic methods to those which are highly participatory and location-specific. As noted previously for government interventions, incoherence in approach to water development and weak linkages between practitioners creates an environment where it is easy for inappropriate and poor quality water development to go unchecked.

Box 11: Water User Associations in Ethiopia and relevance in the pastoral context

In the last 10 years, government and NGOs have introduced Water User Associations (WUA) as a means for communities to take on the operation, management, and maintenance of water points instead of, or often alongside, government. These associations are generally made up of about 7 members meant to represent a cross-section of water users in a given locality. Training is provided for these members to enable them to perform their duties, yet often, more attention is given to physically establishing these associations rather than ensuring that they operate effectively. Projects are still more concerned with meeting targets as outlined in proposals rather than measuring effectiveness. WUAs therefore suffer from weak management, operation, and maintenance capacity. Very often water points are managed by government even though they are meant to be handed over to WUAs to manage. In the pastoral context, WUAs could benefit and learn from existing customary water management systems, and avenues should be explored to meld the two management arrangements to make the most of what each has to offer.

In terms of engagement on the ground, there are two ways in which NGOs/development organizations engage with pastoralists. The first method is to approach the woreda office which identifies PAs or *kebeles* where there is need for water. Once areas are identified, the PA authority organizes a community meeting where priorities are identified by a committee meant to represent the community. NGOs/development organizations then plan interventions, submit proposals at regional level for approval, implement the project, and hand over new infrastructure to either the administrative authority or to Water User Associations (WUAs). The second method of engagement is for NGOs to approach communities directly who themselves identify development priorities without relying on local administration to facilitate the process. This is common among NGOs who have previous experience in an area or with a particular community, and avoids potential administrative biases. Development needs are discussed directly with communities, local baselines sometimes carried out, interventions planned, proposals submitted for approval at regional level, and infrastructure handed over to local government or WUAs. Whether organizations engage with communities directly or through the *kebele*, in both cases proposals must be submitted to either regional pastoral bureaus/commissions if the project is related to pastoral development or to the water bureau if the intervention is purely water related. If projects in pastoral areas are implemented by consortia, each organization must independently clear proposed activities with the relevant authority.

Setting up WUAs is now increasingly encouraged to improve downward accountability by both NGOs and government, and to enable communities to manage and operate local water points, rather than the responsibility lying solely with government or with customary institutions which previously managed water resources. These Associations are meant to reflect a cross-section of the community (Box 11). To date, however, WUAs often lack the capacity to manage and operate complex schemes – unlike customary systems.

3.1.3.1. Highlighted projects, actors, and activities

Engaging with customary institutions to better inform planning and implementation of water schemes is emphasized by some NGOs, especially those working on longer term pastoral development. In addition, introducing a more long-term development emphasis to improve emergency relief interventions is also observed among some donors, as well as promoting partnerships between practitioners and enhancing coherence in approach. Below are a few examples.

The Pastoral Livelihoods Initiative (PLI)⁴⁰

The PLI, begun in 2005, is implemented by a consortium of international and local NGOs⁴¹, in Afar, Somali and Oromia (Borana) regions, funded by USAID⁴². It focuses on ‘supporting pastoralists to improve household livelihood security and maintain assets during drought cycles,’ and reflects USAID’s new emphasis on taking a livelihoods-based approach to emergency interventions. Water development under this project is undertaken within a broader landscape context, recognizing the intricate relationship between water, pasture and pastoral mobility. Planning for water development involves attempting to understand the extent and quality of local rangeland resources, users of these resources, and patterns of use. To do this, participatory natural resource mapping is used to benefit from pastoralists’ detailed knowledge of the rangelands, to improve community participation in the planning process and to reduce the risk of water related environmental degradation and conflict (Box 12).

Box 12: Participatory natural resource mapping – Save the Children USA

In 2005, Save the Children USA began to use participatory resource mapping to inform its development interventions in pastoral areas in Oromia and Somali regions. This tool identifies water and pasture at the level of the *madda** (a Borana territorial unit which roughly conforms to the boundaries of the lowest administrative unit, the PA). Through this process, customary institutions involved in local natural resource management are identified. Maps of water and pasture are produced based on community knowledge of the natural resource base, and mobility patterns overlaid based on community feedback. Following this exercise, communities and PA officials identify the problems related to the different natural resources, and a community action plan is prepared. For example, if there a problem has been identified with an existing traditional water point, a plan is put in place to rehabilitate the point (like fortifying cattle troughs and well ladders). The entire process closely involves local government, who receive training on how to apply the tool. In Liben district, for example, local officials are now in a position to undertake participatory natural resource mapping without external support. The use of this tool has also been promoted among all PLI consortium members, broadening its application.

* Participatory resource mapping is currently being explored for the *dheedha* level, which is the largest Borana territorial unit crossing the boundaries of several PAs. This is to better understand broader mobility patterns which can affect and be affected by water development interventions.

The PLI constructs water points, but major focus is also put on rehabilitating existing ones to build on what is already there, as well as training and contracting local masons in water point rehabilitation. Making the most of what is already in place is a cost effective means of improving water supply and allows partners to avoid the risks associated with new infrastructure. Training local masons embeds a local cadre of expertise and thereby reduces dependence on external assistance.

40 This project is currently in its second phase, PLI II, which runs from 2009-2013.

41 This includes two of the partners who supported the production of this review.

42 NGO partners in Phase I included Save the Children USA, Save the Children UK, the International Rescue Committee (IRC), the Agricultural Cooperative Development International/Volunteers in Overseas Cooperative Assistance (ACDI/VOCA), the Global Livestock Collaborative Research Support Program under the Pastoral Risk Management project (GL-CRSP PARIMA), Tufts University, CARE International, the United States Forest Service (USFS), and Action for Development (AFD) as well as others.

Furthermore, attention is given to scheme management to ensure equitable access and representation. The PLI also focuses on other development needs in the rangelands, including veterinary health and access to markets.

A review of the PLI found that “future USAID-funded water development programs should consider requiring communities to make cash contributions for water point construction/rehabilitation. This would encourage the growth of the private sector construction businesses in pastoral regions.” Since this recommendation was made, Save the Children USA’s pastoral programs have required community contributions to water development. For example, in the case of de-silting ponds, a minimum of 40 per cent community contribution is required. The organization has learned that cost recovery is much more possible where customary institutions prioritize the intervention, organize the labour and carry out the work. Importantly, they also take responsibility for maintenance, as water points in pastoral areas – wells particularly – are invariably managed by customary institutions.

The PLI is one of the first initiatives to build partnerships between different NGOs in an attempt to harmonize approaches to development and community engagement. It also emphasizes coordination between NGOs and government⁴³. Project staff works closely with Woreda Water Resource Development Offices to identify water points in need of rehabilitation, and organizes workshops to bring together NGOs, grassroots community groups and local government. Additionally, Tufts University organizes regional technical coordination meetings in Afar and Oromia as a forum for consortium members to inform local government on project progress, and to harmonize practice and approach between government initiatives and the PLI (PLI/ENABLE Afar Region Terminal Report, 2008). Furthermore, close linkages with the Livestock Policy Forum under the MoARD has shown to be a highly effective way for the project to communicate lessons learned in the field and to bring to the table approaches which have been shown to work in the pastoral context for the benefit of a wide audience.

A further crucial value provided by the PLI experience is the use of impact assessments, pioneered by Tufts University, to gauge the impact of interventions on livelihoods. The PLI is the first project in the rangelands to do this.

Regional Drought Preparedness Program

Begun in 2007 and funded by the European Commission’s humanitarian aid organisation (ECHO), the Regional Drought Preparedness Program, under the Regional Drought Decision (RDD), is another example of emergency interventions with a livelihoods based emphasis in the rangelands. It also illustrates a further case of bringing disparate actors together to work towards a common goal. The Food and Agriculture Organization (FAO) coordinates the Regional Drought Preparedness program, with access to water for humans and livestock a prominent theme. Priority is given to traditional, affordable technologies familiar at the local level (Schimann and Philpott, 2007). ECHO partners include DanChurchAid (DCA), SC-UK, Action Contre La Faime (ACF), Vétérinaires Sans Frontières (VSF), FARM AFRICA, Cooperazione Italiana (COOPI), Caritas/HCS, CordAid, and Oxfam GB.

The program emphasizes strategic distribution of water points to open up existing pasture, as opposed to rehabilitating heavily degraded areas, which requires more time than the 18 months available for the project. In order to correctly distance and place water points, focus is placed on mapping existing water infrastructure as well as the physical attributes of an area. Mapping water points is meant to improve planning and “facilitate the strategic spatial distribution of water points, settling resources-linked conflicts and rehabilitating rangeland potential” to improve productivity and livelihoods (Schimann and Philpott, 2007: 8).

⁴³ The PLI project helped inform rangeland management planning for the Oromia Growth Corridors Initiative, where PLI guidelines for the controlled burning of rangelands were used.

The mid-term evaluation for the project highlights that⁴⁴:

- Opening up pasture by strategically constructing water points carries the risk of permanent settlement and the conversion of rangelands for farming purposes, and therefore must be very carefully planned.
- Very little can be said to date about the direct and indirect impacts of water developments on livelihoods, as impacts on livelihoods are not monitored. More attention is needed on the management and quality of the rangelands.
- A large number of water points are non-functional. For example 60% of Somali region's *birkado* are damaged and unused, calling into question whether building new *birkado* is justifiable versus rehabilitating existing structures⁴⁵.
- Constructing water pans by mechanical means to collect surface water is costly and when not done properly leads to structural damage. However, alternatives to machine dug pans have not been considered.
- Water User Associations, which require cash contributions especially for motorized systems, are very often unsustainable. "The management by associations in rural areas has failed almost everywhere," and therefore the organization of water point management should be decided by communities themselves if management is to be sustainable (Schimann and Philpott, 2007: 10).
- External support should be limited to technical input and providing financial facilities to cover costs exceeding the immediate capacity of the community (Schimann and Philpott, 2007: 10).
- Observed water point designs were often inappropriate and of poor quality, suggesting a lack of technical skill. Furthermore, standard technical designs were rarely adapted or adjusted to suit the local context (Schimann and Philpott, 2007: 11).

The Global Water Initiative (GWI)

Some projects focus specifically on water development as a means of improving livelihoods. The Global Water Initiative (GWI)⁴⁶, initiated in 2007 and funded by the Howard G. Buffet Foundation, is one such example. CARE International, a partner supporting the production of this review, is leading the consortium for GWI implementation in Ethiopia, which is being implemented in the Borana zone of Oromia region⁴⁷. Alongside the PLI and the ECHO program, it is another example of bringing together NGOs to harmonize approaches and increase effectiveness. The main objective under this project is to ensure that vulnerable populations have reliable access to clean water without compromising dignity, rights, culture and the natural environment (GWI interim report, 2008). It also aims to empower local people to manage water and therefore emphasizes capacity building and the 'software' aspects of water schemes, as well as promotes water for multiple uses (for human consumption, livestock and small scale irrigation). In its first phase the project concentrated on rehabilitating existing water points (wells, ponds, boreholes, etc.) and up to 2011 it will also construct water schemes.

44 From Schimann and Philpott (2007)

45 This hinges on the quality of the original water point.

46 Implemented by a consortium comprised of CARE International, Oxfam US and Catholic Relief Services (CRS) along with local NGOs in Ethiopia.

47 Also in the Rift Valley, but this is not a pastoral area and therefore outside the scope of this report.

CARE International, under the GWI, has also developed guidelines to ensure conflict sensitive planning. This is a how-to guide for practitioners to recognize and avoid water-triggered conflict (Demeke, 2008).

An Integrated Water Resource Management (IWRM) strategy has been developed under the initiative, which highlights key areas on which to focus. Key points and the extent to which the strategy has influenced practice are highlighted in the table below:

Table 5: CARE’s IWRM Strategy and degree to which the strategy has influenced practice.

CARE’s Integrated Water Resource Management Strategy ⁴⁸	Some examples of the extent to which the strategy has influenced practice
<ul style="list-style-type: none"> ▪ Water interventions must be contextualized within the broader landscape so as to lead to sustainable pasture and land use. A zonal or higher level customary body should be identified which can advise on water and pasture interventions. In the absence of such a body, or where capacity still needs to be strengthened, practitioners must understand local level customary ways of doing things, including how rangelands are traditionally managed, before any interventions take place. ▪ The right scale of intervention needs to be identified (clan area, woreda unit, kebele unit, zonal unit, etc.) and who should be involved in planning, negotiating and managing resources at that scale. ▪ The initiative should work through a local woreda level multi-stakeholder forum. This forum, which should involve community, local government and NGOs, needs to be established and should be supported by CARE. The forum should assume responsibility for implementation, monitoring and follow up of interventions under the initiative. GIS mapping of water points and local physical features should be supported by the forum to aid in the planning process, and findings shared with the customary body identified above. 	<ul style="list-style-type: none"> ▪ CARE facilitates the identification and selection of sites for water development as well as target beneficiaries through participatory planning, which involves representatives and leaders of customary institutions, local government sector offices, and women from the community. ▪ CARE and program partners have established and are supporting the Woreda development coordination committee, a community based participatory monitoring group, and a Woreda learning alliance group. The Woreda development coordination committee was established to ensure the active involvement of communities and local government in planning and monitoring of interventions, and includes community representatives (including representatives of customary institutions and women), representatives from local government sector offices and NGOs working locally. To date, the committee has actively participated in and facilitated participatory monitoring sessions during the pilot phase of the GWI to review implementation progress of the pilot. This committee has also facilitated the identification and prioritization of interventions and target groups for the longer term portion of the GWI initiative. The community based participatory monitoring group was established to ensure representative participation of all social groups within a community. This group is expected to lead in planning and monitoring, and comprises local leaders, leaders of customary pastoral institutions, elders and women. This group has helped identify and select intervention sites and target groups for the longer term portion of the GWI, in collaboration with local government sector representatives. A Woreda learning alliance was established to promote the sharing of experience and best practice among project partners. This, in turn, is meant to promote a harmonized approach to development by the different actors. Engaging NGOs, community groups, and local government, CARE has coordinated and facilitated three woreda learning alliance fora aiming to review the experiences of stakeholders in planning, managing and monitoring implementation relevant to the IWRM strategy and the WASH program. Through these fora, partners were able to systematize and harmonize program implementation approaches and have identified remaining gaps to be addressed, including the need for wider

48 Adapted from Pankhurst (2009)

- **The initiative's Learning Alliance – set up to enable sharing of CARE's field experience and lessons learned, should be housed under and promoted through the above forum.**
- **Linkages and synergies between the GWI and other initiatives in the area should be identified and promoted to enhance learning and harmonization.**
- **Non-controversial interventions should be prioritized such as water point rehabilitation, analyzing transparency in equity of access to water, and supporting women's concerns and needs in the sector.**
- **It should be kept in mind when planning new water points that permanent or deep wells, as well as large capacity water points, are controversial as they affect mobility in areas outside settlements.**
- **The initiative must build on existing customary knowledge and find avenues of merging modern methods with traditional methods in ways which empower communities.**
- **Linkages should be promoted between customary and administrative structures to enhance harmonization and avoid conflict, rather than working with one over the other.**
- **The software component of any intervention should be given due attention.**
- **Evidence should be generated to influence policy through systematic attention to appropriate monitoring and evaluation, as well as documentation and dissemination of findings.**
- coordination among stakeholders in the program area.
- CARE focuses mainly on upgrading or rehabilitating existing permanent and temporary water supply sources, and decisions on constructing new water points duly consider effects on mobility and the sustainable management of grazing areas. The program generally works to improve water quality and ease of access, and to reduce the time and labour required to collect water from source.
- In practice, focus is primarily on:
 - Rehabilitation/ upgrading of traditional wells (3 have been rehabilitated during the pilot phase – CARE also does not alter traditional wells but works to increase water availability, efficiency and ease of access, and to protect it from damage)
 - Rehabilitations/upgrading malfunctioning motorized water supply sources (4 systems rehabilitated and upgraded during the long term programme)
 - Rehabilitation and upgrading of ponds/earth dams (3 ponds have been rehabilitated during pilot phase, with 2 more added during long term programme)
 - Expansions of already established system to facilitate access by additional users (two groundwater supply systems expanded during long term programme)
 - New developments (deep wells and/or surface water harvesting systems) in areas where there is no permanent water sources within a short distances (developed two hand dug shallow water wells and one rock catchment for rainwater harvesting during pilot phase; one new deep well planned and informed by in-depth technical and socio-economic considerations to identify and mitigate impacts on mobility and livelihoods)
 - Supplementary water supply technologies such as rainwater harvesting in schools (constructed 7 rainwater harvesting systems in 5 schools, with an additional 3 added during the long term programme).
- Specifically in terms of women's involvement, CARE has developed a seasonal calendar through a participatory process which identifies basic information on trade, division of labour, and access to resources by different gender groups disaggregated by age and sex. This is seen as a key planning tool to analyse the role and involvement of the entire community in the implementation of the program and to help identify entry points to enhance women's involvement in the program.
- Water points and specific locations for proposed water resource development selected based on traditional knowledge in relation to managing the natural resources and challenges faced due to water development and access in the past.
- Team improves the efficiency and accessibility of existing customary water points based on the decision of customary water resource management groups.
- CARE supported the establishment of community based groups to manage developed water supply and sanitation facilities with a special focus on building on existing customary knowledge and finding avenues of merging modern

and traditional methods in ways which empower communities as well as ensure the enhanced involvement of women. The established management groups received training on improved water and sanitation practices and on operation, management and maintenance of the systems developed.

- Initiatives do not alter traditional well (*ella*) management systems, but rather try to strengthen the customary system in place by promoting improved participation of women and the inclusion of other social groups in the management modality. The initiative plans to strengthen this approach in later phases.

Innovative approaches by local NGOs

Pastoralist Concern Association Ethiopia's (PCAE) introduced the concept of Local Development Committees (LDCs) in Somali region a decade ago, which are based on traditional institutional structures, but also bring in local government. LDCs bring together traditional leaders and local government for the purpose of dialogue and consensus building, and are chaired by local elders. In homogenous areas like Filtu where there is only one clan, the LDC is made up of all the heads of sub-clans, along with representatives of local administration at the district level and also members of PCAE. In areas like Dollo where there is more than one clan, heads of clans sit on the committee rather than those of sub-clans. Once the LDC is formed, a mapping exercise takes place which identifies areas with water potential, and criteria set for water point site selection. However, there are challenges to this approach, as sometimes community decisions are at odds with the wishes of local administration (Abdida'ad Ibrahim⁴⁹, personal communication).

Mapping

Some NGOs and development organizations have recognized the need to better understand what physical resources exist and where (water resources, water points, including types and functionality, pasture and other land, settlements/towns, infrastructure such as roads, schools, clinics) in areas where they plan to or are already engaged. This is to improve planning and decision making, and is an approach pioneered among development organizations by GTZ and SOS Sahel in Ethiopia.

Among development organizations, the Lay Volunteers International Association (LVIA) has put together a comprehensive GIS based atlas for parts of Borana in Oromia region, which identifies existing water resources, water points and pasture, among other features. The Food and Agriculture Organization (FAO) has also produced maps on behalf of the ECHO-RDD consortium, which identify different land uses, surface and groundwater resources, different types of water points, towns, roads, and other features. The International Rescue Commission (IRC) conducts comprehensive surveys of all water developments (and functionality) in its areas of work, like in Mieso, Daro Lebu and Boke woredas in Oromia region.

Some government actors have begun to do the same. The Oromia regional government has recently produced land use maps to guide development decision making for the region. Regional government in Somali region has also recently put together a comprehensive assessment of all existing water infrastructure in the region.

⁴⁹ Executive Director, PCAE.

Section 4. Lessons learned and ways forward

4.1 Lessons learned

Table 6 presents ‘good’ and ‘poor’ practice as identified by practitioners interviewed in Addis Ababa and in the regions (SNNPR, Somali and Afar). This table highlights common responses from over 40 interviews with water development practitioners including government, NGOs/development organizations, as well as donors, researchers, experts in pastoral development and pastoral associations. Poor practice generally refers to practices/approaches seen to be problematic, while good practice refers to those observed to work within the pastoral context. Having said this, very little has been done in the way of assessing the impacts of water development on livelihoods. These assessments would better help practitioners make informed choices regarding ‘best’ approaches to developing water in the rangelands vis-à-vis poverty reduction and increasing livelihood resilience⁵⁰.

Table 6: ‘Good’ and ‘bad’ practice as identified by the water development community of practice in Ethiopia

Good practice	Poor practice
<ul style="list-style-type: none"> ▪ Understand the broader natural resource base and grazing patterns before planning and constructing water points - i.e. making water development part and parcel of natural resource management recognizing that water affects the way broader natural resources are used and managed. ▪ Understand local contexts and dynamics, including social, political and cultural aspects in a given location. ▪ Identify existing water points and explore options for rehabilitation (improve on what is already there). ▪ Couple water development with other pastoral development interventions (e.g. access to markets, veterinary health, rangeland rehabilitation) ▪ Promote meaningful engagement with water users in the planning and implementation phase of any interventions and promote the use of participatory/consultative methods. 	<ul style="list-style-type: none"> ▪ Establishing water points without understanding the local context (social, political, cultural, and economic) ▪ Constructing water points with little knowledge of other natural resources in the area and how people use these resources; i.e. without contextualizing water within the broader landscape. ▪ Heavy emphasis on construction with insufficient attention to planning, management, operation, maintenance. Implementation by external agents with little on the ground consultation and involvement.

50 Most projects currently focus on reporting outputs at the expense of quality or effectiveness. For example, a report which states that ‘10 wells were improved’ does not say anything about accessibility, availability, affordability, quality and acceptance – the five standard indicators of service provision (Ministry of Agriculture and Rural Development, 2008: 14)

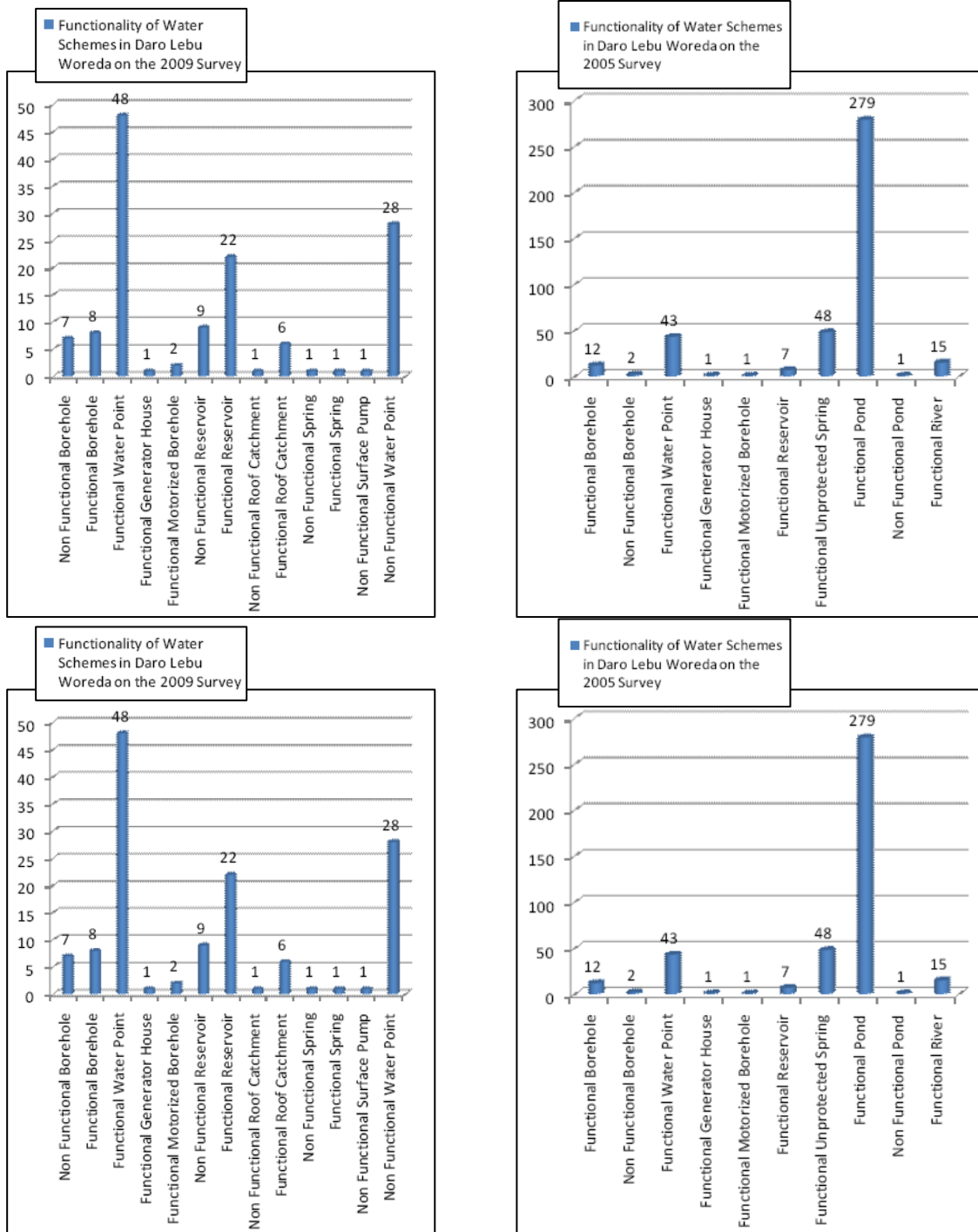
51 The government’s PCDP for example requires community contribution of 15 per cent, 5 per cent of which is expected in cash.

52 This fits with the government’s short-term strategy of supporting mobile pastoral livelihoods.

- **Understand existing traditional water management systems and strengthen customary institutions as well as build on their know-how for water scheme management.**
- **Strengthen the management, operation and maintenance capacity of water users and select technologies for which construction materials and spare parts are locally available.**
- **Promote user buy-in and commitment by requiring a labour/cash contribution to construct water points⁵¹**
- **In rangelands, select technologies which do not encourage settlement⁵² and adequately space points to alleviate pressure on any single water point.**

At the same time it is clear that this thinking is translated into action on only a small scale (highlighted in some of the examples given in Section 3). Much that occurs in the water development sector (in pastoral areas as well as elsewhere) continues to follow business as usual based on a technocratic model, with little community participation and little emphasis on issues beyond putting in place physical infrastructure. Ethiopia is still littered with non-functional and disused water points, and conflict, settlement and environmental degradation are still evident around them. In SNNPR, for example, management of water schemes remains a challenge, and as rapidly as the number of water points is increasing, the number of non-functional points is increasing with it (SNNPR Water Bureau, personal communication, 2009). This trend is not only limited to SNNPR but is observed across the regions. For example 60% of Somali region's *birkado* are damaged and unused (Schimann and Philpott, 2007). In Oromia, a recent survey conducted by the International Rescue Committee (IRC) has shown that of the 14 boreholes present in Daro Lebu woreda in 2005, 12 were functional and 2 non-functional. Of the additional 15 boreholes constructed in the same woreda since 2005, 7 are non-functional and 8 are functional (Figure 6).

Figure 6: Functionality of boreholes in Daro Lebu woreda, Oromia region as per in-house survey conducted by the IRC in 2009



The following section discusses some of these issues in order to present a clearer picture of how things stand and where things may be going in the near future.

4.2 Key observations in the water development sector

Examples highlighted in Section 3 indicate that positive changes are observed in terms of how practitioners develop water in the drylands. Yet these projects and programs by no means reflect overall practice and more is needed to ensure that water points enhance rather than hinder pastoral livelihoods in the rangelands.

Extremely ambitious water development targets for water supply, as outlined by the UAP, the PASDEP and the WSDP (Section 3.2.2.4; p. 31), which are based in part on meeting MDG targets, are likely to see continued heavy emphasis on infrastructure development at the expense of sustainability and appropriateness. Prioritizing buy-in as well as effective and representative participation by communities during planning would help implementers properly size and site water points. Embedding the capacity to operate, manage and maintain water points locally would promote sustainability. Unless these aspects are actively prioritized, the proliferation of unsustainable and inappropriate water points is likely to continue.

National policies and strategies continue to prioritize irrigation and the expansion of agriculture in the rangelands as well as encourage the settlement of pastoralists in the long term. This poses considerable challenges to the resilience of livestock-based pastoral livelihoods and a new program is underway to encourage a fairer, more balanced treatment of pastoralism as an important contributor to development and to the economy⁵³. If government policy and strategy objectives remain as they are, land available for grazing is likely to be reduced (especially key dry season grazing areas), pastoral access to rivers is likely to become further obstructed exacerbating water problems, and mobility - an essential strategy used by pastoralists to avoid risk - will be further undermined. Finding common ground between national, regional, sub-regional and local priorities will be essential to ensure that national economic growth can occur unimpeded but without compromising sustainable development that responds to local needs.

4.2.1 Impacts of water development

Water point development critically alleviates the stresses of serious water shortages and physical access constraints in Ethiopia's arid areas. It allows access to important groundwater resources where rainfall is too variable or poor to provide reliable surface water, and simple technologies like hand dug wells along rivers provide communities with much-needed clean water.

However, water development can trigger a slew of negative consequences if local needs, land use patterns and ecological functions are not sufficiently considered. The irony is that as much as water can alleviate immediate pressures in the short term, it can potentially bring with it lasting and serious negative impacts in the long term. This can undermine rather than promote development and sustainable livelihoods.

To date, very little has been done to systematically track impacts of water development on livelihoods. Despite this, trial and error over many years in the field has created more awareness among actors about the negative impacts of poorly planned water interventions, especially related to large capacity or permanent water points.

Gomes (2007) captures well some consequences and impacts of such water interventions in north-eastern Ethiopia, which include: settlement around water points, appearance of competing land uses such as agriculture in rangeland areas, other forms of privatization such as fencing portions of the rangelands for private use (seen by some as an attempt to buffer the rangelands against conversion for crop production), overconcentration of livestock around water points and range degradation,

⁵³ Led by the Feinstein International Center (Tufts University) in partnership with the International Institute for Environment and Development (IIED) and targeting government partners and civil society up to 2011.

excessive and uncontrolled use of water infrastructure leading to breakage and water shortages, deforestation for charcoal production, reduction of available palatable perennial grass, over-abstraction and lowering of the water table, salinization and salt-water intrusion, and conflict over the control of water points.

In Ethiopia negative consequences related to size and capacity of water points have been identified by researchers since the 1980s, most notably since the Rangeland Development Project of the late 1970s. However, this body of work is rarely used to inform development and relief project programming. There are some notable and significant exceptions however among government, donors and NGOs, who have recognized that large capacity or permanent water points encourage settlements with associated reductions in mobility and rangeland quality. The GWI's (Section 3.1.3.1; p. 47) recently developed Integrated Water Resource Management strategy for Borana zone mentions that permanent water points constructed in the rangelands are likely to affect mobility (such as deep wells and permanent ponds⁵⁴) and are more contentious than those which extend water availability for a few months. It also mentions that smaller capacity systems are less likely to be problematic (Pankhurst, 2009; see table 5 in previous sections for further information).

Government programs also recognize the potential implications of large or permanent water points. Highlights include:

- The MoFA's PCDP (Section 3.1.2.3: p.28), which highlights that smaller temporary water catchments are more suitable in wet season grazing areas to avoid settlement and its associated problems. It also emphasizes the rehabilitation of existing water points and enabling pastoral access to rivers in dry season grazing areas. This is to make the most of what is already there and to sidestep altogether, where possible, any contentious issues that may arise from the construction of new water points.
- The MoWR's WSSP (Section 3.1.2.3: p.33), which recognizes the negative impacts associated with large capacity water points in the rangelands. It recommends that points not exceed a size which waters a maximum of 4,500 cattle a day, and that points should be spaced about 20km apart.
- The government's PSNP for pastoral areas (Section 3.1.2.3: p.39), which plans to construct public works in the rangelands in ways which do not interfere with mobility systems by ensuring close collaboration with pastoralists at the local level and contextualizing developments within livelihood and landscape zones.

A lesser acknowledged issue is that associated with *birkado*, especially in Somali region. Originally intended as temporary water catchments, these structures now tend to function as year-round water sources thanks to refilling via water tankering. Associated with this trend is the establishment of permanent settlements, which has seen some of the previously mentioned impacts manifested across the region. Even though a lot of *birkado* construction was (and is) instigated by pastoralists, pastoralists themselves have become more aware of the negative impacts of this type of water development and also vocal about ways to mitigate them. Gomes (2007) notes that traditional *xeer* agreements⁵⁵ have emerged in parts of Somali region to limit the establishment of new water sources around existing settlements as well as in wet season grazing areas. These agreements

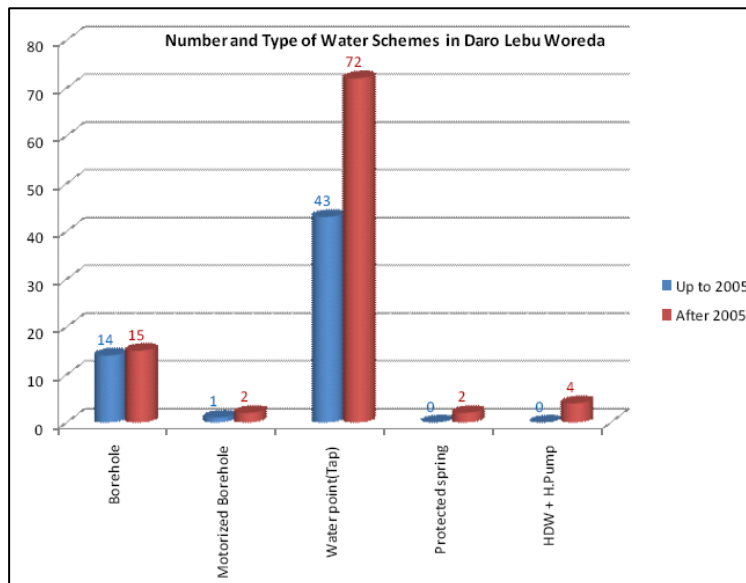
54 Recently *birkado* have been added to this list, as they function as year round water sources thanks to continuous refilling via water trucking, especially prevalent in Somali region (Beruk Yemane, Oxfam GB Pastoral Program Coordinator and Ced Hesse, IIED Principal Researcher, Climate Change Group, *personal communications*)

55 Traditional agreements between elders of structurally distant groups on the ethnic Somali genealogical charter (Gomes, 2007).

represent a firm attempt to preserve grazing land and to mitigate the use of water points as a means of territorial encroachment between clans.

Despite these positive developments, considering the impact of water points on mobility and on rangeland health/condition is by no means the norm. Activities likely to promote the sedentarization of pastoralists through water development continue to be observed in Ethiopia. In Oromia region, in Daro Lebu woreda alone, 15 additional boreholes (generally associated with promoting settlement) have been constructed since 2005 from an existing 14; over a one hundred per cent increase (based on a comprehensive survey conducted by the International Rescue Committee) (Figure 7).

Figure 7: Boreholes constructed in Daro Lebu woreda since 2005, provided by the International Rescue Committee based on an in-house 2009 survey



But nowhere is this currently more evident than in the Borana zone of Oromia Region. The Oromia regional government, as part of its Growth Corridors Plan, (The Oromia Development Corridors Approach Strategic Plan, 2008: 12) is constructing 2000km of pipeline to transport water from deep boreholes to support multiple land uses (pastoral, agricultural, etc.) across the zone. The programme’s Land Use Plans delineate different livelihood zones in the region, setting aside zones for livestock production, irrigation development and settlement. Private land tenure will be promoted (land is to be held by either individuals or groups) in line with the land uses identified in the program’s Land Use Plans.

The water pipeline and eventual hardened boundaries between land use areas, in tandem with the encouragement of private landholding, will certainly contribute to curtailed mobility. The regional government’s rationale is that the extent of poverty among pastoralists and the increasing difficulties they face in terms of being able to practice their mobile livelihoods has rendered sedentarization the only feasible development option in the long term. It also argues that tapping into groundwater supply is the only sustainable means of effectively addressing water shortage issues. However, it is foreseen that sedentarization may represent a potential sticking point in terms of acceptance and buy-in at community level indicating that the notion of settlement as the only solution to challenges facing pastoralists may not be shared by all. The Deputy General Manager of the Oromia Water Works Design and Supervision Enterprise anticipates potential resistance at ground level to privatizing land tenure in the rangelands, requiring “extensive awareness raising”. Furthermore, the Land Use Guided Valley Development Program document (2009) recognizes that the risks

associated with the program include a lack of full community participation, conflict of interest in the proposed project areas, and lack of support by stakeholders.

At the same time, the Oromia Growth Corridors Plan is also the first purely government led program which openly states that most land in Borana zone should be maintained as rangeland and should not be converted for agricultural production. It also recognizes that an integrated development approach which addresses other crucial development needs such as access to markets and health facilities, among other services, are indispensable if livelihoods are to be protected and improved.

4.2.2 Approaches to water development and community engagement

As highlighted in Section 3, different actors employ independent approaches to water development and community engagement, with little interaction or harmonization between them. Approaches range from technocratic, with generic methods of promoting participation (often symbolic), to highly participatory approaches specific to particular localities and socio-political settings. There is more focus among donors, development organizations and some government programs such as the PCDP to rehabilitate existing water points as a cost effective means of availing water, and also as a way to avoid disrupting mobility patterns and disagreement over new water points. However, the majority of practitioners remain focused on putting in place physical infrastructure with little attention to planning, effective management, operation, and sustainability, partially pushed by considerable pressure to meet targets. This lack of coherence in approach is recognized by all actors as an impediment to sustainable development in the rangelands. Highlighted is an example related to community contributions (Box 13).

Box 13: Same location, different approaches

Even though there are synergies between the government's PCDP and PSNP programs (which overlap in 9 woredas across the regions), there remain fundamental differences in approach to community engagement. The PSNP pays cash for work on public works construction while the PCDP insists on a mandatory 5% cash contribution from communities for all infrastructure developments.

Among NGOs, it has been observed that competition over donor funds, competition over community attention and the limited number of available technical government experts in areas populated by multiple NGOs, in addition to weak government oversight all pose a challenge to standardizing what and how much communities contribute to water interventions. Furthermore, it is difficult to demand community contributions beyond the maximum expected by established programs (Behnke et al, 2008). Thus in areas where cash for work is the common practice, expecting communities to contribute monetarily becomes extremely challenging.

However, partnerships and dialogue between different stakeholders are beginning to emerge, indicating cross-fertilization of ideas and approaches between actors. In SNNPR, the head of the water bureau mentioned that positive responses to the PCDP's participatory approach have been observed at grassroots level, and mainstream technical experts in government are beginning to learn from and adopt elements of this approach. It is also easy for the water bureau to access and learn from the PCDP, as PCDP project personnel at regional level are housed in the same complex as the water bureau. The PCDP itself, with funds from the Japan Development Fund, is now working with eleven NGOs to roll out its approach and activities (Belayhun Hailu⁵⁶, personal communication).

The PSNP is also actively promoting partnerships with NGOs to address capacity shortages within government and promote knowledge sharing. There is also dialogue between the PSNP and PCDP to iron out differences in approaches to community contributions (Belayhun Hailu, personal communication). Furthermore at regional level, the Oromia Growth Corridors Plan invites NGOs and donors to participate in the implementation of the initiative, and regional implementers are

56 Senior Officer - Knowledge Management and Participatory Learning, PCDP.

learning from NGO experiences in Borana, such as the PLI's experience with controlled burning of the rangelands.

On the humanitarian front, dialogue between major humanitarian donors such as the Humanitarian Response Fund (HRF) under UN-OCHA and the Office of U.S. Foreign Disaster Assistance (OFDA) under USAID is occurring for the first time, acknowledging the need for better coordination. There is also interest among humanitarian donors to improve the effectiveness of emergency interventions by tapping into the experience of development programs. For example UN-OCHA's Humanitarian Relief Fund is looking into collaborating with Tufts University to produce impact assessments for HRF's emergency interventions, such as those produced under USAID's PLI program, to help gauge the impact of emergency relief on livelihoods, identify weaknesses and improve practice.

Water development guidelines

Common, agreed upon guidelines for water development in pastoral areas do not exist in Ethiopia. This frustrates moves towards streamlining practice in the water development arena. However, there are a number of existing guidelines on water, participatory mapping and conflict sensitive planning. These may prove useful as a foundation on which to build a broadly applicable set of guidelines for water development for productive use, which are versatile enough to allow context specific planning in pastoral rangelands. These include:

- Implementation guidelines for water supply, sanitation and hygiene projects in pastoral areas (Giovannetti, 2006). Developed by the MoWR, these guidelines are meant to guide the PCDP's and WSSP's water interventions for domestic use, but provisions are also made for livestock watering.
- National guidelines for livestock relief interventions in pastoralist areas of Ethiopia (MoARD, 2008). Developed by the MoARD, this set of guidelines includes a subsection on emergency provision of water to livestock as well as guidelines on participatory natural resource mapping.
- The Livestock Emergency Guidelines and Standards (LEGS). This international set of guidelines, developed in 2009, includes a subsection on the minimum standards for the provision of water (Thorne, 2009).
- The international humanitarian Sphere guidelines⁵⁷, which include a section on water, sanitation and hygiene.
- Guidelines for the development of small-scale rural water supply and sanitation projects in East Africa. This set of guidelines was funded by USAID and produced by Catholic Relief Services (Warner and Abate, 2005).
- Introductory volume and guidelines on participatory rangeland management, lead by SC-US and the ELSE/ELMT Technical Working Group. These documents present a process of participatory rangeland management built upon the success of participatory *forest* management, so providing a framework for community-led land use planning and resource management in pastoral areas (Flintan and Cullis, forthcoming 2010; Irwin, Cullis and Flintan, forthcoming 2010).
- Guidelines on participatory resource mapping, developed independently by the government's PSNP and also by USAID's PLI program. These can be used to help plan water development interventions in a manner which is highly context specific. A published version of these guidelines is being produced by SC-US as part of a series of guidelines for practitioners focussing on aspects of participatory rangeland management.

57 Sphere Humanitarian Charter and Minimum Standards in Disaster Response, see <http://www.sphereproject.org/conect/view/27/84/lang.English/>.

- Guidelines for conflict sensitive programming, developed by CARE Ethiopia for pastoral areas in Borana zone, Oromia region under the GWI programme (Demeke, 2008). This set of guidelines has relevance in multiple pastoral settings and can help inform water development planning.
- Still under development are guidelines for the planning and implementation of the UAP. The fact that these guidelines are still being drafted presents an opportunity to incorporate recommendations specific to pastoral areas.

Responsibility for water

Responsibility for water is fragmented between different ministries and bureaus at federal and regional levels, depending on the intended use of the supplied water. For example water supply and large scale irrigation are the responsibility of the MoWR, while water for livestock and agriculture is under the MoARD. At the same time, projects under the MoFA also deal with water development, as seen under the PCDP.

At regional level, responsibility for water is also fragmented between different bureaus. Water development is the responsibility of water bureaus and their associated offices/desks at lower administrative scales. Pastoral development more broadly (i.e. anything related to livelihoods, natural resource management etc., which often entails water development as well) is the responsibility of dedicated pastoral commissions/bureaus and their associated offices at lower administrative levels. Fragmented responsibility entrenches sectorally driven water interventions (water points for human supply, water for agriculture, etc.) and it is not difficult to see that it poses a challenge to streamlined and coherent approaches to water development. In Oromia region, steps are being taken to address this sectoral disconnect (Box 14).

Sectorally driven water development means that water points are developed for specific purposes; either for domestic consumption, livestock use, or for agriculture. However, pastoralists use water for multiple purposes, regardless of the intended purpose of the water point. This is beginning to be recognized by many practitioners who now often construct troughs intended for livestock watering attached to water points intended for domestic use. Multiple use of water is also beginning to be recognized in federal plans and policies. The PASDEP mentions water for multiple uses and the UAP makes brief mention of it albeit with little elaboration.

Box 14: Platform for integrated water development, Oromia region

The Oromia Pastoral Development Commission (OPDC) implements projects focused on pastoral livelihoods, often with water delivery components. The water and agriculture sectoral bureaus plan and implement water supply and irrigation projects in both pastoral and highland regions. In 2009, a structural amendment was made at regional level to allow for better coordination between the OPDC and the sectoral bureaus. A new board was created at the behest of the regional president and cabinet, to be hosted by the OPDC and to ensure that the strategies and interventions of sectoral bureaus are better suited to the pastoral context. Sectoral bureau representatives must present their intended development plans for pastoral areas during board meetings and the task of the OPDC is to ensure that they consider realities in the region's lowlands (Abebe Wolde, OPDC deputy commissioner, personal communication).

Coordination

The importance of coordination is not lost on government and the various development and humanitarian assistance actors in Ethiopia. Many coordination groups, fora, and consortia have been established to promote communication and common approaches on a wide array of issues (Box 15).

However, there are currently no specific coordination efforts on water for productive use or common guidelines for water development in pastoral regions. Water issues are fragmented between different coordination groups, which are either project specific or related to particular themes such as emergency relief, livestock, agriculture/food security, natural resource management, and access to safe drinking water, all led by different agencies. The sheer number of coordination groups and fora suggests that there is much coordination but little harmonization. Many of the existing coordination efforts touch on overlapping themes, are led by different agencies and run in parallel. Discussion around water, as a cross-cutting theme, is splintered and diluted across the different groups, and where it is a central topic of discussion (such as in coordination fora on access to safe drinking water), discussions concentrate on water for human use rather than for livestock or agriculture.

Box 15: Selection of coordination efforts relevant to water and pastoral development in Ethiopia

(based on Gijs Van't Klooster, FAO, and Fiona Flintan, ELSE/ELMT Program and NRM Technical Working Group, *personal communication, 2009*)

Emergency relief:

- Overall coordination of emergency interventions led by UN-OCHA.
- Coordination forum for all PLI-USAID projects (led by Tufts University)*
- Coordination forum for all ECHO RDD projects (led by FAO)*

Development:

- Coordination group for the Agricultural Growth Programme under the Rural Economic Development and Food Security subgroup of the Donor Assistance Group, led by the World Bank. Under this programme, a livestock/pastoral working subgroup has been formed by the MoARD, USAID, FAO, Tufts University, and the European Commission to promote livestock production as a vehicle for agricultural growth.
- The livestock policy forum (as discussed previously in Section 3.2.2.1)
- Coordination group for the PCDP, led by the World Bank
- Coordination group for the PSNP, led by the World Bank with a taskforce for pastoral areas.

Natural Resource Management:

- Initially supported under the ELSE/ELMT program, the NRM Technical Working Group (TWG) currently housed in Save the Children/US is made up of members from NGOs, government (federal, regional and local), donors and development agencies. It provides a forum for information and experience exchange including, potentially, on water. Currently, NRM sub-groups are being established at a regional and/or zonal levels.

Regions and zones:

- Multiple theme- based coordination groups, led by regional or zonal government.

*These two have now joined, and the joint coordination group is now led by regional agricultural bureaus.

As indicated, guidelines do exist which could serve as a strong foundation for developing a broader set on water for productive use in pastoral regions. The existence of multiple coordination groups concerned with development and development-oriented emergency relief in pastoral areas serves as a good opportunity to then mainstream developed guidelines into practice.

4.2.3 Water development in the context of broader natural resource management

Water in pastoral regions is part and parcel of the broader natural resource base, and decisions related to water among pastoralists are de facto decisions related to pasture. Therefore water cannot be seen as a stand-alone issue and water point development for people (and livestock) must also consider broader natural resource management if environmental degradation and conflict are to be minimized.

However, water development in Ethiopia is still largely worked on as a standalone issue divorced from broader natural resource management and from broader development. This suggests poor linkages between water provision and improving livelihood resilience.

Some actors have begun to address this disconnect. The government's PSNP aims to understand customary natural resource use, the type and extent of different natural resources in specific areas including degraded landscapes, as well as existing customary resource management systems. It does so through the use of participatory natural resource mapping, which allows practitioners to get a feel for local needs and concerns. USAID's PLI uses a similar approach, where Save the Children US leads on working with and strengthening customary institutions to properly understand local physical, social, and cultural contexts. Some NGOs are doing the same. LVIA, as part of the ELSE/ELMT program, has put together a comprehensive GIS based atlas for parts of Borana in Oromia region, which identifies existing water resources, water points and pasture, among other features, to help inform planning. In addition, Oromia region's approach to development, through its Oromia Growth Corridors Plan, is to understand existing natural resources and land uses through a comprehensive land use mapping and planning exercise.

4.2.4 Development versus emergency relief

Development projects have begun to put more effort into the software aspect of development interventions, including working closely with communities to appropriately plan interventions and building local capacity to operate and manage schemes. However, development projects and programs are dwarfed by much more widespread short-term emergency relief projects. The short term nature of emergency relief, where projects are typically up to 6 months in duration (not exceeding 12 months in rare cases), puts inordinate amounts of pressure on implementing agencies to address water shortages and meet targets at the expense of appropriate planning and ensuring sustainability, which requires much more time⁵⁸. It is not hard to see how these parallel modes of operation can undermine long-term development efforts in the rangelands.

A nascent trend observed is the introduction of a longer term livelihoods approach to humanitarian interventions as seen under USAID's PLI and ECHO's RDD programs (see Section 3), which focus on rehabilitation and simple water infrastructure in areas outside settlements. To avoid contentious issues related to establishing new water points, such projects increasingly promote rehabilitating existing water infrastructure (especially of more complex schemes).

There are also a number of cases of NGOs using their experience with communities in a humanitarian relief context as an entry point for longer term development. For example, Oxfam USA has managed to secure funds for a long-term development project in pastoral areas focused on small-scale irrigation, as a direct follow on project building on emergency relief activities. Given increased funding available for pastoral programs and projects, this has meant that there is more likelihood for follow up projects to take place in pastoral areas, providing some continuity (Fiona Flintan⁵⁹, personal communication, 2009).

Given the need for immediate response in an emergency context, it is unlikely that emergency relief project cycles will be extended to accommodate the time needed to incorporate effective planning and other software interventions which would help improve water point sustainability. In light of this, synergies should be promoted between development and emergency relief practitioners to help mitigate the potential for humanitarian interventions to undermine long term development.

⁵⁸ It is recommended that planning prior to any new physical interventions should take about 6 months if it is to be done properly (Warner and Abate, 2005).

⁵⁹ Regional NRM Technical Advisory, ELSE/ELMT Program and coordinator NRM Technical Working Group, Addis Ababa

4.3 Conclusion, ways forward and recommendations

This report provides an overview of water development in Ethiopia's rangelands in order to inform and improve the partners' work and encourage dialogue and debate around water development issues specific to pastoral regions. It provides an examination and discussion of current actors, practice and policies in the water development arena, and also puts forward poor and bad practice as identified by major stakeholders.

Findings indicate that to improve water development, local contexts need to be understood and considered, land users involved to guide and inform what is and isn't appropriate, and existing customary land management strategies built upon (see table 7). The government's WSDP highlights that "the most important policy and regulatory interventions in terms of their negative impacts on the environment were those impositions which increasingly and cumulatively eroded the rights of individuals and communities to use and manage their own resources" (MoWR, 2002: 122). Grassroots participation is clearly enshrined in Ethiopia's Constitution, and in order to effectively address inappropriate water development in the rangelands, it is sensible to take the best that the technical and scientific community has to offer and combine this with customary knowledge systems.

Table 7: Reflections on participation

Changes since 1991	Where observed	Challenges*	Recommendations
More emphasis on participation	Water policies, strategies and programs emphasise community participation in water development.	i. The term community is often ill-defined or not defined at all. This makes selecting community members who are truly representative of the wider set of stakeholders a challenge.	a. Define 'community', understand the social, economic and political factors at play locally, select representative community members, and select the scale of intervention commensurate with the appropriate livelihood zone. Community members engaged should represent the different social, livelihood, wealth, age, religious and gender groups.
		ii. No common understanding of the term participation and no common approach to promoting it. Ambiguity in what is meant by the term sees multiple approaches to ensuring participation in the rangelands, running the gamut from token to effective participation.	b. Define 'participation' and how 'community' (above) will be involved. Also promote dialogue between practitioners and pastoralists to share experience on what does and doesn't work in different pastoral contexts.
		iii. Weak focus on building capacity of communities (Water User Associations or other committees/groups acting on behalf of the community) to plan, manage, operate and maintain water points. This weakens the capacity to participate in as well as 'own' projects.	c. Increase focus on the 'software' component of projects and put in place indicators at the outset of interventions which would help measure capacity built and livelihoods improved, not just physical interventions completed.

		iv. More emphasis on involving communities in management and maintenance and less in planning. This may compromise buy-in to schemes if planned in isolation from community. This also makes practitioners vulnerable to establishing water points that may disrupt social and ecological patterns.	d. Ensure participation in all stages of water development, which importantly includes planning.
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* There are also notable overarching challenges including an unfavourable pastoral policy environment, extremely ambitious national water development targets which may undermine quality in favour of quantity, and a dearth of skilled manpower in pastoral regions.

Currently in Ethiopia, approaches to water development and community participation are disjointed between different projects and programs, and also between different actors and sectors. In general, approaches range from highly technocratic, with generic methods of promoting participation (often tokenistic), to highly participatory approaches which are confined to specific spatial and socio-political settings. There is little coordination and knowledge sharing between different groups of actors. No common guidelines exist for the development of water for productive use in the pastoral context, and there is also a need to strengthen linkages and improve complementarities between humanitarian and development approaches and activities. Furthermore, most water development occurs in isolation from broader natural resource management, even though water is recognized as a key resource. Water is also often developed without due attention to other critical development needs such as access to markets, health services for people and livestock, and education.

Further complicating matters is the dichotomy in macro-level thinking. On the one hand, the policy environment in Ethiopia favours the settlement of pastoralists in the long term and the promotion of irrigation expansion, seen by government as the only practical responses to the challenges facing pastoralists in the rangelands, on the other hand, donors, some government programmes and a few development organizations favour supporting mobility as an essential pastoral coping strategy and promote the livelihood as a vehicle for economic growth and development.

Some shifts in water development thinking have been observed. Practitioners increasingly recognize that:

- Disjointed approaches to water development are an impediment to sustainable development in the rangelands;
- The lowlands require a different approach to water development than the country's agricultural areas where rainfall is less spatially and temporally variable;
- Mobility is an important means for pastoralists to respond and adapt to variable environments;
- Pastoral livelihoods are influenced by social, cultural and political aspects which differ within and between regions and must be properly understood;
- Water points function within the broader landscape and can alter patterns of resource use, underscoring the importance of understanding the existing natural resources in a location (water and pasture) and the way people use these resources;
- The software component of water development requires much more focus if water developments are to be appropriate and sustainable, which means improving effective participation in planning and implementation and embedding the capacity at the local level to operate, manage and maintain water points

In sum, pastoralism as a livelihood is a highly evolved economic, social, cultural, and political response to a landscape where natural resources are highly variable in space and time. Insufficient attention to how pastoralists use and manage natural resources within this broader livelihood context, and the lack of a coherent and streamlined approach to water development, often results in water interventions which contribute to the disruption of elaborate and highly developed natural resource management systems, the promotion of unsustainable land use, and heightened potential for conflict, which serves to damage a very productive part of Ethiopia's economy. The irony of developing water to satisfy demand is that as much as it can alleviate immediate pressures in the short term, it can potentially bring with it lasting and serious negative impacts in the long term. This occurs when local needs, land use patterns and ecological functions are not sufficiently considered. In turn, water development can potentially undermine rather than promote development and sustainable livelihoods.

Ways forward

The type, size and placement of water points requires a solid understanding of 1) water needs and concerns in a given area, 2) the natural resource base which might be affected - as water points "function within the natural environment and can potentially have significant harmful effects on it and on the welfare of people depending on it" (Warner and Abate, 2005: 13), 3) the social as well as political dynamics in areas of intervention, 4) capacity at the local level to manage, operate and maintain water points, and 5) existing traditional water management systems already in place. Understanding and building on these key elements is fundamental to help ensure that water schemes will satisfy demand, remain functional, and minimize environmental degradation and conflict. This necessitates bringing communities on board at the outset of any planned intervention.

Following is an amalgamation of three sets of guidelines⁶⁰ which could serve as a starting point to address the above issues. This example could also serve as a starting point to discuss and build on in order to develop a common set of water development guidelines suited to the pastoral context⁶¹.

1) Planning:

Local needs, opportunities and existing water management systems need to be understood during the planning stage of any water intervention. The planning stage is critical and often requires considerable time and effort (6-12 months for long-term development planning) to make sure that the intervention is appropriate, will satisfy demand, and will be sustainable in the long-term.

Stakeholder mapping

- Perform a comprehensive stakeholder analysis at local level to understand who the different potential resource users are (the 'community' who will benefit) and also who may stand to gain or lose from water interventions (for example upstream and downstream users along rivers). Also explore current access patterns to water to identify whether there are social (or other) constraints limiting access of some groups to water.
 - Identify local customary institutions and representatives and understand existing water management strategies and relationships between groups. Engaging with community leaders in an area is important to avoid conflict over water points.

⁶⁰ See Warner, D. and Abate, C. (2005); Thorne, P. (2009); Ministry of Agriculture and Rural Development (2008).

⁶¹ This set of guidelines serves only as an example to kick-start dialogue and is by no means a representation of the full set of existing guidelines previously presented.

- Identify local non-pastoral groups and those not represented by customary institutions (e.g. immigrants, Internally Displaced Persons, refugees).

Community involvement and participation

- Involve communities in the planning process. Using participatory methods of community engagement,⁶² planners should identify local concerns and needs.

Planners should engage with local groups which are representative of the different resource users in the area, to include representatives of customary institutions. The group should also reflect the different wealth strata within the community and include women to ensure that vulnerable groups are represented. To begin to discuss needs and concerns, as well as the particulars of placing/sizing/choosing water points, a useful starting point would be to use appropriate participatory tools. An example is participatory natural resource mapping, which is useful to understand the extent and quality of existing pasture and water and the different land use patterns in an area. This allows planners and community representatives to discuss concerns and needs regarding water within a broader landscape/natural resource management context. A sound assessment of demand for water should also be based on human and livestock population estimates (if available) as well as local authority records, and should accommodate future demands of both human and livestock populations.

Project Design

Removal of water points

- In agreement with local water users, explore the option of removing existing inappropriate⁶³ water sources.

Rehabilitation

- Identify existing water points and explore options to rehabilitate non-functional or poorly performing points. This is to ensure that water projects build on existing infrastructure. At the same time, carefully evaluate the potential for conflict between existing and potential new users attracted to the increased water supply. Increased attention on rehabilitation should be given especially in the context of emergency interventions where the project lifecycle is limited.

New water points

- Evaluate the need for and potential impacts of introducing new water points, and identify remedial measures to tackle negative impacts.
- Choice of technology should be based on both technical and cost considerations, as well as on the expressed needs and capacities of the community. Planners should explain the available technological options and help communities, through a process of dialogue and knowledge sharing, to select the most suitable technology that will satisfy local needs. The placement and capacity of water points should also be thoroughly discussed with stakeholders.

⁶² Participatory methods allow planners to understand and benefit from local knowledge systems, allow dialogue and negotiation between planners and communities on the most suitable type/placement/size of water points, and enhance buy-in and commitment at the local level.

⁶³ Water points may be inappropriate for a number of reasons. They may be technologically inappropriate and beyond the financial or technical capacity of local people to use, leading to habitual breakage and disuse. They may also be contentious in terms of placement and potentially disused for this reason.

- Water interventions selected should ideally be familiar to local communities and within their understanding. If designed and constructed beyond the understanding of users, they are not likely to be sustainable.
- Promote the contribution of cash and/or labour to the construction or rehabilitation of water points. This is to enhance community commitment to maintaining the water point and ensuring that it is sustainable beyond the lifetime of the project.

Management

- Establish clear and equitable management systems for water points. Unless this point is tackled from the outset of the project, it is likely that the water point will be vulnerable to breakage or misuse.
- Assist communities to establish water management committees (or variations thereof), representative of all groups with a stake in the development. This should include women, and non-pastoral groups (e.g. immigrants, Internally Displaced Persons, refugees). Committees should help define and manage water interventions. Management includes operation and maintenance and members should receive adequate training to perform these tasks.
- Build on and strengthen existing customary resource management systems. These systems often provide a tried and tested context and culture appropriate approach to water management, which helps diffuse/avoid conflict over water. Practitioners should build on these benefits rather than import new systems external to the pastoral context. Therefore, ensuring that customary institutions are represented on the above committees⁶⁴ (especially for new water points) is important to make sure that all needs and concerns are taken on board and to maximize benefit from indigenous knowledge.
- To avoid misuse of the water point it is imperative that the water management committee should be seen by the wider community as a credible entity which represents all user groups, including pastoralists and non-pastoralists as well as vulnerable groups and women. This committee should also be expected to report on progress to the wider community and to local government.

2) Implementation

- Encourage the use of traditional systems designs for which local materials and construction know-how are available.
- Take into consideration the technical capacity required to operate and maintain water points, as well as spare part availability when choosing technologies. Especially in remote areas, access to external technical assistance, construction materials and spare parts may be limited.

Training





- Involve and train local community members (e.g. water management committee members and local artisans) in construction, management and maintenance to embed capacity at the local level.

3) Sustainability

⁶⁴ A combination of formal management committees and customary institutions is recommended, as the latter on its own may not reflect the full constituency in an area and may not be representative of non-pastoral groups (Muir, 2007),

- Continue to assist communities to operate schemes for some time after project completion if needed.
- Help communities prepare a plan outlining routine maintenance and repairs which should be accepted and followed.
- The water management committee should report to the community and possibly to local government technical bureaus.
- Promote and enhance linkages between communities, local government and the private sector so that potential challenges related to water point operation and maintenance can be overcome. Preferably facilitate agreements with technical bureaus and the private sector to assist should major interventions (maintenance, etc.) be needed in the future.
- Conduct external evaluations of projects to track progress and monitor impacts.

Recommendations

Common Practice	Develop water points based on technological and geomorphological considerations to meet immediate water shortages and demand.	
Potential Outcomes	 Demand for water met, and human lives and livelihoods protected.	 Unforeseen negative consequences despite well-intentioned development including rangeland degradation, conflict, and increased vulnerability (for example, increased incidence of disease due to high concentrations of livestock for protracted periods of time).
Recommendations	  <ul style="list-style-type: none"> • As 'good' and 'poor' practice in relation to impact on livelihoods is hardly measured or documented, promote the use of impact assessments such as those used under USAID's PLI program to measure the impact of water developments on livelihoods and learn from documented 'good' and 'poor' experiences. This is currently a major gap in practice and applies across the board from development and humanitarian agencies to local NGOs and government. • Thoroughly understand the local social, environmental, economic and political context to inform planning. • Ensure that water is developed as part of a participatory rangeland development system/process, with a prerequisite in-depth analysis of broader political, institutional and funding priorities to inform this process. • Develop common guidelines for water development in the pastoral context, flexible enough to allow for context specific planning. Streamline the use of these guidelines through existing coordination fora dealing with development and emergency interventions in pastoral regions. 	

- Promote effective participation through the involvement of recognized institutions or groups representative of local communities. These groups or institutions may exist (customary institutions, water user associations, pastoral associations) or may still need to be established. For example, customary institutions may not represent all livelihood groups in a given area (Muir, 2007), and often do not represent the needs and views of women, while water user associations may not sufficiently represent pastoral needs and concerns and generally do not incorporate or build upon existing natural resource management strategies. Furthermore, existing institutions have evolved with time, including traditional pastoral institutions. This change must be acknowledged and the nature of the change carefully documented to help identify institutional strengths and weaknesses, and to establish modalities of engagement with these institutions. To date, the role of customary institutions is poorly researched in Ethiopia and development practitioners often view these institutions as fossilized entities retaining a set of characteristics described in historical texts. This is no longer the case, as pastoral customary institutions have changed with time in response to changing circumstances. Establishing new groups or adjusting the configuration of existing groups may thus become necessary.
- Simultaneously address other development needs in the rangelands besides the need for water (e.g. human and livestock health and access to markets) to effectively address vulnerability and poverty long-term.
- Make better use of existing research to inform water development planning and implementation and promote knowledge sharing between practitioners and projects. This can be done through establishing learning and practice alliances.
- Create an enabling environment where local groups representative of water users in a given area have the capacity and authority to construct, operate, manage, and maintain water points, effectively making them implementers rather than merely recipients of development.
- Promote the consortium approach to water development among development and humanitarian practitioners. This approach can help harmonize activities and has been viewed favourably by agencies in the water development sector in Ethiopia. Alternatively, link development and humanitarian practitioners to existing (or potential) technical working groups that handle water issues, such as the Natural Resources Management Technical Working Group.

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