

Understanding pastoralists' perceptions and attitudes towards investing in sustainable land management practices in Ethiopia

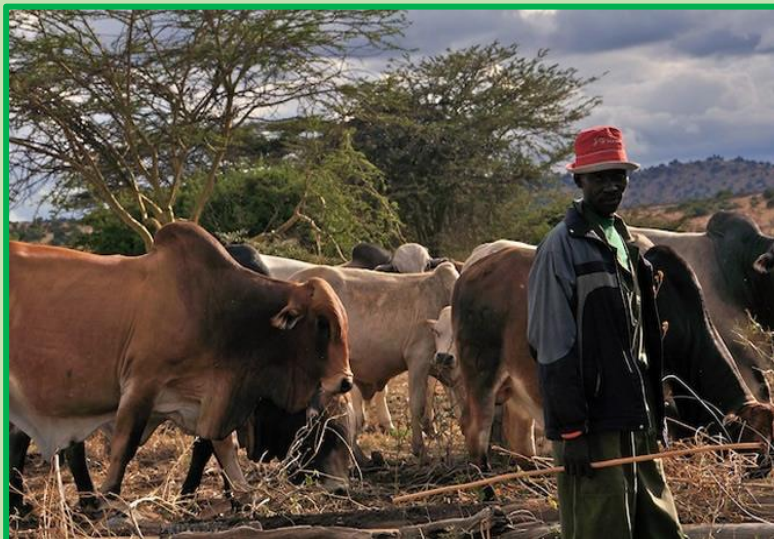
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Introduction

Rangelands are important to biodiversity and ecosystem services, covering up to half of all land surface and three quarters of the world's drylands. Land degradation in dryland regions of the world is a major environmental concern and significantly affects rangelands (Davies et al., 2015). Pastoralist rangelands in the Borana zone of Ethiopia are part of the extensive global drylands. Additionally, they also face the dangers of land degradation that not only affects the local environment but also impacts their livelihoods. In many countries, including Ethiopia, measures to address rangeland degradation are either minimal or absent (Davies et al., 2015). This case study was conducted to answer questions related to pastoralists' preferences regarding sustainable land management (SLM) practices and the drivers behind investing in these techniques. Additionally, we investigated the role of



stakeholders and external assistance towards their subsequent attitudes and decisions on adopting specific practices in sustainable land management SLM.

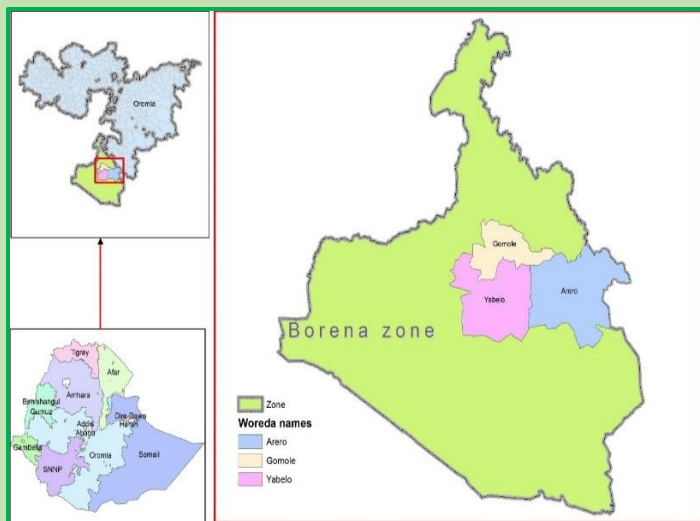
SLM is the use of land resources, including soils, water, animals and plants, for the production of goods to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental functions. Some of these practices are terracing, fencing off grazing lands, tree planting, and pond construction and rehabilitation.

For part of the study, we employed the **Evaluating Land Management Options (ELMO)** tool developed by CIAT (Emerton, Snyder and Cordingley, 2016). ELMO is a participatory tool that utilizes ranking and weighting matrix methods and pits different types of land management practices against costs, resource (inputs, materials, etc.) prioritization, and (dis)advantages of adoption. ELMO tool is meant to interactively capture pastoralists' perception and preferences of LM practices (for an example of the participatory ELMO tool, see photo above at right).



This study was carried out in association with the International Livestock Research Institute (ILRI).

The Borana Zone



The Borana rangeland is an arid and semi-arid area located within the Oromia regional state of Ethiopia, bordering Kenya to the south. It lies between 3°36'-6°38' N latitude and 3°43'-39°20' E longitude. It's also characterized by an erratic bimodal rainfall seasons occurring during March to May and September to November and is susceptible to recurring drought (Lasage et al., 2010). Pure pastoralism and a form of agro-pastoralism are the main source of livelihoods within this area. This study was conducted at three

sites (Kebele), namely: Dharito, Tsadim and Allona.

Focus Group Discussion

A focus group discussion consisting of six men and two women was conducted at Dharito Kebele. The main purpose of the discussion was to gauge overall perceptions, attitudes and knowledge regarding land degradation and the land management measures taken to fight this problem. Participants were carefully selected to reflect the age, gender, and income levels of the community. There were 21 open- and closed-ended questions that mainly were designed to promote discussion among participants. Topics included knowledge about the causes and indicators of land degradation, previous practices to manage land degradation, whether they invest in or adopt new SLM practices, and if so which ones.



Key Informants Interviews



As this is a follow up to previous survey research, we interviewed a pre-selected individual participants who had adopted one or more sustainable land management practice and were part of the previous survey. These individuals were 2 in Dharito, 1 from Tsadim and 1 from Allona. The purpose of this in-depth individual interview was to understand the perceptions and knowledge of pastoral land use and the driving factors for either adopting or not adopting land management practices. There were

50 interview questions, both open- and closed-ended questions.

Stakeholders Interview

To get a wider understanding of the land use and management practices in the area and capture the level of involvement of other governmental and non-Governmental stakeholders we reached out and interviewed researchers and development practitioners from Oromia

Regional Agricultural Research Institute, CARE, and GAYO Pastoral Development Initiative. To get a wider regional perspective we also reached out to the Somali region and conducted stakeholder interview with NGO workers and university research centers regarding similar issues of investment preferences on sustainable land management practices, why there were poor adoption rate, and what these stakeholders can do to change the situation.



Terracing: One of the widely practiced SLMs in the region, terracing is done by digging series of ditches for purposes of slowing down runoffs and capture soil residuals.

Results and Discussion

To gauge the level of knowledge regarding land degradation we asked pastoralists' their perception of land degradation and its cause. They identified drought, poor rainfall, population pressure, overgrazing and bush encroachment as the main culprits behind the land degradation problem.

The erratic and poor nature of rain was mainly blamed as the cause of recurring drought in the region, which has claimed livestock. Land degradation, as well as the severely diminished density and quality of pasture, were also exposing the land. Increasing human settlement in the Borana rangeland is also related to poor land conditions, as more and more people and their livestock started to settle in the area and started overgrazing the limited land resource.

The Borana interview participants listed the traditional *Kallo* (enclosure) as their preferred land management practice. Additionally, they also included terracing, bush clearing, land sectioning for wet and dry season grazing, tree planting, fencing and pond construction and rehabilitation as the main land management practice. They have adopted these techniques through trainings from either government or NGOs.

Why invest in SLM?

Results show that pastoralists' decision to invest in SLM depends on many things. However, some factors play a more significant role than the others for decisions to take up certain activity. Respondents in all three communities stressed that the need for abundant grass pasture in order to provide feed for livestock is the main reason to take up land management practices. To ensure that, they must protect the land from over exploitation of its surface resources.

They further reasoned that better grass production will serve as catalyst for better soil quality and livestock production, leading to stock increase and better milk and meat yields. Eco-tourism was mentioned as another potential positive impact of a rehabilitated ecosystem through the increase of wildlife habitat and biodiversity. This shows that pastoralists are not necessarily alien to the idea of land management and its purposes. This result rather challenges the notion that lack of adequate knowledge as one of possible explanations to why not many pastoralists invest in land management practices.

Why not invest?

If investing on SLM is considered as beneficial, we then proceeded to ask why many pastoralists did not invest in it? There were several factors identified as constraints to adopting land management techniques. Confusion of roles and avoiding responsibilities were cited as the main reasons for pastoralists to abandon sustainable land management practices, or do not even try to do them at all. According to the local Borana culture grazing is done on a communal rangeland. So, the SLM activities are mainly done as a group or community.

Thus, it's important for local pastoralists to understand roles and responsibilities on who does what and when. The other main determinants for not investing in SLMs were: complications and delays in land certification; timing (season) of SLM activities that usually demand labor and time commitment; the long-term nature of some benefits (e.g., trees); and expecting NGOs and government to provide resources (i.e., dependency syndrome) Looking into these factors, it can be seen that the problem touches all stakeholders. Locals need to mobilize and organize efforts and possibly have strict, written land-use and conservation bylaws. This will supplement the local age-old traditional unwritten rule, such as who monitors water points.

The role of external assistance

Respondents acknowledged the role of external assistance by either the government or other Non-governmental organizations as important to their adoption of land management practices. In particular, safety net program by the government and the cash-for-work program implemented by the NGOs are critical to spur engagement by the community. Moreover, they recognized the "how –to" technical trainings they have received from these organization as useful and boosted the number of SLMs they know.

Defying expectations, the role of cash investment in decisions to engage in land management or not was found to be minimal. Cash investment here refers to spending hard currency on either buying materials and inputs or hiring others to work on SLM practices. Instead

respondents were more concerned about land and labor commitments towards the LM activities. During dry season, pastoralists spend most of the day scouting for pasture, sometimes very far from their community. Meanwhile most SLM activities tend to be done during this season. Therefore, pastoralists simply don't have enough time to focus on land management activities. Land is also a limiting resource for them to allocate for SLMs. For instance, planting trees takes up grazing space, and with the already shrinking land due to population increase and other factors, pastoralists' cant section off lands for SLM.

ELMO Findings

The ELMO exercise demonstrated key aspects of investment decisions, preferences, and the tradeoffs between different assets while taking up land management practices. In terms of cost of inputs required to undertake a list of SLMs, bush clearing activity came up as the most expensive one. This is explained by the need for tools (inputs), labor and time commitments. Meanwhile *Kallo* enclosure was identified as the least expensive method, because it requires few to no material inputs, technical know-how, labor and time. Pastoralists just draw on an imaginary fence (enclosure) and others will avoid grazing their livestock on them.

There seems to also be a link between costs of inputs and (dis)advantages of individual SLMs. A thorough analysis of the ELMO matrix shows that bush clearing is considered as the most disadvantageous in terms of participation efforts, labor intensity, and seasonality. Bushes are usually cleared during the dry season and require communal labor. However, during the same season pastoralists spend most of their time far from their local communities looking for pastures, and will have little to no time to engage on such activity. Meanwhile, dividing grazing land into smaller units is considered as the most advantageous practice, as its benefit outweighs costs. Contrary to the relatively bigger *Kallo* enclosures, this practice makes management and monitoring efforts easier and the labor and time costs are negligible compared to the likes of bush clearing and tree planting.

Conclusion

In the study area, the participants fully understand the benefit of sustainable land management practices. However, their decision to invest on them pins on many factors. Lack of understanding roles and responsibilities, time and labor commitment issues were the main causes for not adopting SLMs. Population pressure (both livestock and human) on a limited land has an indirect effect on their decisions not to uptake certain activities, such as tree planting. They also recognize the benefit of external assistance in the form of cash and training and stressed the need for continuation. To avoid project repetitions and unnecessary investment, there is also a need for stakeholders' collaboration during planning and with regard to methods of specific interventions. This is mainly true in cash-for-work projects in which different organizations have different level of payment and result expectations. There is also a need to ramp up efforts to improve land use planning at the grassroots level; government agencies and other NGOs should focus on working towards land-use efficiency.

References

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