Synthesis report for characterization of communal grasslands in Menz and Abergele in Ethiopia

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ILRI PROJECT REPORT

Synthesis report for characterization of communal grasslands in Menz and Abergele in Ethiopia

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September 2020

ILRI thanks all donors and organizations which globally supports its work through their contributions to the CGIAR Trust Fund.

Editing, design and layout—ILRI Editorial and Publishing Services, Addis Ababa, Ethiopia.

Cover photo—Jason Sircely

ISBN: 92–9146–619–X

Citation: Eba, B. and Sircely, J. 2020. *Synthesis report for characterization of communal grasslands in Menz and Abergele in Ethiopia*. ILRI Project Report. Nairobi, Kenya: International Livestock Research Institute (ILRI).

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Acknowledgment

This work was made possible through funding from the CGIAR Research Program on Livestock. We acknowledge our partners, in particular Tesfa Getachew from Debre Birhan Research Centre, Desta Tekle from Abergele Research Centre, and Eshetie Alemu from Sekota Research Centre. This work would not have been possible without them. We also thank woreda experts from agriculture offices in Menz Gera, Menz Mama, Abergele and Tanqua-Abergele for their facilitation and involvement in site selection.

Executive summary

Grasslands are important sources of livestock feed and form a major part of the vegetation cover in Ethiopia. Community grazing land management can contribute to sustainable use of grazing lands, alleviate feed shortage problems and contribute to the integral maintenance of the environment with efficient use and conservation of grassland. However, these communal grasslands suffer from overgrazing, competition, conversion to other land uses (croplands and tree plantations), and lack of responsible bodies, resulting in severe degradation.

Through the Environment Flagship of the Livestock CRP, ILRI works to improve community-based natural resource management, particularly focusing on communal grassland management. The work in the Ethiopian highlands started with characterization of communal grasslands to address the exitance of general knowledge gaps around planned grazing, restoration and other management strategies.

This report assesses (i) questions of access (who can use highland grasslands?) (ii) the use of highland grasslands and their roles in local livelihoods (iii) grassland management and (v) market linkages and links to animal disease.

Though there is variation across communal grasslands, the major livelihood resources are herbaceous plants (grasses, legumes and forbs), stones and sand for house construction and selling, dung for fuel, spice plants for household consumption, clay for pottery, water for livestock and people, salt licks, fuel wood, and food from fruits and leaves. Beekeeping is practiced mostly in Abergele. These resources of communal grasslands could be accessed by all community members (men, women and youth). There was no difference between women and men in accessing and using most of these resources. In a few communal grasslands, pottery is practiced only by women and beekeeping only by men. Stones and sand for construction are mainly used by youths and people with disabilities through cooperatives. In some communal grasslands, special benefit was given for the youth by giving them land for crop production. There was also some youth who have no private land but practiced sheep breeding and fattening (in Menz) using the communal grazing land.

All communal grassland resources contribute to the livelihood of farmers who keep livestock for fattening, milk production and general feed for animals. In some communal grasslands, and though not similar across the grasslands, there is income generation from selling resources like dung, stone, honey and some pottery.

In almost all communal grasslands, there is moderate market linkage for livestock and livestock products. This could be because of price fluctuation, brokers disturbance of the market between farmers and traders, lack of sustainable demand and market at all time.

There was no disease related to communal grasslands, but sometimes from June–November there could be disease outbreak in general. This did not prevent animals from grazing in communal grasslands.

In most of the communal grassland, there was no management institution and governance structure that is responsible for communal grassland resources. However, there are a few users of communal grasslands that practice different strategies to protect the land from illegal usage, destruction, privatization and enclosures during rainy seasons. These practices are usually done through informal committees and traditional associations. For most of the communal grasslands, there was no

rule/law established for communal grasslands management. From 21 communal grasslands, only two have legal certificate of ownership for the users. Most of the communal grasslands have no management plan and use. The status of productivity in terms of vegetation was low and biophysical degradation was high. As a result, the communal grasslands are dwindling in terms of area and productivity that might result in feed shortages.

There could be significant opportunity for improving the management and governance of communal grasslands through adaptation of participatory rangeland management that is being implemented in the lowland pastoral areas of the country, restoration efforts by working with local communities, as well as establishing effective monitoring and evaluation systems so that changes can be better documented.

1 Introduction

Grasslands are one of the major vegetation formations in Ethiopia. In the highlands of Ethiopia, community grazing land management can contribute to sustainable use of grazing lands and alleviation of feed shortage problems. Communal grazing lands are important sources of livestock feed (Haileslassie et al. 2012) and contribute to environmental protection through the efficient use and conservation of grassland. However, communal grasslands are suffering from overgrazing, competition, conversion to other land uses (croplands and tree plantations) and lack of responsible bodies, resulting in severe degradation of grazing lands (Yadessa 2015 and Tesfaye 2010).

There is little documentation about the status, management and governance of communal grasslands in the Ethiopian highlands. Through the Environment Flagship of the Livestock CRP, ILRI works to improve community-based natural resource management, particularly focusing on communal grassland management. The work in the Ethiopian highlands started with characterization of communal grasslands to address the exitance of general knowledge gaps around planned grazing, restoration and other management strategies. Hence, the objective of this report is to highlight the characterization of communal grasslands in terms of access to these resources, importance of the resources, management and governance status and challenges.

2 Methods

2.1 Study areas description

The study was conducted in North Shewa zone of Menz and Waghimra zone of Abergele in Amhara region, and Tanqua-Abergele woreda of Tigray region.

Menz is found over the Central Highlands (1669–3563 masl) of North Shewa zone of Amhara region, where agriculture is mainly characterized by mixed crop-livestock production systems (Gebre 2009). The mean temperature ranges from 6.7–17oC and mean annual rainfall is 896 mm. Despite enduring efforts, intensive crop production is constrained by frost, poor soil fertility and unreliable rainfall in the higher altitude zones (Gebre 2009). This shaped the degree of dependency on livestock and crop enterprises. In the study areas, farmers are limited to barley and sheep production. Sheep is the major component of the livestock herd composition in Menz Gera and Menz Mama.

Tanqua-Abergele is found between 12°–15° N latitude and 36°30'–40°30' E longitude in a tropical, semi-arid climate. Mean annual rainfall is between 488 and 645 mm/year-1 with an average of 562 mm/year-1. Mean minimum temperature ranges from 11–17°C and mean maximum temperature ranges from 26–34°C. The rainy season usually occurs between June and September with a growing period of 60–90 days. Mixed crop-livestock farming is the backbone of livelihoods in the study site. Exclosures range from 6–21%, and communal grazing lands range from 2–18% (Mekuria and Yami 2013).

Abergele is one of the woredas in Wag Hemra zone located at 13°20' N' latitude and 38°58' E' longitude with 1150–2100 m.a.s.l altitude. The area's annual rainfall ranges from 250–750 mm. Mixed crop-livestock system is the main source of livelihood in the area.

2.2 Sources and tools for data collection

The research unit was "communal grassland"[1] and the users[2] who access it. About 21 communal grasslands across the study sites (11 from Menz and 10 from Abergele) were selected with the involvement of agriculture experts from woreda and respective kebeles. This report used data from a combination of field observation and focus group discussion (FGD) and key informant interviews (KII) with farmers (8–11 members from different communities) for each communal grassland selected. Synthesis of report used descriptive analysis of data to present the general information and information on access right, management, legal status and governance of communal grasslands.

1. It is the unit of the study where data collection was based. One or two communal grasslands were selected from each kebele based on availability.

2. The community member who uses each communal grassland. This may include a village or kebele based on the size of area.

3 Results

3.1 General information around communal grasslands

Most of the communal grassland resources are herbaceous plants (grasses, legumes and forbs), stones and sand for house construction and selling, dung for fuel, spice plants for household consumption, clay for pottery, water for livestock and people, salt licks, fuel wood, and food from fruits and leaves. The availability of these resources varies across communal grasslands and study sites. The most commonly found resources across the communal grasslands are grasses and stones. The grazing system is similar across all communal grasslands apart from two in Abergele of Tigray region that practice enclosure from July–September. For those not enclosed, grazing takes place by all livestock species (cattle, sheep, goats and equines) throughout the year without any rest, but the intensity of grazing differs across the year. Most of the grasslands are grazed during rainy seasons because productivity of communal grassland increases during this season. Other land uses such as crops and woodlots are protected from interference of livestock. Around all communal grasslands, the important livelihood strategy is both livestock and crop production with varying degrees of importance in different communal grasslands. About 10 FGDs indicated that livestock production ranks first as a source of livelihood and nine FGDs indicated that crop production ranks first. Livestock species found around these communal grasslands are cattle, sheep, goat and equines. Their dominance and importance differ across communal grasslands. Most of the FGD participants in Menz said sheep are the most important livestock in terms of importance but those in Abergele ranked sheep, goats and cattle equally.

In most of the communal grasslands, there was access to credit services for the community but not specifically for communal grassland improvement. The community used these credit services to buy inputs like fertilizers and seeds, livestock and for petty trading. There are no organized extension services particularly focusing on communal grassland improvement, except for a few grassland communities that receive advice on grassland management from local agriculture offices.

In Menz, respondents estimated that the size of communal grasslands ranges from 2–200 ha and the number of users could be 15–800 households (one village to three kebeles) (Eba and Sircely 2020a). In Abergele, the estimated area covered by communal grasslands ranges from 15–300 ha with 90–500 user households (many villages to a woreda) (Eba and Sircely 2020b). As the area increases the users also increase. As estimated by respondents in Menz, communal grasslands contribute 10–20% of feed resources while crop residues cover 40%. Hay and private grazing take about 38%. In Abergele, the contribution of communal grasslands for feed resources ranges from 17.5–50% next to crop residues. In Abergele, almost all feed resources come from crop residues, communal grasslands and hay making. This indicates that the communal grazing lands are declining whether in terms of productivity and/or size.

In most of the communal grasslands in Abergele, respondents indicated that the biophysical status in terms of regeneration, availability and quality of vegetation is decreasing significantly. This could be because of heavy grazing, shortage of rainfall, increasing number of livestock, loss of fertility of soil due to erosion and invasive species that are harming important grasses. As result, there is severe degradation in communal grasslands. Milk yield in these areas decreased significantly, whereas body condition of livestock for meat slightly improved around some communal grasslands (management practices

related to feeding improved) and slightly decreased around others (where management practices did not improve). Around all communal grasslands, the number of livestock has increased significantly. Goats (in Abergele) were among livestock species that increased in terms of number (Eba and Sircely 2020b).

In all the communal grasslands assessed in Menz, the area under grasslands is decreasing from time to time due to land given to youth for cultivation, planting eucalyptus trees and taken under watershed programs. In very few communal grasslands, the area under grasslands has remained the same within the last ten years although the availability, quality and ability of vegetation to regenerate on communal grassland have decreased significantly. This is because of the continuous growth of livestock population, grazing without rest, lack of appropriate management and monitoring, and stone digging in some communal grasslands. Because of this, most respondents said communal grasslands are in poor condition (Eba and Sircely 2020a).

In Menz, respondents said there is moderate erosion in the area although there was severe degradation of pasture quality and productivity. In one communal grassland, a respondent said, '10 years ago, there were only 10 households who had access to the communal grassland; but now there are 21 households for the same communal grassland. This significantly decreases the regeneration of vegetation, and the quantity and quality of vegetation on the communal grassland'. Livestock productivity, like milk yield, has decreased, but condition of livestock, especially sheep, has improved because of improved management practices (fattening practices). Generally, the number of livestock in the area has increased, with sheep (in Menz and almost all communal grasslands that are linked to market access) having the highest number.

3.2 Access, governance and management of communal grasslands

Access rights and purposes of communal grassland resources

All resources of communal grasslands are accessed by all community members equally (men, women and youth). There was no difference between women and men in accessing and using the resources of communal grasslands. Communal grasslands resources are used by the community with number of users ranging from occupants of just one village to three kebeles in Menz, and up to woreda level in Abergele. The main usage of communal grasslands is for grazing. Livestock are kept in the communal grazing areas during the day throughout the year, the grasslands serving as waiting areas. Most of communal grassland are used for grazing, stones and sand for house construction and selling, dung for fuel, spice plants for household consumption, clay for pottery, water for livestock and people, salt licks, fuel wood, and food from fruits and leaves. All communal grasslands are used for livestock production like fattening, milk production, and for ploughing oxen as source of feed (Abergele of Tigray region).

Stone and sand extraction on the communal grasslands are done by cooperatives mainly made up of youth and people with disabilities. In some communal grasslands, irrigation benefits were given to youth for crop production within the communal grasslands. In Menz, some youth who have no land are using the communal grasslands for sheep breeding and fattening. In some communal grasslands in Menz, cow dung can be sold near towns in addition to its use as fuel in households. All community members who have interest can collect dung from communal grasslands and sell it in markets. In a few communal grasslands, grasses that are specifically used for thatching houses and making household equipment. Pottery and beekeeping are practiced in some communities.

In most of the communal grassland the resources, especially grazing, can be shared with neighboring communities if it's big enough. Where the size of communal grasslands is small and used only within one village, there was no sharing of grazing land.

All respondents said they have access to woreda markets, which takes them about 0.2–5 hours of walking to reach, but only some of the communal grasslands in Menz have access to the kebele market. In Abergele, almost all users of communal grasslands don't have access to kebele markets. In almost all communal grasslands, there is moderate market linkage for livestock and livestock product. This could be because of price fluctuation, brokers disturbance of the market

between farmers and traders, lack of sustainable demand and market at all times. There was no disease related to communal grasslands, but sometimes from June–November there could be disease outbreak in general at woreda level. This did not prevent animals from grazing in communal grasslands.

Management of communal grasslands

For most of the communal grasslands, there was no management institution or governance structure responsible for communal grassland resources. However, some communal grasslands are using different strategies to protect the land from illegal usage (Table 1). For example, some communities use "edir"[3] for communal grassland management. The community selects two people that are members of their edir to protect the communal grassland from destruction and privatization. The two selected people represent the community to manage the communal grassland. If certain issues are beyond the two persons selected, they bring the matter to the general meeting of the edir for decision.

In all communal grasslands, resources were not controlled and there are no formal mechanisms of giving permission for usage of and access to resources. For example, when the government wants to give part of the grassland to youth groups for crop production, the decision is made based on the decision of the majority of users. There is considerable lack of planning and management on communal grassland resources to ensure sustainable use of resources. In some communal grasslands such as in Menz Mama woreda, some conservation activities such as planting trees and watershed management can be seen.

There was no rule/law established for management of communal grasslands. Only in one communal grassland on the Tigray side of Abergele, they have a bylaw formed at kebele level with social law affairs which was implemented with the involvement of user groups. This bylaw specifically focused on protecting communal grasslands from livestock during rainy seasons. There is another bylaw at the woreda level specipically targeted at protecting trees (Table 1). In all villages, there are committees who only protect trees on communal grassland and are responsible for issuing penalties.

Table 1. Status of governance systems available for management among assessed communal grasslands

Number of communal grasslands	Level	Responsibility	Number of members	When the management works	Sites	Remark
1	Woreda	Protecting trees and preventing illegal extraction of stones and conversion of land	6–7	Throughout the year	Abergele Amhara side	Formal
1	Villages through church (committee)	Protect the communal grassland from livestock interference during rainy season	3–4	One year	Abergele Tigray side	Informal
1	Villages	Protect the communal grassland from livestock interference during rainy season	2	3 months	Abergele Tigray side	Informal
1	Villages through "Edir"	Protect the communal grassland from privatization and cultivation	2	Throughout the year	Menze	Informal
1	Villages	Protect the grassland from cultivation and outside users	4–5	Throughout the year	Abergele Amhara side	Informal
16	N/A	N/A	N/A	N/A	Menze and Abergele	N/A

3. "Edir" is an informal association at village level that is used to help each other in different social events such as weddings, deaths, etc.

Legal status, existing institutions and governance of communal grasslands and government policies pertaining to their management

Almost in all communal grasslands, there was no legal governance and institution for communal grassland management. There are informal institutions established at village levels in some communal grasslands, such as edirs and church committees, to prevent abuse of resources and privatization of grazing land. In one communal grassland in Abergele-Tigray, the users have a bylaw formed at kebele level with social law affairs where the decision-making body (committee) is registered at kebele level. The main function of this committee is to protect grazing land from livestock interference during rainy seasons.

During the land redistribution in Amhara in 1997, communal grasslands were left for communal grazing for members of different villages. Some communal grasslands owned by government (woreda/kebele level) are used by the surrounding communities. There were only two certificates of ownership among communities in the study area; one was given by the kebele (Menz Gera) and the other from woreda (Menz Mama). As a result, in Menze Gera, 90% of communal grasslands assessed have no certificate of ownership. The certificate of ownership given by the kebele has the names of two people representing 42 users of the communal grassland in Menze Gera woreda. In case somebody marries in to the users' lineage, they have the right to use the communal grassland. Respondents said that after the community got the certificate, they have developed a sense of ownership and confidence as no one can take away their land and give it to other uses and they can avoid conversion of the grazing land to other land uses. Respondents also said that having certificates also helps to plan on how to use communal grasslands. In one of the kebeles, the respondents refused to participate once we started to discuss about communal grassland. This was because once, the woreda forest enterprise tried to convert the communal grasslands to other land use through a similar discussion. The respondents suspected that this was a similar scenario.

Government provides advice on how to use the communal grasslands and that free grazing should be avoided. A kebele leader who participated in the key informant interview said that those who have no certificate of ownership on communal grasslands have no guarantee that the communal grassland won't be used for other purposes by the government, whereas those who have a certificate retain ownership of the communal grassland even if the government imposes new policies. In some communal grasslands, the community asked the kebele to get a certificate of ownership but have not received response. Participants said that lack of ownership is worsening the already poor condition of communal grasslands.

In most of the communal grasslands, there was no legal enforcement regarding the management of communal grasslands. There are only mutual understanding among users that the communal grasslands are to be protected from conversion to cultivation land for private ownership. Any member of the user group graze at any time, but no one controls it and no payment is made to use all resources. The users are not allowed to cultivate communal grasslands and if someone violates this rule, they are reported to the kebele land administration and ordered to leave the cultivate land.

All respondents of FGDs in this study indicated that communal grasslands can be improved if the community can get support in better management techniques, better planning for resource usage and methods of controlling unwanted weed plants. So far, no interventions have been done to improve the productivity and quality of the pasture in the communal grasslands assessed for the purpose of this study except in a few areas in Tigray where enclosures for three months during rainy seasons have been practiced.

Challenges of communal grasslands

The degree and types of challenges vary across communal grasslands. Some of the challenges are high degradation of grazing land, grazing without rest, lack of full ownership on communal grasslands, no rules/law for management of grassland resources, dwindling size of communal grassland area, lack of usage plans, lack of management plans, illegal use of the resources, crop production and tree planting inside communal grasslands and poor land security. All these result in feed shortage.

4 Conclusion

Communal grasslands across the study areas are mainly used for grazing. In some areas, they are used for stone digging to be used for house construction and selling, collection of dung for fuel and marketing, collection of fire wood, drinking water sources for livestock and people, spice plants for household consumption, wild fruit and leaves for human food, and clay for making pottery.

All resources are accessed by all community members (men, women, and youth) with no difference between women and men in accessing and using the resources with the exception of beekeeping practiced only by men and pottery practiced only by women. Communal grasslands provide many resources in all of the areas assessed in this study but their use for grazing and stone extraction take the leading place. Most users use communal grasslands for grazing of their livestock that are left wandering most of the time regardless of pasture availability. Respondents indicated that land productivity in terms of vegetation was low and biophysical degradation was high.

Most of the communal grasslands have no management and governance system; they are mostly left open for all the local population with livestock to use without resting. A few communal grasslands have established informal committees and traditional associations. Except for these informal structures formed by users, there were no formal institutions of management and governance that have legal status. Unlike individual lands in the area, landholding certificates are not provided for most communal grasslands. From 21 communal grasslands, only two have legal certificates of ownership for the users, resulting in poor security for tenure in most of the communal grasslands. There are efforts underway to include communal grasslands under watershed programs, planting trees and encouraging unemployed youth by giving them land for crop cultivation and mineral extraction. Most of the communal grasslands have no management plan and use. As a result, the communal grasslands are dwindling in terms of area and productivity.

There is significant opportunity for improving the management and governance of communal grasslands through adaptation of participatory rangeland management that is being implemented in the lowland pastoral areas of the country, restoration efforts by working with local communities, as well as establishing effective monitoring and evaluation systems so that changes can be better documented.

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ISBN: 92–9146–619–X

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