RESEARCH PAPER

CHALLENGES OF FOREST GOVERNANCE IN ADDRESSING REDD+: STATUS, EFFECTS AND PROSPECTS. THE CASE OF BALE ECO-REGION, OROMIA REGIONAL STATE, ETHIOPIA

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ABSTRACT. Reduction of emissions from deforestation and forest degradation (REDD+) is an internationally accepted mechanism for encouraging developing countries to contribute to climate change mitigation by reducing greenhouse gas emissions (GHGs) by preventing forest loss and degradation; and by increasing removal of GHGs from the earth's atmosphere through the conservation, management and expansion of forests. This mechanism, however, has failed to bring the desired results in the Bale Eco-Region. Thus, the purpose of this study is to identify the main challenges of forest governance in addressing the implementation of REDD+ projects. Mixed research approach was employed. Relevant qualitative data were gathered through key informant interviews and focus group discussions. Quantitative data were collected through questionnaires. This study revealed that the community produced a total of 5.5 million metric tons of carbon dioxide equivalent in three years (between 2012 and 2015) as a contribution to the global environment. But, they were not received any economic incentives from the REDD+. Generally, while implementing the REDD+ project, forest governance of the Bale Eco-Region has faced different challenges, such as weak institutional arrangements, continuation of deforestation, low enforcement capacity, low economic benefit of the community, lack of strong coordination with media and research institutes, conflict of interest among sectors over forest land, and lack of adequate budget and logistics to undertake proper monitoring and evaluation. All these challenges have in one way or another contributed to the failure of the REDD+ project in the Bale Eco-Region.

KEY WORDS: Forest Governance Challenges; REDD+; Forest Governance; Bale Eco-Region; Carbon Trade

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INTRODUCTION

Global forest cover is decreasing due to deforestation and forest degradation. FAO estimates that 13 million hectares of tropical forest are being converted to other land uses every year due to deforestation and forest degradation (Vanderhaegen et al. 2015). Deforestation and forest degradation also contribute indirectly to the global greenhouse gas emissions. According to Bluffstone et al. (2013), deforestation and forest degradation are estimated to contribute between 12% and 20% of annual greenhouse gas emissions. To avert this, REDD+ was internationally adopted (Peter et al. 2014). The REDD+ mechanism has been negotiated at the successive United Nations Framework Convention on Climate Change (UNFCCC) Conferences of Parties since 2005 (Vanderhaegen et al. 2015). It comprises of local, national and global actions whose primary aim is to reduce emissions from deforestation and forest degradation and enhance forest carbon stocks in developing countries (Angelsen et al. 2012). While reducing forest-related climate emissions and sequestering more carbon, it aims to financially benefit low-income countries, communities and forest users (Bluffstone et al. 2013). Two approaches for REDD+ implementation have been discussed within the UNFCCC: a project/result-based payment mechanism and country-governed REDD+ programs that could become a part of wider Nationally Appropriate Mitigation Actions (NAMAs) (Mulyani and Jebson 2013). The governance of forests in general and REDD+ in particular is vital for the success of REDD+ because governance deficiencies threaten both the effectiveness and legitimacy of REDD+ (Larson and Petkova 2011).

Ethiopia has limited contribution to the overall greenhouse gas emissions when compared to the developed world. It is estimated that the country's per capita emissions are less than 2t CO_2 e. This is 10 times less when compared to the 20t CO_2 e per capita in the USA and Australia (Zerga and Gebeyehu 2016). In 2010, it was estimated that Ethiopia had a total of 150 million t CO_2 e emissions which accounted for less than 0.3% of global emissions (Ibid 2016). According to the Climate Resilient Green Economy (CRGE) document, out of this, forestry contributed 37% of the emissions (Bekele et al. 2015).

Consistent with the global goals, Ethiopia had its Readiness Preparation Proposal (R-PP) approved in 2011 and officially launched the REDD+ Readiness implementation phase in 2013 (Bekele et al. 2015). Currently, the REDD+ pilot project is being carried out in different parts of the country. For example, REDD+ pilot projects are being carried out in the Bale Mountain Eco-Region, Nono Sele, and Yayu (Ministry of Environment, Forest and Climate Change 2015). However, according to Asfaw et al. (2015), forest governance is facing different challenges such as weak enforcement of forest law and land-use policy, lack of adequate capacity, limited knowledge about the multifaceted advantages of forestry, lack of market access and limited value addition, weak inter-sectorial linkages, and absence of proper institutional arrangements at the regional level. Furthermore, there is a disparity between the participatory forest management institutional principles and the actual local forest management practices on one hand (Ayana et al. 2015), and between the local management practices and the low participation of women in forest governance, on the other (Engida and Mengistu 2013).

For the purposes of this paper, it is relevant to differentiate forest governance from participatory forest management (PFM). Forest governance is broad and inclusive of PFM. Forest governance is a consultative approach in which different actors such as the government, the community, and private sector organizations decide on the overall governance of forests (Arts 2014). On the other hand, PFM is a co-governance approach in which the community and the government jointly manage part of the forests that are under the community organizations. Above all, REDD+ pilot projects themselves are facing various governance challenges. For instance, the Bale REDD+ pilot project has already failed because it has not been successful in bringing sustainable impact on the reduction of emissions from deforestation and forest degradation due to the absence of incentives for the community, which sequestered a certain amount of carbon dioxide initially. Hence, to successfully implement the forthcoming REDD+ projects, it is vital to critically identify the challenges of forest governance in addressing the REDD+ pilot projects and to propose alternative ways of addressing those challenges, because it is widely recognized that the role of governance for the success of REDD+ is important (Larson and Petkova 2011). All of these reasons, together with the absence of adequate literature in the area of REDD+ projects, particularly in the Bale Eco-Region, establish the need for this particular study.

According to the literature, limited studies have been carried out on REDD+ projects in Ethiopia. Bekele et al. (2015) and Beyene et al. (2013) have carried out their studies entitled «The Context of REDD+ in Ethiopia» and «Community Controlled Forests, Carbon Sequestration and REDD+ in Ethiopia» respectively. In addition to having scale differences with the current study, they do not focus on the challenges of forest governance in addressing REDD+. Other studies by Hailemariam et al. (2015) and Devries et al. (2012) have investigated REDD+ implementation at the local level, particularly in the Bale Mountain Eco-Region and Kafa respectively. However, their studies do not emphasize the challenges of forest governance in addressing REDD+. Instead, they stress the implementation of REDD+. Therefore, from the overall assessment, it is clear that the study is necessitated by the existence of forest governance challenges and the absence of literature on them. Thus, the purpose of this study is to identify the main challenges of forest governance in addressing the implementation of REDD+ projects.

METHODS AND MATERIALS

Study Area

This study was undertaken in south-eastern Ethiopia, specifically in the Bale Mountain Eco-Region (BER), which is composed of three zones of the Oromia regional state; namely the West Arsi zone and the East and West Bale zones. From the West Arsi zone, only four districts (Weredas), namely Adaba, Dodola, Kokosa, and Nansabo, are part of the Bale Eco-Region while it covers seven districts (Dalo Mena, Haranna Buluq, Madda Walabu, Goba, Gololcha, Barbare and Agarfa) of the East Bale Zone and Bale Zone (formerly both zones were named together the Bale Zone).

BER is part of the Afromontane biodiversity hotspot, which belongs to the 34 global biodiversity hotspots. Over 40 streams and springs originate from the mountains in the Bale Eco-Region that drain into five major rivers—Wabe-Shebelle, Web, Welmel, Genale, and Dumal. Approximately 12 million people who live in the downstream areas depend on these rivers for their livelihoods. The Eco-Region exhibits a wide range of topography which spans from 1500 to 4377 meters above sea level.

According to the 2007 population census, the total population of the Bale Eco-Region is 1,202,015 (FDRE Population Census Commission 2008). From this, 1,058,665 is classified as rural, while the remaining 143,350 as urban. This means, 88% of the population of the Bale Eco-Region is rural. The Bale Eco-Region receives almost eight months of precipitation (March-October) (Hailemariam et al. 2015). Temperature varies from the lowest of less than 7.5°C at the Sannati Plateau to over 25°C in Dolo Mena (WBISPP 2001: Cited in Hailemariam et al. 2015).

Agriculture is the main economic activity practiced in the Bale Eco-Region. The local population depends primarily on mixed agriculture, both on crop growing and animal husbandry. Generally, the livelihoods of communities in the highland area are predominantly based on a mixed crop-livestock subsistence agricultural system, while communities living in the mid altitude and the lowlands are mainly pastoral and agro-pastoral. Traditional farming is dominantly practiced, but there are some attempts for using mechanized farming. Furthermore, the local inhabitants are also the direct beneficiaries of the forest resource in the area. At present, the local communities are organized into the Forest-Dwellers Associations and community-based organizations, and are authorized to manage the forests. The communities are benefiting from the forests through selling aged trees (mainly by the Forest-Dwellers Associations), receiving compensation when roads are constructed, sharing from trophy hunting, using the forests for house construction and fuel wood.

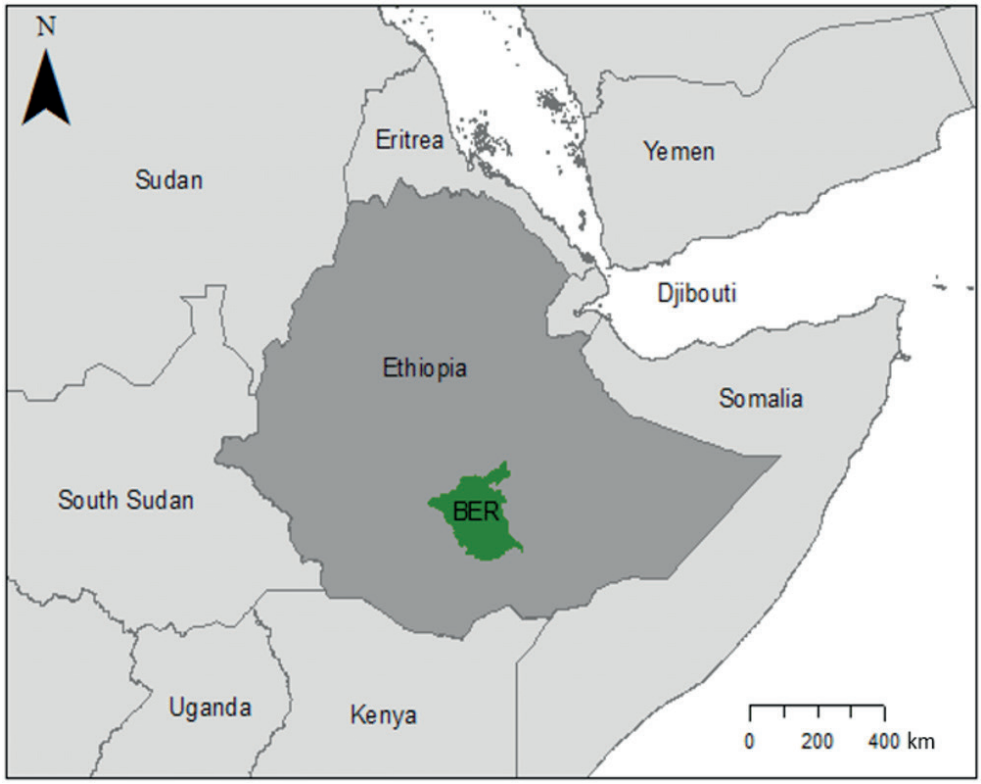

Fig. 1. Map showing the location of BER

Research Design

Considering the nature of the problem (i.e., challenges of forest governance in addressing REDD+), descriptive research design was employed and mixed research approach was followed. Descriptive research design is used because the nature of the problem requires an in-depth description of the challenges of forest governance in addressing the implementation of REDD+ projects. Similarly, mixed approach is employed with the intention to come up with dependable and reliable data by supporting the qualitative data with the quantitative one. Hence, the study is predominantly qualitative while the quantitative data are used to support the qualitative analysis. While the qualitative data were gathered through interviews and focus group discussions, the quantitative data were gathered through questionnaires.

Sample Size

As can be seen from Table 1, 65 respondents were identified and consulted through purposive and snowball sampling techniques for in-depth interviews and focus group discussions (FGDs). The number of respondents was based on the saturation of the collected data (collection of excess data). The researcher stopped going further when more than the required data were collected.

The quantitative data were collected using a questionnaire as a tool. The questionnaire, which consisted of 11 five-point Likert scale questions, was prepared and distributed to 395 members of the Forest-Dwellers Associations and the community-based organizations. The sample size was determined using Yemane (1967) sample size determination formula. This formula was preferred because the size of the population, i.e., the number of members from both the Forest-Dwellers Associations and the community-based organizations is finite and known. Overall, there are 30,000 members – 5,000 are members of the Forest-Dwellers Associations and 25,000 are members of the community-based organizations in the Bale Eco-Region. From those, 395 respondents were identified using the sample size determination formula. From the 395 respondents, the proportion assigned to the members of the community-based organizations was 329; the remaining 66 were assigned to the Forest-Dwellers Associations. Systematic random sampling technique was employed to select the required sample from the targeted population.

Table 1. Sample size of qualitative data

Categories of respondents	Numbers	Affiliation	Methods of data collection
Environment, Forest and Climate Change Authority	10	Experts	In-depth interview
Oromia Forest and Wild Life enterprises	10	Experts	In-depth interview
NGOs (Farm Africa and SOS Sahel Ethiopia)	5	Experts	In-depth interview
Forest dwellers associations (WAJIBs)	16	Leaders and members	In-depth interview and Focus Group Discussions
Community-Based Organizations	16	Leaders and experts	In-depth interview and Focus Group Discussion
Unions	3	Leaders and members	In-depth interview
Cooperatives	5	Executive committee	In-depth interview
Total	65		

$$n = \frac{N}{1+N(e)^2} = \frac{30,000}{1+30,000(0.05)^2} = 395$$

Where n=designates the sample size the research uses;
N=designate the total members
e=designates maximum variability or margin of error 5 % (0.05)
1=designates the probability of the event occurring

Methods of Data Analysis

Qualitative Data Analysis

The qualitative data was analyzed through descriptive analysis. Discussion guides were prepared and administered for both the interviews and the focus group discussions. The results were recorded using recording materials based on the consent of the respondents. Both interviews and FGDs were undertaken in the local language Afan Oromo (Oromic). Then, the audio was carefully transcribed and afterwards, it was translated into English. Following this, it was repeatedly read, coded and thematic areas were identified. Finally, the interpretation and analysis were carried out.

Quantitative Data Analysis

Descriptive statistics such as percentage and frequencies were used to analyze the quantitative data gathered on the challenges of forest governance in addressing REDD+. SPSS Version 20 was used to analyze the quantitative data. As mentioned earlier, this quantitative analysis was carried out mainly to support the qualitative data.

Analytical Framework

As shown in Figure 2 below, different actors such as the Oromia Forest and Wildlife Enterprise, the Environment, Forest and Climate Change Authority, the local communities and NGOs are contributing their part to the effectiveness of forest governance in the Bale Eco-Region. Despite these contributions, however, forest governance is facing different challenges, such as weak institutional arrangements, continuation of deforestation, low enforcement capacity, low economic benefit to the community due to absence of the expected carbon trade, lack of strong coordination with media and research institutes, conflict of interest among sectors over forest land and lack of adequate budget and logistics to undertake proper monitoring and evaluation, which in turn hamper the effectiveness of the REDD+ project in the Bale Eco-Region.

RESULTS AND DISCUSSION

Overview of Forest Governance and the REDD+ Project in the Bale Eco-Region

The governance of forests in general and REDD+ in particular in the Bale Eco-Region is characterized by the existence of multiple actors that contribute their own part to the sustainable management of forest resources. Government, community, and NGOs are actively taking part in the governance of forests, and hence, in the implementation of REDD+. The government is leading the forest governance through its institution of Oromia Forest and Wildlife Enterprise (OFWE) and the Environment, Forest and Climate Change Authority, while the community is co-governing through its organizations of Forest-Dwellers Associations and community-based organizations (CBOs).

In the Bale Eco-Region, the REDD+ project was carried out for three years, between 2012 and 2015. It was undertaken with the generous support from the NGOs known as Farm Africa and SOS Sahel Ethiopia. These NGOs used the already established community structure to reduce the emissions of carbon dioxide from deforestation and forest degradation. They identified the major causes of deforestation and effectively worked in collaboration with the community organizations, including the CBOs and the Forest-Dwellers Associations to address it. This had become fruitful and hence, effectively reduced a certain amount of emissions from deforestation and forest degradation at least during the project life time. From this, therefore, it is clear that while attempting to address the REDD+ project, forest governance is an interactive effort that invites various actors to play an active role in its governance.

Challenges of Forest Governance in Addressing REDD+

Forest governance is facing different challenges while addressing the REDD+ project. These challenges need to be urgently identified and systematically dealt with. Some of the major challenges are described below.

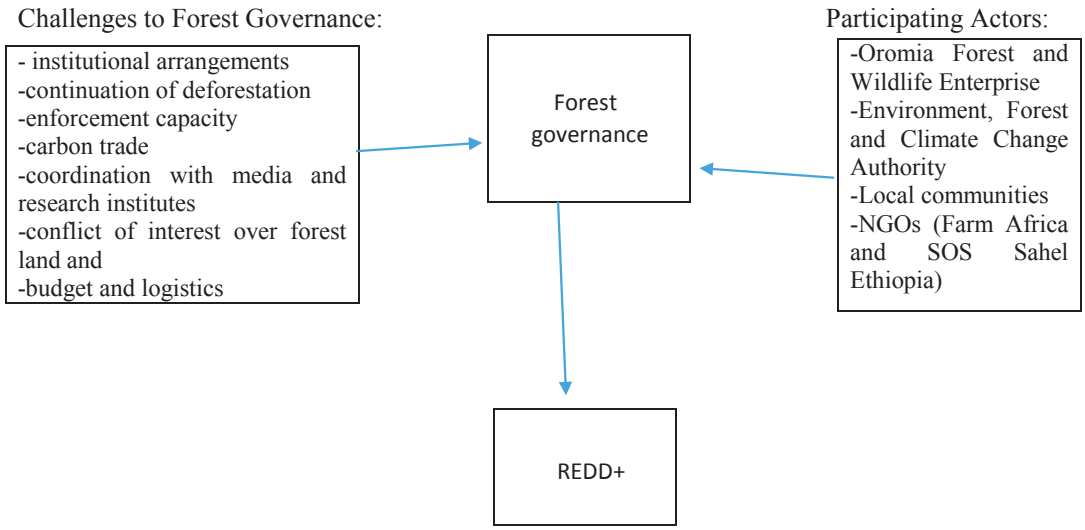

Fig. 2. Analytical Framework for Research

Weak Institutional Arrangements: Institutional arrangements are one of the factors that reduce the effectiveness of forest governance in general, and REDD+, in particular. Why is this a challenge in this case? Because of the lack of a central and responsible authority that continuously follows the activities of every stakeholder and then makes them responsible for their misdeeds. If we examine, for instance, the existing chains of responsibility, we see that the different bodies are responsible to govern the forests differently in their own respective institutions. For instance, the district level Oromia Forest and Wildlife Enterprise office, which concessionally has the authority to govern the forests, reports to their branch offices and the branch offices report to the regional office, which in turn reports to the regional government. Similarly, the community organizations that co-govern the forests, such as the Forest-Dwellers Associations (WAJIB) and the CBOs at Kebele levels (lower levels of government below the district level) report to the cooperative, while the cooperative reports to the district level union, which in turn reports to the cooperative promotional agency. These two institutions—the Forest and Wildlife Enterprise and the community organizations—are benefit-oriented and hence, their main priority is not forest conservation, but rather the benefits that they derive from it.

The other institution working on forest governance is the Environment, Forest and Climate Change Authority. Its offices are also vertically responsible, which means the district Environment, Forest and Climate Change Authority is responsible to the Zone, which in turn is responsible to the Region. The Environment, Forest and Climate Change Authority was actually established as a regulatory body of the forests and the forest products. It is the office that allows the above two offices to transport and sell their legal output to the markets. It is non-profit oriented and it is run by the government. Theoretically, this office is authorized to follow, evaluate, and take corrective measures of the performance of the above two bodies. In practice, the office is facing two major challenges. The first is that there is no clear chain of responsibility that obliges the other two offices to submit their plans and performance reports to this office. The second stems from the recent formation of the office. Because of this, the office does not have enough capacity in terms of financial, material, and human resources. For instance, the Forest-Dwellers Associations were formed in 1998 in Adaba-Dodola. The CBOs were formed starting from 2006 in the West and the East Bale zones and the West Arsi Zone, while the Oromia Forest and Wildlife Enterprise was formed in 2008 in Oromia in general, and the Bale-Eco Region, in particular. These institutions were given the responsibility of managing, conserving, and sustainably utilizing the forest and the forest products. As they are benefit-oriented, they may utilize more resources than they are supposed to utilize. In relation to this, the respondents indicated that the Oromia Forest and Wildlife Enterprise is utilizing more and planting less. As shown below, deforestation also continues inside the Forest-Dwellers Associations and the CBOs. However, the Environment, Forest and Climate Change Authority has not yet made performance evaluations on those institutions, nor taken any corrective measures.

In relation to this, the other problem continuously raised is institutional multiplicity and instability. The key informants and FGD participants stressed that the Environment, Forest and Climate Change Authority and the Oromia Forest and Wildlife Enterprises are more or less working on the same things. Because of this, there is duplication of effort between them. The respondents argued that if both offices are vital, it is better to merge them or otherwise to dissolve one and retain the other. The respondents also stressed that continuous change of the structure of those offices was another challenges of the office in its attempt to realize sustainable management of forest resources.

The Continuity of Deforestation: Deforestation is another challenge that has affected the implementation of REDD+ in the Bale Eco-Region. Actually, tree-planting is also taking place in Ethiopia. For instance, since 2007, the government of Ethiopia has been planning and planting trees every year by mobilizing the communities. However, it is widely believed that deforestation of old-growth forests is much higher than that of recently planted forests. In Ethiopia, conversion of forests to agricultural land and unsustainable use of fuel wood are the two major drivers of deforestation (Forest Carbon Partnership Facility 2018). Similarly, agriculture is the primary driver of deforestation in Latin America and Asia[1].

Contrary to this, however, while experts have attested that deforestation and forest degradation are taking place at high rates in the Bale Eco-Region, different factors, as shown in Table 2, are responsible for the continuation of deforestation. According to the survey respondents, the main ones are illegal use of the forests for construction, uncontrolled conversion to grazing land, settlement, conversion to farm land, and charcoal extraction; in order of their significance respectively. Below, we discuss each one of them.

Table 2. Causes of Deforestation

No.	Questions	Measure	Low	Fair	High
1	Illegal use of forest products for construction	Frequency	60	131	204
		Percent	15.2	33.2	51.7
2	Uncontrolled land conversion to grazing land	Frequency	97	129	169
		Percent	4.5	32.7	42.8
3	Uncontrolled land conversion to settlement	Frequency	143	110	142
		Percent	35.2	27.8	36
4	Uncontrolled land conversion to farm land	Frequency	131	169	94
		Percent	33.4	42.8	23.8
5	Forest land grabbing	Frequency	127	135	133
		Percent	32.2	34.2	33.6
6	Charcoal extraction	Frequency	232	104	59
		Percent	58.8	26.3	15

[1]UN-REDD programme (2013). Legal analysis of cross-cutting issues for REDD+ Implementation. Lessons learned from Mexico, Viet Nam and Zambia. The Programme.

One of the main factors that has contributed to the continuation of deforestation in the Bale Eco-Region is illegal destruction of the forests for construction. As it can be seen from Table 2, the majority of the respondents (51.7%) indicated that the illegal use of forests for construction is «high», while 33.2% and 15.2% defined it as «fair» and «low», respectively. From this, it can be concluded that the illegal use of the forests for construction is the main cause of deforestation in the study area.

Furthermore, conversion to grazing land is the second major factor that mainly contributed for deforestation in the study area. As it can be seen from Table 2, more than 40% of respondents (42.8%) reacted that conversion of forests into grazing lands is «high» in the Bale Eco-Region while 32.7% and 4.5% responded that it was «fair» and «low», respectively. Thus, the quantitative result revealed that conversion to grazing land is high. Actually, using forest land for grazing is allowed to the community particularly after planted trees have reached the age of maturity (after two years). According to the informants, there was an agreement made about this between the community and the government at the time of formation of the participatory forest management organizations. Cattle and other animals live in the forest along with the local community. There were also households having grazing land even before the implementation of PFM. However, grazing land became the cause of deforestation in two ways. First, households that previously had grazing lands were expanding by converting the forests into additional grazing lands. Second, during the dry season, households from the lowlands were moving with their cattle to the Haranna forest—the well-known forest in the Bale Zone—in search of water and grass. Millions of cattle were being moved from the lowland areas and settled in the Haranna forest. This has become the second major cause of deforestation in the study area.

Illegal settlement within the boundaries of the forest is the next major factor that is responsible for the continuation of deforestation in the Bale Eco-Region. As shown in Table 2, more than one-third of the respondents (36%) said that illegal settlement within the boundaries of the forest was «high», while the remaining 35.2% and 27.8% responded that it was «low» and «fair», respectively. It should be made clear that there are two forms of PFM currently being practiced in the study area. These are the capacity-based settlements and the management of forests, which are known as the Forest Dwellers Associations and the CBOs. What is meant by «settlement»?

First, expansion of settlements within the Forest-Dwellers Associations themselves. Considering the capacity of forests, Forest-Dwellers Associations were formed in Adaba-Dodola in 1998. It was analyzed and agreed then that the carrying capacity of each Forest-Dwellers Association would be 360 hectares for 30 households. During the formation process, priority was given to early settlers. Late settlers were obliged to withdraw in places where there were more than 30 households and the government promised to arrange other mechanisms of withdrawal for the new households that would be formed there. After nearly 20 years, however, so many households had emerged and kept settling there, which according to the initial rules of formation, was beyond the carrying capacity of the forests. The youngsters who had not formed their own families at the time of institutional formation, began to form their own families. The government failed to enforce the withdrawal of these new households. Currently, many discussions are going on among the concerned stakeholders on how to address this problem.

Second, there are new settlements from newcomers, coming mainly from outside areas and settling primarily in the Haranna forests. According to PFM, such kind of a new settlement is not allowed and illegal. Through GPS, the boundaries of the forest are known. While it is forbidden to undertake new settlements within the boundaries of the forest, some people move and settle within the boundaries of the forest mainly because of population pressures. According to our informants, while those populations are coming from different areas, they are mainly coming from the Harar of Oromia Regional State and the Sidama from Sidama Regional State. Such kinds of illegal settlements are highly observed in the Bale zone, particularly in the Madda Walabu district, Haranna Buluq district, Dallo Manna, and Barbare districts respectively in order of severity.

The other factor for the continuation of deforestation is the expansion of agricultural lands. As shown in Table 2, the largest percent of respondents (42.8%) said that conversion of forests into agricultural lands was a «medium» reason for deforestation, while 33.4% and 23.8% said it was «low» and «high» respectively. Hence, agricultural land expansion is also contributing its own part for the destruction of forests. In support of this, Beyene et al. (2015) argued that the conversion of forests, woodlands, and shrub lands into agricultural lands is the largest driver of deforestation in Ethiopia. This, however, does not include lands in forests that were formerly converted to farming. The FGD respondents asserted that farmers were allowed to undertake farming on lands in forests which is formerly allowed for agricultural activities.

Low enforcement capacity of forest offices is the third factor that affects the implementation of the REDD+ project. As it can be seen from Table 3 below, the majority of respondents (57.5%) said that the enforcement capacity of the forest offices was «moderate» while the remaining 33% defined it as «low», and only 9.6% defined it as «high.»

Contrary to the survey respondents, the key informant experts argued that the enforcement capacity of the forest offices was low, which is also the researchers' observation. This is because there are so many instances that justify the low enforcement capacity of the forest offices. The first is, according to the informants, when individuals are caught in the act of deforestation, effective measures are not taken in the courts. This is mainly due to the absence of adequate evidence emanating from the witnesses' willingness not to disclose the evidence, as well as the detailed process of evidence gathering. In most cases, the witnesses are willing to report to the office about the deforestation taking place by certain individuals at first. Later on, they either refuse to confirm their statements in front of the court or resolve the issue through elders. This is mainly due to the existence of strong social bonds among them.

The other instances that strengthen the existence of low enforcement capacity in the forest governance of the Bale Eco-Region is that the performance evaluation of both the Oromia Forest and Wildlife Enterprise and the

Table 3. Enforcement Capacity

No.	Questions	Measure	Low	Fair	High	Total
1	How do you rate the enforcement capacity of the forest offices?	Frequency	130	227	38	395
		Percent	33	57.5	9.6	100

PFM organizations has not yet been carried out as per the agreement. They have taken many years after their establishment, but the forest related audit has not yet been done to determine whether they have utilized more of the natural resources or contributed more to the ecosystem. Finally, when the Forest-Dwellers Associations were formed, the forest capacity was analyzed and it was determined, based on the carrying capacity of the forests. The government promised to withdraw the households that were above the forest capacity i.e., when it became more than 30 households in one Forest-Dwellers Association. However, due to the demographic pressure, the households within each Forest-Dwellers Association increased and became more than 30. This was because the sons and daughters of the members of each Forest-Dwellers Association grew, formed families and were not willing to withdraw from their Forest-Dwellers Associations, which led to the failure of this capacity-based forest management. The government also failed to enforce the withdrawal of these newly formed households.

In addition to these examples, another example related to the weak government enforcement can be found in forest replanting. The International NGOs FARM Africa and SOS Sahel Ethiopia have trained the community on how to establish nursery sites to plant additional trees and how to manage seeds and seedlings. Furthermore, they provided the community with seeds and different nursery materials. But no nursery sites were established by the community.

Yet another example that strengthens the low performance capacity of the forest offices is the failure of carbon trading on the international markets. The offices initially promised that carbon trading would benefit the local community by securing incentives from the donor organizations or countries through the sale of the produced amount of carbon dioxide equivalent, which was not practically accomplished.

Low direct benefit to the community due to the failure of carbon trade is another factor that has affected the implementation of REDD+ and the sustainable management of the forests. PFM began to be implemented in the Bale Eco-Region starting in 1998 with the intention to reduce deforestation and forest degradation and to achieve the conservation of biodiversity while ensuring the participation of the community and their direct benefit from conservation. As it has been indicated above, different forms of PFM were practiced in the Bale Eco-Region. The first one was the Forest-Dwellers Associations, which have derived direct benefit from the forests and the forest products. The members of the Forest-Dwellers Associations, starting with their formation in 1998, have been benefiting directly from the forests, particularly until 2016. They were selling aged trees both plantation and natural forests under their protection. When they sold such trees, they received 50% from the sale. Furthermore, they were also benefiting from trophy hunting that was legally undertaken by foreigners, paying certain amounts of money. From this, 60% was given to the Forest-Dwellers Associations, while 40% was taken by the Oromia Forest and Wildlife Enterprise. In addition to that, these organizations have also been benefitting from charging park entrance fees and from the compensation given to them during road construction.

The other form of participatory forest management is the CBOs, which primarily works on the protection rather than the benefits. They cannot sell and directly derive benefits from the forests. However, there are situations in which they do derive benefits from the forests. The first is through compensation given during road construction. For instance, when the Adaba-Angetu road was constructed, the Ethiopian Roads Authority paid 10,000,000 Ethiopian birr (equivalent to nearly 400,000 USD) as compensation for the destruction of natural forests. From this amount, 40% was given to three CBOs, which were conserving these natural forests while the remaining amount was taken by the Oromia Forest and Wildlife Enterprises. Furthermore, trophy hunting was also conducted in the forests that were under the control of the CBOs and from this, 60% went to the community. Moreover, when plantation forests conserved and protected by the Oromia Forest and Wildlife were sold, the office gave 5% to the community. However, when asked individually, the members had not received any, or in some instances had received insignificant amounts, directly from the protection and conservation of the forests.

Because of the above reasons, the community in general and the CBOs and Forest-Dwellers Associations in particular had great hopes to benefit from the selling of carbon that has been sequestered. In support of this, Duker et al. (2018) stated that the local communities had high expectations concerning the benefits that they would receive from the REDD+ project, and they were anticipating that they would be compensated for forest conservation. This is because REDD+ is meant to incentivize the forest-dependent communities of developing countries for reducing greenhouse gas emissions from deforestation and forest degradation or for increasing carbon stocks within their forests compared to a reference emissions level (Vanderhaegen et al. 2015). In the Bale Eco-Region, the carbon sequestration work was done under the first phase of REDD+ projects of FARM Africa and SOS Sahel Ethiopia for three years, between 2012 and 2015. During this time, these NGOs identified the major causes of deforestation and effectively worked in collaboration with the CBOs and the Forest-Dwellers Associations. It was identified then that some of the perceived major causes of deforestation in the Bale Eco-Region were the expansion of agriculture inside the forests, illegal logging, illegal settlement, and occasionally, wild fires. Thus, they effectively worked and suppressed the effects of those factors and consequently reduced deforestation and forest degradation. Finally, the CBOs had generated a total of 5.5 million metric tons of carbon dioxide equivalent. With tropical deforestation accounting for up to a fifth of global, anthropogenic carbon dioxide emissions, the storage of this gas is probably the most valuable non-market benefit associated with forest conservation (Groom and Palmer 2012). This was done by 64 CBOs that were established then in the Bale Eco-Region. However, this internationally recognized amount of carbon has not yet reached international markets. Hence, REDD+ has not yet contributed to the improvement of forest-dependent communities' livelihoods. This has greatly discouraged the communities and reduced their trust in the main actors of the issue of carbon sequestration, particularly FARM Africa and SOS Sahel Ethiopia and other international actors.

Regarding the failure of the expected carbon trade, the communities were asked about the existence of well-established channels to access carbon markets. Depending on the question, as shown in Table 4, 82.6% responded that there were «low» established channels to access the carbon markets.

Table 4. Existence of Well-established Channels to Access Carbon Markets

No.	Question:	Measure	Low	Fair	High	Total
1	To what extent do you believe that there are well-established channels to access carbon markets?	Frequency	326	44	25	395
		Percent	82.6	11.1	6.3	100

The key informants also indicated that the certificate of existing results of carbon sequestration had been released on the web site. However, there were no lobbyists in foreign countries to work towards selling the carbon emissions. Hence, the absence of established channels to access the carbon markets might be the reason for not selling this stock of carbon.

Low coordination with Media and Research Institutes is yet another challenge that has affected the effective implementation of the REDD+ project in the Bale Eco-Region. As it can be seen from Table 5, the majority of the respondents (73%) have indicated that the forest offices have «low» cooperation with the media. The key informants also indicated that because of lack of resources, the forest offices were not utilizing media to the expected level. But media plays a vital role in publicizing about REDD+ and educating the citizens about the existing laws of forests, their importance, conservation and the existing destruction.

Similarly, the majority of the respondents (53.9%), as shown in Table 5, indicate that the forest offices had low cooperation with the research institutes. The key informants also confirmed that the research institutes closest to the Bale Eco-Region were Madda Walabu University and Wendo Genet College of Forestry and Natural Resources. From these two institutions, researchers did occasionally come and collect data, but they did not make the results of their studies accessible to the forest offices.

Conflict of interest over forest lands is also another challenge that has affected the implementation of the REDD+ project in the study area. As can be seen from Table 6, the majority of respondents (39.5%) reacted that there was a «fair» share of the conflict of interest among the government sectors over the use of forest land.

In support of the above information, the key informants also confirmed that the local government, the small and micro enterprise offices, and the agricultural offices, at some point had organized the unemployed youths to engage in agricultural activities of the forest land, which led to deforestation and forest degradation. Furthermore, there was also a situation in which small and micro enterprises had licensed the unemployed youths to engage in the home furniture activities in areas where there was no plantation forests. In those locations, the youths were using natural forest resources, which is illegal. Although the Oromia Forest and Wildlife Enterprise and the Environment, Forest and Climate Change Authority oppose those actions, any of their attempts to correct these illegal agricultural expansions and illegal uses of the natural forests, have been futile.

Lack of budget and logistics: Particularly the Environment, Forest and Climate Change Authority of the Weredas (districts) lack adequate budget and logistics to undertake the proper monitoring and evaluation. They do not have vehicles to undertake field visits and to follow the activities of the Forest-Dwellers Associations, the CBOs, and the Oromia Forest and Wildlife Enterprises. Due to the lack of capacity, mainly financial resources, they had not yet carried out forest auditing. According to key informants, the government, besides creating the structure, had not allocated adequate budgets for the Environment, Forest and Climate Change Authority so that it can effectively carry out the responsibilities it had undertaken.

The Effects of Forest Governance Challenges on REDD+

Our study has shown that while attempting to address the REDD+ project, forest governance has faced different challenges, such as weak institutional arrangements, continuation of deforestation, low enforcement capacity, the failure of carbon trade and the consequent low direct benefit of the community, lack of strong coordination with media and research institutes, conflict of interest over forest land, and lack of adequate budget and logistics to undertake the monitoring and evaluation. Other studies have also confirmed these findings. For instance, Asfaw et al. (2015) have revealed that absence of proper institutional arrangements and weak enforcement of forest laws have been observed in other regional states of Ethiopia, particularly in the Southern Nations, Nationalities and Peoples Region. Furthermore, Rahman and Miah (2017) have also argued that the lack of enforcement of forest policies, deforestation, competing interests among government organizations and lack of coordination with academic and research institutes are also some of the problems of forest management observed in the Rema-Kalenga Wildlife Sanctuary in Bangladesh.

These challenges of forest governance have both a direct and an indirect effect on the implementation of REDD+ projects in the Bale Eco-Region. For instance, the continuation of deforestation has a direct effect on REDD+. Since when deforestation continues, the emissions of carbon dioxide from deforestation also continue to grow, which is contrary to the intention of REDD+. Similarly, the failure of carbon trade and the consequent low direct benefit of the community also had a direct effect on REDD+. The intention of REDD+ was to economically support the developing countries in general and the forest-dependent communities in particular for their contribution to carbon dioxide emissions reduction from deforestation and forest degradation. When forest-dependent communities are

Table 5. Coordination of Forest Governance with Media and Research Institutes

No.	Question:	Measure	Low	Fair	High	Total
1	To what extent do you perceive that forest offices cooperate with the media?	Frequency	289	88	16	395
		Percent	73.4	22.3	4.1	100
2	To what extent do you perceive that forest offices cooperate with research institutes?	Frequency	213	134	48	395
		Percent	53.9	33.9	12.2	100

Table 6. Existence of Conflict of Interest Over Forest Land

No.	Questions	Measure	Low	Fair	High	Total
1	To what extent do you believe that there is a conflict of interest among sectors over the use of forest land?	Frequency	140	156	99	395
		Percent	35.4	39.5	25.1	100

not economically supported, they engage in deforestation and forest degradation for their daily livelihoods. This has been observed in the Bale Eco-region. After the end of the REDD+ pilot project in 2015, the registered success of REDD+ has not continued, which has led to further deforestation and forest degradation. The reason for this is the lack of economic benefits, initially promised to the communities via the REDD+ mechanism.

On the other hand, weak institutional arrangements and low enforcement capacity have had an indirect effect on the implementation of REDD+ as well. Because of weak institutional arrangements, there has been a weak chain of responsibility among the Oromia Forest and Wildlife Enterprise, Environment, Forest and Climate Change Authority, and the community organizations. This, in turn, weakens the monitoring and evaluation of the Oromia Forest and Wildlife Enterprises (concessionally holding the power to administer the forests) and the community organizations (authorized to administer the forests under their rule) that in turn worsened deforestation and forest degradation. Similarly, the weak law enforcement capacity of the forest offices, which has been observed in the administrative activities of the forest offices and the courts, has had an indirect effect on the implementation of REDD+. For instance, it has created gaps in establishing nursery sites, building the capacity of the members, and encouraging the illegal deforestation by the local people. These, in turn, have hampered the effectiveness of the REDD+ project even further. Besides those challenges, the lack of strong coordination of the research office with the media and research institutes has also had an indirect effect on the REDD+ project in the Bale Eco-Region. Since the media has been responsible for the low publicity of the achievements so far made regarding the REDD+ project, it has in turn weakened the international community response to the generated amount of carbon dioxide equivalent.

Response to the Challenges of Forest Governance and REDD+

Various research studies and solution attempts have been undertaken to tackle the challenges of forest governance and the problems of deforestation. The study have found that the main factors responsible for the continuation of deforestation are the use of forest outputs illegally for construction, uncontrolled conversion of forests to grazing land, illegal settlement, conversion to farm land and charcoal extraction. For instance, a task force was formed in the Bale Eco-Region to tackle the problem of illegal settlement that caused deforestation. The task force was formed and included nine sectors—the courts, the police office, the justice office, the Environment, Forest and Climate Change Authority, the Oromia Forest and Wildlife Enterprise, the Bale National park, the Woreda administration, the agricultural office, and the land administration. This task force was successful in some districts, mainly in the Haranna Buluq district. In addition, as part of the REDD+ project, NGOs (FARM Africa and SOS Sahel Ethiopia) and community organizations (both Forest-Dwellers Associations and the CBOs) have identified the major causes of deforestation and have effectively tackled them, particularly for three years, between 2012 and 2015. Due to this success, the international organizations had certified them for effectively reducing emissions from deforestation and forest degradation. However, there have been no countries or international organizations that were willing to buy the generated amount of carbon dioxide equivalent, which discouraged the local community and encouraged further deforestation.

Currently the other challenges such as absence of PFM in the forest policy of the country and absence of benefit sharing mechanisms (e.g., what percentage of the benefits should go to the community, to the project developer, and to the government) have been attempted to be addressed. The issue of participatory forest management was addressed by the government and thus, PFM was included in the Forest Development, Conservation and Utilization proclamation 1065/2018. However, regarding the benefit sharing mechanism of REDD+, a clear, dependable and universal benefit sharing system has not yet been developed because this requires a clear definition of what the benefits are, who has rights to them, how will they be allocated and distributed, and who should make these decisions (Ravikumar et al. 2015). Despite this, however, an attempt was made in the Bale Eco-Region to develop an agreed upon benefit sharing mechanism. Through discussions with the government and NGOs, the community had reached consensus on the benefit sharing, which prioritized community benefits. But, contrary to this, in Ghana, the benefit sharing has been biased towards the traditional authorities and local governments, and hence, farmers and forest fringe communities have not been directly included in the benefit sharing, and so they receive few direct benefits (Hansen et al. 2009).

Thus, through long discussions in the Bale Eco-Region, the community has set the following criteria that facilitate the fair assignment of the expected benefits to the community organizations.

1.Deforestation is weighted out at 50%. The CBOs and the Forest Dwellers
Associations that score less on deforestation, will get more benefits
2.The size of the population will be weighted out at 20%
3.Areas will be weighted out at 8%
4.Organizational Capacity Assessment Tools (OCAT) results will be weighted at 22%.

The remaining task has been to decide how the dividend would reach the communities and hence, after many discussions, they have established committees. They have also discussed how to treat grievances and for that, they have established different committees whose members are selected from each district in order to make it more representative. Regardless of the attempt so far made to develop an agreed upon benefit sharing mechanism in the Bale Eco-Region, the benefit sharing mechanism needs further refinement as it is expected to be binding.

Prospects of Forest Governance and Implication to REDD+

It is clear from this study that the forest governance of the Bale Eco-Region has the following prospects. The first is that the existing forest governance has authorized the community, specifically the Forest-Dwellers Associations and the CBOs, to administer parts of the forests. Thus, forest governance is inclusive of the community. The second is that capacity-building training and material support are being continuously given to the members of these organizations by NGOs, such as FARM Africa and SOS Sahel Ethiopia, which is vital for the implementation of REDD+. Furthermore, moderate coordination is created among the government sectors, particularly between the Oromia Forest and Wildlife Enterprise and the Environment, Forest and Climate Change Authority, which can be considered as an opportunity for the implementation of REDD+. This

is important because studies have revealed that the lack of coordination among government organizations in the Rema-Kalenga Wildlife Sanctuary in Bangladish (Rahman and Miah 2017) and poor coordination among government ministries and between different levels of government in Indonesia (Mulyani and Jepson 2013) are among the main challenges of REDD+ implementation.

Furthermore, the decision making is inclusive of all critical actors, which is vital to address the interests of stakeholders. The existing community structure — Forest-Dwellers Associations and CBOs — is also another element for the implementation of the REDD+ project in the Bale Eco-Region. Formerly, FARM Africa and SOS Sahel Ethiopia relied on those community structures to carry out the Bale REDD+ project, which was successful in reducing emissions from deforestation and forest degradation. However, the international community was not committed to buy the generated carbon dioxide equivalent. Most likely, this was because prior agreements were not concluded with any international organizations or any interested countries. Currently, however, the Oromia government has concluded an agreement in advance with the World Bank to buy-out a certain amount of carbon dioxide equivalent. The Oromia REDD+ is being carried out throughout the Oromia regional state. However, the Bale Eco-Region is not made part of it. Experts from the district Environment, Forest and Climate Authority and Oromia Forest and Wildlife Enterprise want the inclusion of the Bale Eco-region in the Oromia REDD+. But, the government has not yet decided, probably because the communities are exhausted by the former Bale REDD+ project.

Conclusion and Policy Implications

The Bale REDD+ project was supported mainly by the NGOs FARM Africa and SOS Sahel Ethiopia. Sixty-four (64) community-based organizations, with the support of different sectors and mainly the NGOs, produced a total of 5.5 million metric tons of carbon dioxide equivalent in three years between 2012 and 2015. Regardless of this, however, deforestation and forest degradation have continued in the Bale Eco-Region, especially after 2015.

Forest governance has faced different challenges in an attempt to realize the REDD+ project. Some of the major challenges that have been identified in this study are weak institutional arrangements, continuation of deforestation, low enforcement capacity, the failure of carbon trade and low direct benefits to the community, lack of strong coordination with media and research institutes and lack of adequate budget and logistics to undertake the monitoring and evaluation. Because of these challenges, the REDD+ project of the Bale Eco-Region was not successful in bringing sustainable reduction of emissions from deforestation and forest degradation. Of these challenges, the main one is that the REDD+ project has not brought the expected financial benefit to the local community, which in turn has contributed to further deforestation, particularly after 2015. Immediately after the generation of the estimated carbon dioxide equivalent, the community expected to get financial benefit for their achievement from the international community. But, the absence of an international market for the then produced amount of carbon dioxide equivalent discouraged them, which in turn was responsible for loosening community forest conservation and control that caused further deforestation and forest degradation. From this, it can be learnt that the promise alone to incentivize the community through REDD+ projects, without actually realizing it, has a devastating negative effect on the sustainable reduction of greenhouse gas emission through the REDD+ mechanism. It undermines the legitimacy and effectiveness of the REDD+ approach and the actors involved in its implementation. To overcome this, it is recommended to sign an agreement, in advance, with the interested donor organizations or countries, which are willing to buy the anticipated carbon dioxide equivalent.

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