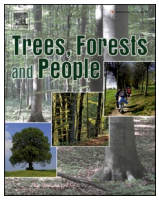
Trees, Forests and People 19 (2025) 100780

Contents lists available at ScienceDirect

Trees, Forests and People

journal homepage: www.sciencedirect.com/journal/trees-forests-and-people



Participatory forest management: Analysis of local forest governance and implications for REDD+ implementation in the Adaba-Dodola Forest in Ethiopia

Lemma Tiki [a,b,d,*], Kristina Marquardt [c], Jumanne M. Abdallah [d]

[a] College of Agriculture and Veterinary Science, Ambo University, Ethiopia
[b] Regional Research School in Forest Science (REFOREST), Sokoine University of Agriculture, Tanzania
[c] Department of Urban and Rural Development, Swedish University of Agricultural Science, Sweden
[d] College of Forestry, Wildlife and Tourism, Sokoine University of Agriculture, Tanzania

ARTICLE INFO

Keywords:
Forest governance
Policy
REDD+
Community forest management
Forest law enforcement

ABSTRACT

Currently, sustainable forest management (SFM) issue has received global attention because of the importance of forests for achieving socioeconomic and environmental goals. Participatory Forest Management (PFM) has been implemented in Ethiopia as a national programme to improve the Forest governance (FG) system. This paper analyses the current FG settings and identifies major gaps in forest conservation by assessing the local FG situation. The primary data were collected through key informant interviews (54) and four focus group discussions with the community and experts. Semi-structured questionnaires were used as a tool for data collection. Secondary data were collected from reports, forest management plans, and the forest agencies' plans. Comprehensive FG analytical frameworks developed by the FAO/PROFOR and World Resources Institute (WRI) were utilised to develop and analyse pillars, principles and indicators of FG for the study. The results of the study showed FG in the Adaba-Dodola PFM was moderate, but in terms of different features of FG, there were large variations in how well different aspects played out for forest users and bureaucrats. Whereas the legal and policy framework was rated as working well, the planning and decision-making process was scored as medium, while the implementation and enforcement were rated as having a poor level of function. This implies that there is a supportive legal and policy framework to achieve the intended goal of the REDD+ but on-ground implementations need further effort. Therefore, concerned stakeholders should focus on strengthening the implementation and enforcement of forest policies and regulations at the local level.

1. Introduction

Forests are crucial in halting the global climate crisis (FDAP, 2023; Kahsay et al., 2023) and absorbing approximately 7.6 billion tonnes of CO_2e/year of net carbon (Harris et al., 2021). The role of forests in climate change adaptation and mitigation is highly recognized in the efforts made to address climate change, and one such example is the UN-led program REDD+, which aims to reduce deforestation and forest degradation. However, decreasing deforestation is still difficult, and forests continue to be cleared (CDP, 2023); between 2010 and 2020, the Earth lost an average of 4.7 million hectares (0.1%) of forests annually (FAO, 2020), and the global deforestation rate increased by 4% between 2021 and 2022. In Tropical Africa, the 2022 target to eliminate forest loss by 2030 (FDAP, 2023) is already lagging by 28%. Ethiopia is no exception to this problematic trend.

Currently, the issue of sustainable forest management (SFM) has received global attention because of the importance of forests for achieving socioeconomic and environmental goals (IISD, 2022). Further appropriate governance settings are needed to balance forest conservation and community development goals (Sari et al., 2019). Scholars have suggested that the forest governance system is one of the crucial factors for the success of sustainable forest conservation and for securing the rights of indigenous people and local communities through such efforts (Bennett et al., 2019; Artelle et al., 2019). Forest governance refers to the norms, institutions, and processes that determine how power and responsibilities over forest resources are exercised, how decisions are made, and how forest dwellers participate in and benefit from the management of forest resources (WRI, 2017; Mollick et al., 2018;

* Corresponding author.
E-mail address: lema.tiki@ambou.edu.et (L. Tiki).

https://doi.org/10.1016/j.tfp.2025.100780

Available online 13 January 2025

Mann et al., 2021; Springer et al., 2021). Local-level forest governance outcomes are dependent on the quality, efficiency, and effectiveness of local policy and decision-making procedures and how power and authority are exercised locally (UNDP, 2015). To achieve what REDD+ is intended for, such as climate change mitigation, biodiversity enhancement and rural livelihood improvement, good forest governance is crucial (WRI, 2016). As PFM has been proposed as a successful management approach, international donors, intergovernmental organizations, and international initiatives such as REDD+ are now targeting PFM to achieve the global goals of forest conservation (Maraseni et al., 2019).

Although the PFM has acknowledged potential and has made positive contributions to biophysical forest condition outcomes, its outcomes for local forest communities and institutions are an area of concern (Ameha et al., 2014; Tadesse et al., 2020; Woldie et al., 2023) because they have been burdened by poor governance systems (Tadesse et al., 2020). Most PFM projects in Ethiopia have been initiated and supported by non-governmental organizations (NGOs) (Kahsay et al., 2023) and when such projects are phased out, most operational activities decline due to a lack of incentives (Ayana et al., 2015; Duguma et al., 2018). In addition, a study conducted in Tanzania and Ethiopia showed that local villagers consider nearby forests as their source of firewood, medicine, building materials, and fodder for their local use, but the REDD+ project considers the global plan of climate change mitigation to mostly ban some of the local uses (Bartholdson et al., 2019; Duker et al., 2019).

Therefore, several scholars have studied participatory forest governance in developing countries, and they have pointed out several of its problematic areas. One group of investigations highlighted the existence of widespread gaps in the actual implementation of PFM in developing countries (Kairu et al., 2018; EFI, 2023; Blomley and Iddi, 2009; Tadesse et al., 2020; Birhan et al., 2022). In many parts of Ethiopia where PFM was implemented, no satisfactory results were obtained, mainly because of a lack of good forest governance (Tadesse, 2016; Birhan et al., 2022). These concerns in turn raised questions about whether local communities are given enough rights, responsibilities, and decision-making power to govern their forest resources. Therefore, this research evaluates the performance of PFM forest governance practices at the local level and identifies gaps in the PFM forest governance system. This research addressed the following questions: (a) how effective are the legal and policy frameworks in supporting accountable, transparent, and inclusive forest governance? (b) To what extent are local communities empowered to influence planning and decision-making processes? (c) Is there an effective implementation, enforcement, and compliance system for forest governance in the study area?

1.1. Conceptual framework

The ideas of what constitutes good/responsible forest governance mostly refer to the integrity of institutions and processes that govern forests (GFI, 2009) and naturally have different meanings and contents depending on institutional and cultural contexts. There are also some divergences and disagreements on how to evaluate governance and what principles and indicators should be used to evaluate forest governance (Kisingo et al., 2016). Presently, there are several initiatives to develop new evaluation methodologies, and various methodologies have been used to assess forest governance, focusing on forest governance assessment at local, national, and international scales (Secco et al., 2014). However, according to such studies, there seem to be some basic features involved in assessing governance, such as efficiency, coherence and appropriateness, effectiveness, transparency, accountability, law enforcement, lack of corruption, legitimacy, stability, participation, coordination, empowerment, social justice, equity, and environmental and social sustainability of impacts (GFI, 2009; WB-ARD, 2009; Larson and Petkove, 2011; FAO and PROFOR, 2011; WRI, 2013; Subroto, 2017; Mollick et al., 2018; Veen et al., 2022; EFI, 2023). Therefore, special considerations are given to those basic principles in this study like equity, transparency, accountability, participation, coordination and capacity (Fig. 1).

The WRI and FAO/PROFOR developed and proposed framework indicators for assessing and reporting forest governance (PROFOR, 2012; FAO/PROFOR, 2014; EFI, 2023). This framework provides general guidelines, but it needs to be adapted to location-specific contexts due to the large diversity in society, ecology, and PFM models (Secco et al., 2014). This study used the FAO/PROFOR and WRI frameworks for assessing forest governance within three pillars of governance (Fig. 1) and different principles and indicators. The effectiveness of FG is founded on laws and policies to have an equitable, clear and coherent system to ensure responsive FG. It also facilitates effective planning and decision making process while enhancing effective implementation and enforcement. If forest policies are unclear, contradictory and unrealistic, it is difficult to give decisions, implement and enforce forest laws which leads to poor FG. In another direction, if there is poor planning and decision making process policies and legal issues appear powerful only on paper while implementation and enforcement become weak.

This study explores forest management and its links with broader governance systems in the study area by focusing on the legal and policy framework, planning and decision-making processes, and implementation, enforcement, and compliance.

2. Materials and methods

2.1. Description of the study area

The study was conducted in southeastern Ethiopia, in the Adaba and Dodola Districts, which are covered by the Adaba-Dodola forest priority area. The Adaba-Dodola PFM is one of the earliest Community-Based Forest Management (CBFM) programmes implemented by the Ethiopian government in collaboration with the German Society for International Cooperation (GIZ). The Adaba-Dodola forest is located on the northern slopes of the Bale Mountains, approximately 320 km from Addis Ababa (Kahsay et al., 2023) (Fig. 2). The area is characterized by bimodal rainfall with a mean annual rainfall of 878 mm, and the main rainy season is from June to September. The mean monthly maximum temperature is 24.5 °C, while the minimum is 10.3 °C (Kedir et al., 2017).

The livelihoods in the area depend mainly on agriculture, forestry, and livestock production. The main forest products harvested are fuel wood and charcoal, grasses and tree fodder, and timber for construction. The forest size progressively decreased by 36% (from 140,000 ha in the early 1980s to 53,000 ha in 1997) mainly due to agricultural expansion, settlements, and the extraction of forest resources (Ameha et al., 2016; Tiki et al., 2024). Approximately 50,500 hectares of forest are managed under the PFM programme by the currently called community-based organizations (CBOs, see below) (Kahsay and Bulte, 2021). Almost all forest patches are situated on steep slopes and the edges of mountains (Kedir et al., 2017). The Oromia Forest and Wildlife Enterprise (OFWE) is a government-based forest enterprise responsible for implementing and monitoring the PFM program in the region. During the first phase of the establishment of the PFM, the local communities were organized as the Forest Dwellers Association (called WAJIB in the local language), and 30 households were the maximum determined size in one association. Twelve hectares of forest per household and hence 360 hectares of forest per association have also been identified (Ameha et al., 2014; Birhan et al., 2022). The members are given the right to live, graze their livestock and sustainably extract forest products with an allowable cut of less than 10% and conserve and protect the forest by restricting the forest from additional settlements, agricultural expansions, and incursions by others (Kedir et al., 2017; Kahsay et al., 2023).

However, because of the emergence of new households by the youths and because the WAJIB associations were neither open to all members of the community nor were they able to accommodate the younger adults, there were encroachments into delineated forest areas. In addition, some

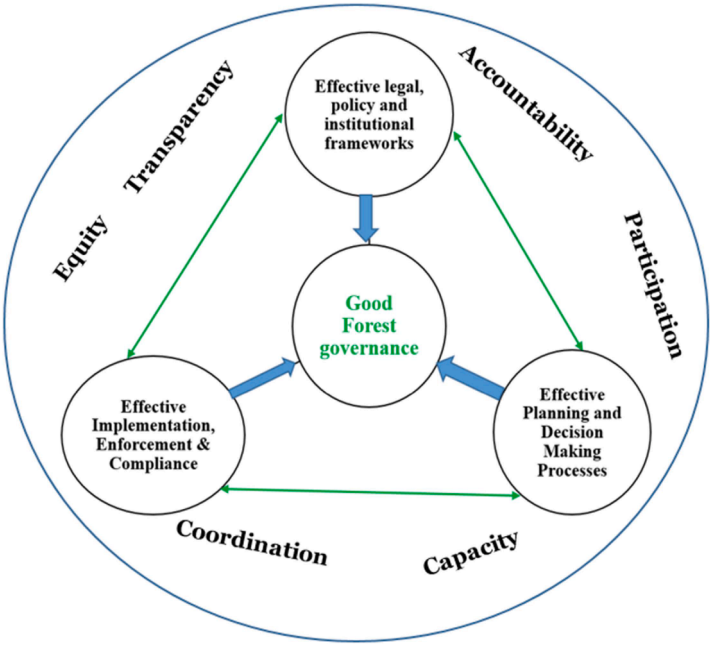


Fig. 1. Conceptual frameworks of good forest governance (Adopted from FAO and PROFOR, 2011 and WRI, 2013).

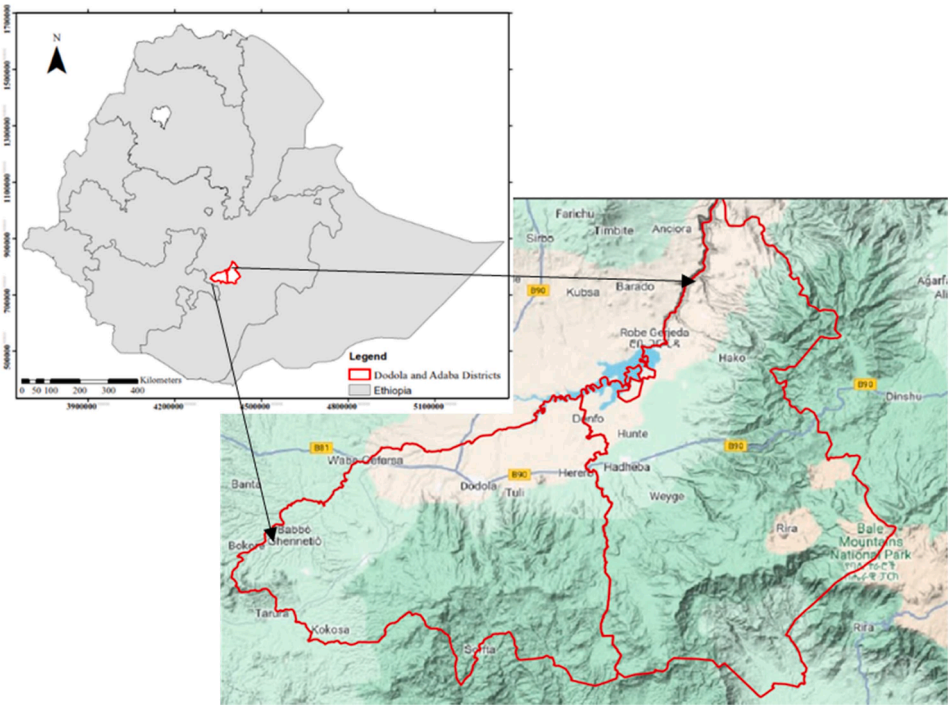


Fig. 2. Map of the study area (Adaba and Dodola districts).

resourceful village members who had been excluded from the former WAJIB demanded access to the forest. As a result, another approach called Community Based Organizations (CBOs) began to form as a way to accommodate all interested households in the village. Unlike WAJIB, CBOs are not allowed to sell old or dead trees for additional income but only to use them for household firewood and construction. However, 40% and 60% of the income generated from payments for ecosystem services, ecotourism, and other compensation from natural forests is shared between OFWEs and CBOs, respectively (Birhan et al., 2022). Furthermore, when forest plantations that were conserved and protected by the local community are sold, CBOs would receive 10%, while 90% goes to OFWE. Currently, according to the data from the OFWE Adaba-Dodola District office, the number of CBOs in the Adaba and Dodola districts increased from one WAJIB group in 2000 (OBARD and GIZ, 2005) to approximately 34 CBOs as of 20th November 2023, with an estimated 14,535 participating households (OFWE, 2023).

2.2. Methodology

2.2.1. Sampling and data collection methods

The dataset for this study was generated through in-depth interviews with 54 experts and knowledgeable community members involved in Adaba-Dodola community forest governance. Key informants from the experts working on forest-related activities and village leaders were purposefully selected based on their knowledge and experience, while knowledgeable and experienced community members who have good experiences with participatory forest management and have been forest user group members since the establishment of forest user groups were selected through snowball sampling technique. For snowball sampling, the first person was selected based on the recommendation from the expert working in the study area and then that person was guided to another experienced community member. Interviews were conducted until saturation was reached (Dang et al., 2019). Key informants from village-level authorities, experts, and officials from relevant departments were selected through prior consultations with well-experienced staff from OFWE and an NGO called FARM Africa considering their commitment and importance to the PFM program. In total, fifty-four key informants were interviewed, including local authorities at the village level, forest development cooperative committee members, experts at the OFWE, officials of forestry and relevant departments, experts from NGOs, and members of forest development cooperatives in the Adaba and Dodola districts (see Table 1). Furthermore, four focus group discussions (FGDs) were organized and implemented for triangulation and to explore broader information from the local community members representing youth, women, and elders. One FGD was conducted in each village of Sole, Lencha Wesha, Hara Bubiftu, and Kechema. Each FGD consisted of 8–10 members selected based on convenience sampling by considering the inclusion of youth, women, and village elders.

To explore the forest governance system of the study area, a semi-structured and open-ended questionnaire was developed based on a combination of the forest governance assessment tools presented by the FAO and PROFOR (2011) and the WRI (2013). The interviews and focus group discussions were conducted in the local language *Afan Oromo*. The questionnaire enabled us to identify the principal issues concerning forest governance in the local area. Secondary data such as NGO reports, forest management plans, OFWE reports and annual plans, environment and climate change office reports, agreements and bylaws, forest-related directives, and policy documents were collected from different offices and relevant websites. The data were collected from August–December 2023. Furthermore, from previous research conducted in the area on the effects of PFM on woody species diversity, structure, and carbon stocks (Tiki et al., 2024), villagers' practices and strategies for forest management and different indicators of unsustainable forest management were included.

To evaluate the forest governance status of Adaba-Dodola PFM, 24 indicators were selected for the three forest governance pillars. For example, Mollick et al (2018) used eighteen indicators and Mbeyale et al (2021) used fifteen indicators to assess the forest governance. However, the indicators are somehow varies based on the local context. To explore detailed knowledge of forest governance, more than 30 questions related to *why* and *how* forest governance was developed and employed were asked. The 24 indicators (Table 2) were selected based on the local relevance and availability of quality information from the respondents. Each of the 54 KII respondents was allowed to choose "yes/no", "present/absent" or "effective/not effective" during the interviews based on their knowledge and perceptions.

2.2.2. Data analysis method

After getting consent from the respondents, the answers were recorded, transcribed into the local language and then translated into

Table 1
Data collection during fieldwork for KII and FGD.

Duration of interview	Categories of respondents and their affiliation	Number of interviews	Method
August to September 2023	Forest Management Cooperative members	24	In-depth interview
September 2023	Forest Management Cooperative Committee members	8	In-depth interview
October 2023	Village leaders	4	In-depth interview
November 2023	Experts from Oromia Forest and Wildlife Enterprise (OFWE)	7	In-depth interview
November 2023	Experts from the Agricultural office (NRM department)	3	In-depth interview
December 2023	Experts from the Environment Protection Authority (EPA)	4	In-depth interview
December 2023	Experts from NGOs	2	In-depth interview
December 2023	Experts from the Legal Offices	2	In-depth interview
October 2023	FGD participants (11 Youth, 10 Women, and 13 Village elders)	34	Focus group discussion

Table 2
Forest governance pillars and their respective indicators.

Pillars	Indicators
Effective Legal and policy framework	1. Supporting the sustainable management of forests 2. Addressing cross-sectoral policy and program coordination 3. Addressing taxation & other economic strategies of SFM 4. Recognizing community customary rights 5. Support the livelihood of forest-dependent communities 6. Addressing enforcement of laws related to forests 7. Clarity and simplicity of laws 8. Consistent laws and policies with each other
Effective Planning and decision-making process	1. Opportunities for participation in the creation of forest policies, public forest management plans, and subsidiary rules 2. Transparent and accountable planning and decision-making 3. Transparency in concession 4. Freedom of the forest agencies from political interference 5. Availability of strong and independent community organizations 6. Availability of current valid forest management plans 7. Elite capture of the decision-making process
Effective implementation and enforcement	1. Adequacy and effectiveness of staff capacity 2. Availability of civil society organizations in the area 3. Effectiveness of collection, sharing, and redistribution of forest incomes 4. Implementation of existing forest management plans 5. Effectiveness of measures and tools to prevent forest crimes 6. Capacity of law enforcement agencies to suppress, detect, and prevent forest-related crimes and illegal activities 7. Capacity and willingness of the judicial agencies to deal with forest crime 8. Adequacy of local cross-sectoral cooperation and coordination 9. Adequacy of coordination and cooperation between national and subnational governments on forest-related activities

English. The data were then coded and categorized based on the themes of information from interviews following the content analysis approach. Data from FGDs and secondary materials were used for cross-checking with interview data to avoid incorrect interpretations, control the effect of bias, and ensure the reliability and validity of the information. Some of the data from KII were converted into quantitative values and analyzed with simple descriptive statistics such as frequency, average, and percentage to determine the performance score of forest governance in the study area based on the selected indicators. The final score was calculated by computing the percentage of availability of each indicator, and then the average of all indicators was calculated for each pillar. The overall forest governance was estimated based on the weighted average of the percentage of all indicators under all the pillars. The overall performance of the Adaba-Dodola PFM was determined to be very good if the average score was 85–100%, good if 65–84%, medium if 50–64%, poor if 35–49% and very poor if <35% (Gyawali & Subedi, 2011; Thapa et al, 2020).

3. Results

3.1. Overall performance of forest governance in Adaba-Dodola PFM

The overall percentage of local forest governance in the Adaba-Dodola PFM area was 60%, which was within the range of medium governance performance (Fig. 3).

This result indicated that the main gap in forest governance in the study area was not about the legal and policy framework; rather, it was about implementation and law enforcement and planning and decision-making.

3.2. Legal and policy framework of forest management

This section addresses the key policies, laws, and regulations defining forest management. The policy and legal aspects of forest management are meant to ensure sustainable forest management for multiple benefits. To assess the legal and policy framework of forest management in Adaba-Dodola, questions based on eight indicators (Table 2) were asked to evaluate the overall effectiveness of this pillar.

According to the performance score, all the indicators of legal and policy issues ranged from 64–94%, which represents medium to very good performance (Fig. 4). A lack of strong support for the livelihood of forest-dependent communities was the weakest indicator, whereas addressing the enforcement of laws related to forests was the strongest. This indicated relatively less attention given to the livelihood improvement of forest-dependent people within the policy and legal frameworks and that these focus primarily on law enforcement mechanisms, which put high pressure on rural communities with few options to make a living.

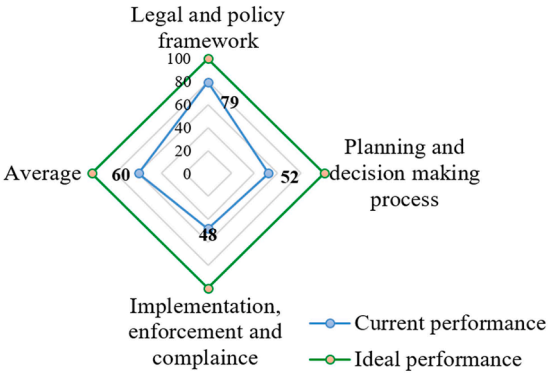


Fig. 3. Overall performance score of forest governance in the Adaba-Dodola PFM.

The 2007 forest policy; Forest Development, Conservation, and Utilization Proclamation No. 1065/2018 and its draft regulation; Climate Resilient Green Economy (CRGE) strategy; National REDD+ strategy; and community agreements and forest management plans of CBOs are the main active legal and policy tools that control local forest use. These policies provide legal recognition for the practice of PFM in the country. The third chapter of the 2018 Forest Proclamation Article 7 (1) put the right of PFM members to share benefits with the government and receive technical, professional, and legal support from the concerned government bodies. The way they share benefits was indicated in the draft forest regulation of the then forest regulation No. 544/2024 article 17 and in the agreements between CBOs and OFWEs. It also gives a privilege of exemptions from taxes and access to loans under Article 7 (2). Although this shows some indications of forest policy addressing the local livelihoods of forest-dependent communities, it does not necessarily respond to local needs. One of the key informants shared:

Policy tools give us some privileges for improving our economic well-being, but all community members have equal opportunities for that privilege. The poor and vulnerable community members who were highly dependent on the forest did not receive special attention. This is not fair! Others have additional alternatives, but the poor have no option. (KI-2)

This policy and legal framework do not give special consideration to the most vulnerable community group members, which implies that one of the principles of the REDD+ safeguarding system, the one about ensuring the indigenous people's right to their forest resources, is currently not addressed.

Concerning addressing cross-sectoral policy and program coordination, it is clear that forest policy and laws are consistent with other national development goals and strategies, such as the CRGE and REDD+ strategies (except for some safeguarding issues). However, coordination between each program is weak, and the roles and mandates of institutions were not clearly defined to avoid overlapping. In this regard, one of the experts from OFWE stated:

> *Because the roles and responsibilities of institutions are not explicitly indicated in policy and legal frameworks, different government sectors working on forests push away the accountability of failure, while they compete for success stories on forest management. For example, OFWE, the Office of Agriculture, and the EPA are all directly responsible for forest management, but their specific roles not clear in respect to other sectors working on forests. (KI-25)*

The undefined roles and responsibilities of each actor and the presence of success but hiding or dodging weakness or mistakes contribute to poor accountability and low transparency in the local-level context of forest governance.

The cross-sectoral issue is not only about coordination between sectors. It is also about the issue of considerations between forest and nonforest sector legal and policy frameworks. Within the broader frames of development efforts in Ethiopia, forest policies and laws were crafted by including forests as well as nonforest-related policies and programs such as environmental policy, the CRGE strategy, the GTP II, the REDD+ strategy, rural development policy, disaster risk management strategy, and biodiversity conservation policy. In addition, the issues of regulating the competing interests of governments to contribute to development, private investors to maximize their economic benefit, local communities to extract forest products for their survival, and the current global interest in addressing climate change and biodiversity conservation were addressed in forest policy.

Key informants and FGD participants indicated that forest policy and the legal framework support sustainable forest management by simplifying the process of decision-making and creating ways to arrest and bring illegal doers to justice. They argued that forest policies and legal frameworks provide forest protection guidelines and strategies, protocols for charging illegal practices, and grounds for creating bylaws and forest management plans. In that way, forest policies regulate how

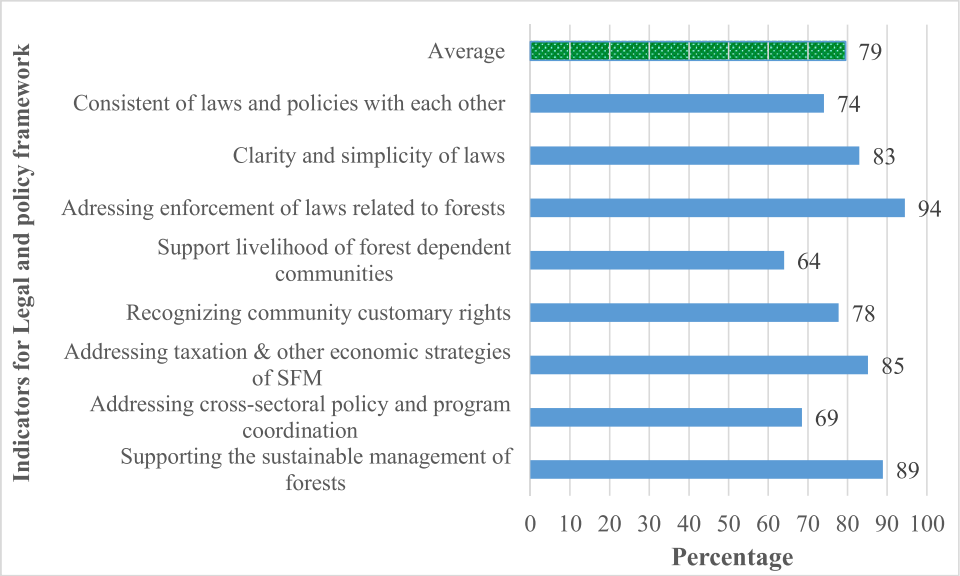


Fig. 4. Performance scores of the forest management legal and policy frameworks.

people live in and near the forest and how local communities can benefit from the forest. Additionally, the informants stated that forest policies define rights and obligations and ensure coordination between forest and nonforest policies and strategies. For example, the forest policy states that if a community settling in a forest becomes obstructed by forest development, the government shall settle it in another area suitable for living. The policy also appreciated the linkage of ecotourism development and carbon trade with forest development.

3.3. *The planning and decision-making processes of forest management*

To assess the planning and decision-making processes of forest management, seven indicators (Table 2) were used to evaluate the overall effectiveness of this pillar.

Based on the performance score, only the opportunity for participation and the availability of current valid forest management plan indicators were in the range of 65–84%, which indicates good performance. The transparency and unavailability of elite capture, however, were within a range of 50–64%, which is medium performance, while the rest of the indicators scored poor or very poor (Fig. 5).

The freedom of forest agencies from political interference was scored as the poorest performance that hindered the planning and decision-making process in PFM forest governance. According to directive No. 10/2015 from the Environmental Protection Authority of the Oromia regional state (Article 25(1)), the sharing of carbon credit money generated for the community should not be taken from CBOs by government or private parties in the name of support or gift. However, in practice, local politicians force the CBO committee to provide money to support, e.g., the military and the development of historical site (KI-8, 37). Furthermore, politically powerful individuals can easily divert what is planned and decided upon. One of the CBO committee chairs stated:

> *Local political leaders strongly influence community forest management, especially by insisting and exercising their power in the decision-making process. For example, kebele/village leaders and politically powerful individuals encroach into forest areas, but no one makes them accountable… District-level administration has the political power to decide on the benefit of the CBO members without enough consultation. Local leaders are politically privileged. Even, they sometimes intimidate us because we are claiming our rights (KI-8)*

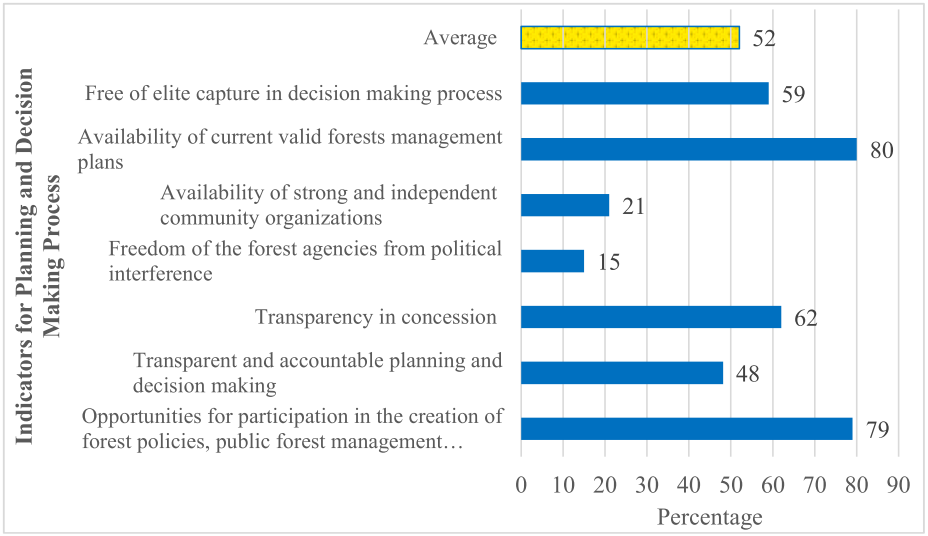


Fig. 5. Performance scores of forest management planning and decision-making processes.

The above statement indicates that politically powerful people dominate the voice of disadvantaged PFM members in planning and decision-making processes. They can also compromise the decisions for their interest. FGD participants also mentioned how some politically privileged individuals cut trees or construct shelters in a forest concession with the protection of persons associated with political power.

Participation, transparency and accountability, and the capacity of all stakeholders are key in good forest governance planning and decision-making processes.

In the Adaba-Dodola PFM, local community participation was rated as effective in planning and decision-making by 79% of the respondents. The forest policy and regulation of Ethiopia also established a commitment to managing forest resources with the participation of private owners and forest associations.

KII and FGD participants indicated that the participation of the local community in planning and decision-making has been fairly ensured through the CBO's general assembly meetings; the CBO committee and village representatives have been invited to district- or sometimes regional-level meetings; the bylaws of each CBO have been reviewed to consider their particular interest in the bylaws; and a household survey by experts working for forest agencies such as the OFWE, EPA and Office of Agriculture has been conducted to capture their interest. However, approximately 21% of the respondents claimed that decision-making is nevertheless based on a top-down approach. They mentioned that the demolishing the former WAJIB group and making the membership open for all residents in the village was not fair. One of the OFWE experts indicated:

> *During the establishment of the PFM in the Adaba-Dodola forest area, the local community was organized as a forest dweller association (WAJIB) with a predetermined member of 30 households with 12 hectares of forestland for each household in one association. The new policy repealed this principle and provided membership to all community members living in the village without any consultation or compensation for former forest user groups that had been protecting the forest for about 20 years. (KI-43)*

Furthermore, FGD participants said that their leaders call them for meetings based on the urgency of the agendas for discussions in their CBO approximately 4 times per year. Occasionally, CBO committee members are invited to higher-level meetings and share their concerns with higher officials. However, some of the FGD participants stated that no one considered the voices of poor and disadvantaged groups during general meetings. The answers from the KII also indicated that decision-making is influenced mostly by people who are superior in terms of knowledge and social and economic status. Ahmad is a member of the CBO in the Adaba district. His livelihood is completely dependent on forest products, and he has less than 0.3 ha of land available for his farming. He has no own woodlot or plantation for firewood and construction. He stated:

> *My life is fully dependent on the forest. Many people like me are poor and disadvantaged. No one gives us even a chance to speak out our concerns. During meetings, chances are given to those who know, are respected, and are economically privileged. No one wants to hear us. (FGD-3)*

In the Adaba-Dodola PFM, transparency and accountability in the planning and decision-making process had a performance rate of 48%, which is poor. The involvement of people in planning and decision-making is desired, but it needs to be coupled with the transparency of what participation actually contributed to and the accountability of the local community and other stakeholders for what (and how) they planned, decided and implemented forest management actions. Key informants and FGD participants indicated that decisions made by government offices lack transparency for all outsiders and that there is no space to allow negotiation or consider the interests of forest users. The shift from WAJIB to COP, as the organizational structure for local forest management and use, was one example where a decision was made without any consultation with the forest dwellers. One key informant stated:

> *Most decisions made at a higher level are not transparent; we heard about it after they decided what they wanted. Even it is hard for us to trust the government that this forest will be owned by us in the future. They repealed our WAJIB contract without any consultation or at least paid us compensation for our effort to protect the forest for about 20 years. They gave the right of membership to people who had no attachment to the forest. They have larger agricultural lands, but we have nothing except these forest products. (KI-22)*

When combining these statements with the rating of participation in the previous section, it implies that there does exist some kind of participation in planning and decision-making, however, a form of participation based on consultation with certain social groups seems to occur rather than general participation. Actors in the government sectors and socioeconomically advantaged groups within the community dominated the decision-making process, while the voices and interests of the most forest-dependent households were neglected or ignored. As a consequence, people who live far from the forest and have larger agricultural lands can receive equal membership and benefit sharing privileges from the PFM as people who live in or adjacent to the forest and depend on it for their daily subsistence.

A low level of accountability was reflected among both higher- and local-level government bodies. As for the legal and policy frameworks, higher- and local-level government bodies are responsible for providing technical and other support to the local community practicing PFM. However, in practice, this did not materialize (KI-31, 21). During the focus group discussions, participants repeatedly mentioned that higher government bodies and legal offices do not care much about the actual forests but are worried about their own political interests. Many of the respondents expressed an issue of poor accountability at all levels. A Community Based Organization (CBO) chair from the Dodola district expressed the following:

> *Our youth group has no land and is unemployed, and our population is increasing from time to time, but there are no alternative livelihood programs. They are responsible for creating job opportunities for our youth, and they are responsible for creating alternative livelihood mechanisms for the poor. However, village-level officials participate in illegal agricultural encroachment, and no one makes them accountable for their actions. (KI-7)*

3.4. Effectiveness of implementation and enforcement

To assess the performance of implementation and law enforcement in Adaba-Dodola PFM forest governance, nine indicators (Table 2) were investigated.

The performance score indicated that only 85–100% of the civic society organizations available for forest management implementation exhibited very good performance. The effectiveness of measures and tools for preventing forest crime and the effectiveness of the collection, sharing, and redistribution of forest income were good, with a score of 74%. Poor performance was recorded for the adequacy and effectiveness of staff capacity, the implementation of planned activities, the capacity of law enforcement agencies, the capacity and willingness of judicial agencies, and the adequacy of local coordination and cooperation between sectors (Fig. 6). The numbers given above indicated that the largest gaps existed within this third pillar of forest governance. Within this group, issues concerning capacity and local coordination were found to be the largest weaknesses within the processes of implementation and law enforcement.

The FGD participants expressed that due to a lack of financial and technical capacity at the forest agency level, there were no continuous training or awareness creation programs at the village level. This in turn hinders the CBO from developing its forest management plan, revising local bylaws and making decisions that follow forest laws and policies.

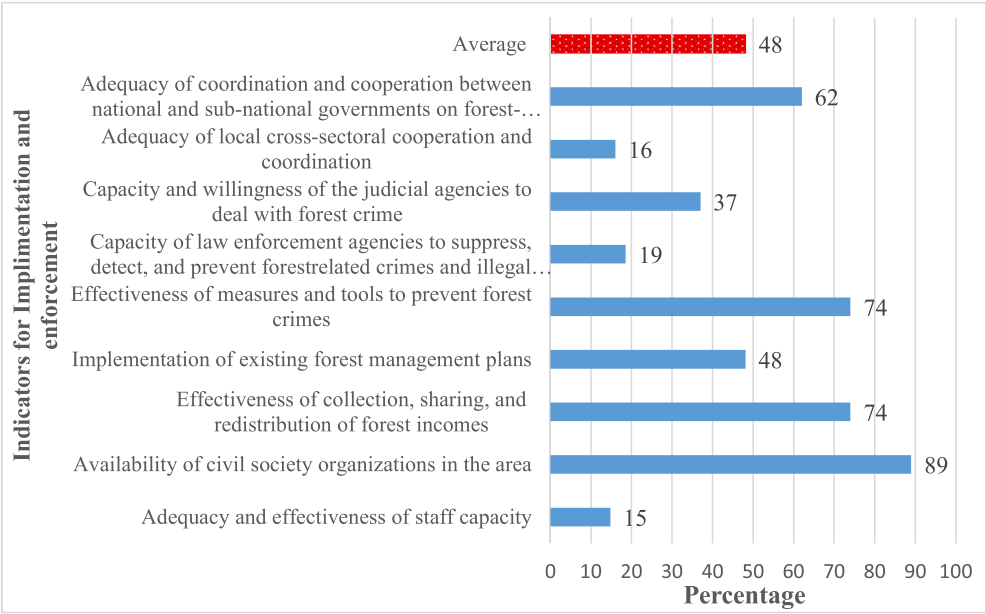


Fig. 6. Performance score of forest management implementation and enforcement.

However, there were exceptions to this general picture, e.g., the presence of the OFWE in the villages assisted the local community because it was the institution that transferred the forest concessions to the local community. One of the CBO committee members stated:

> *It is difficult for us to identify which expert comes from which office. They do not have a common plan or a common time to visit us. The OFWE is the only government agency that works closely with us. We developed our forest management plan with support from OFWE. (KI-13)*

The main challenges raised by experts from different agencies were the lack of adequate financial resources, lack of access to necessary tools and equipment, and lack of coordination between justice offices and forest agencies. This meant that the justice offices prioritized the collection of fines rather than the pursuit of long-term forest sustainability. An expert from the Agricultural Office expressed the following:

> *There is no coordination between government offices working on forests. We sometimes report the work conducted by another office, and other offices may report our work as their work, as it is within the same forest. When a local community faces different challenges regarding forest crime, it must visit different offices, but they may return without a solution because the forest sector actors have overlapping roles and responsibilities;* i.e.*, the OFWE focuses more on plantations, the EPA focuses more on REDD+ money, and the agricultural office focuses more on areas outside of the OFWE concession. If we all came together and planned together, I hope that we could radically change forest governance. (KI-31)*

The other challenges repeatedly expressed by respondents and law enforcement bodies were lack of adequate technical capacity to carry out field inspections and collect field pieces of evidence, and lack of staff expertise in legal and policy frameworks at least at one of the forest agencies, such as the OFWE or EPA. An officer from the Dodola court office stated:

> *The issue of forests, especially natural forests, has not received sufficient attention. Mostly, we receive poor evidence from the prosecutor, and the court gives a decision based on the evidence on hand, and the court releases those people free of charge. Only the local community knows the reality on the ground. This gap occurs because of the field inspection and evidence-gathering procedures conducted by the CBO committee and experts from the OFWE. They might lack the technical skills to collect legal evidence. (KI-53)*

The issue of implementation and enforcement is not an exclusive domain for a single actor but requires coordination from different sectors, including criminal law enforcement bodies such as police and court offices. Grassroots-level coordination of the CBO committee and kebele/village-level administration are also very important. The issue of collaboration is the third serious challenge explained by key informants. This poor coordination starts at the grassroots level, where village leaders and CBO leaders lack the commitment to work together. When going to the district level, collaboration is poor even between sector governmental offices with some stake in the forest. The Farm Africa/SOS Sahel is a nongovernmental organization that has worked in Adaba-Dodola on the PFM for many years. An expert from this NGO stated:

> *As an organization working in this area for a long period, the most challenging problem during implementation and enforcement is the lack of coordination between stakeholders working on the forest. There was no coordination at the village level and no coordination at the district level. The commitment of all sectors and justice offices to enforcing laws to protect this forest is insignificant. (KI-39)*

4. Discussion

Studies have been conducted on the assessment of forest government performance in various countries at larger scales (PROFOR, 2016; Mollick et al., 2018; RECOFTC, 2018; Gritten et al., 2019; Maraseni et al., 2019). This study differ because it focuses on local-level forest governance performance assessment by focusing on community forest management. The reason we matter about the local scale is that all policies and programs designed at the higher level are applied on the ground at the local level (Cashore et al., 2010; Secco et al., 2014), and the consequences of the implementation of the project on the local community can be easily explored at the local level (Bartholdson et al., 2019). A study by Tiki et al. (2024) in Adaba-Dodola indicated that community forest management resulted in better performance in improving forest conditions, and they suggested that the PFM forest governance issue needs to be studied.

The overall forest governance of the study area is at a medium level of performance. Of the three pillars of forest governance

implementation, enforcement and compliance have the lowest performance, while the highest is in the forest legal and policy framework. This indicates that policies, laws, directives and strategies are in place to support local forest governance, but the implementation and enforcement of forest management practices and procedures are inadequate. The policies and regulations appear to be powerful on paper but not operationalized on the ground because of weak enforcement power and commitment. This means that implementation, enforcement and compliance need due attention in the Adaba-Dodola PFM program. If the legal and policy framework is braver on paper and weak on the ground, forest conditions, local livelihoods, social interactions and cooperation will be affected, which will influence the effective implementation of REDD+. Gritten et al. (2019) also found that implementation and enforcement were the weakest pillars of forest governance in the greater Mekong subregion.

Legal and policy measures can enable sustainable forest governance by creating helpful measures and tools. However, it has been argued that strong policy and legal coherence and intersectoral coordination are crucial for an effective governance system (Troell and Banda (2016). But, less attention has been given to the capacity development and coordination of stakeholders and ensuring accountability to realize better implementation and enforcement at the local level. Our results indicated that the legal and policy framework of forest governance is in place and, to a certain degree, is inclusive and consistent, addresses enforcement mechanisms, recognizes the livelihood support of the local community, recognizes community customary rights, addresses taxation and other economic advantages for PFM and cross-sectoral coordination. Similarly, Ayana (2020) found that Ethiopia is in a good state of developing forest policies and legal instruments. The main problem with these legal and policy frameworks was, however, the low level of implementing them on the ground and enforcing them, which made the policies and laws to appear powerful on paper but weak on the ground. This weak enforcement of the existing legal framework in community forest management in Ethiopia has been argued by different studies (Gobeze et al., 2009; Tadesse, 2016; Birhan et al., 2022). They identified weak enforcement of laws as one of the main challenges of community forest management practices in southwestern and southeastern Ethiopia. Our study also revealed that the coordination and cooperation between agencies working on forest resource management are not effective practices, as indicated in the policy and legal framework. Studies conducted on forest governance in other parts of the world have also shown that cross-sectoral interactions in terms of policies and regulations do not occur on the ground during implementation (Fasona et al., 2019; Sari et al., 2019). A study conducted in South Africa also indicated that there is a mismatch between what is presented on legal and policy frameworks and what is practiced on the ground (Holmes-Watts and Watt, 2008). This implies that policies and legal frameworks are laws merely on paper rather than serving as tools to reduce deforestation and forest degradation, improve the community's livelihood and solve the climate crisis. Thus, REDD+ implementation protocols cannot be ensured if laws and regulations have no power to influence onground forest related crimes. In the absence of an effectively implemented strong legal and policy framework, it is difficult to ensure the rights of indigenous and local communities, which are under the safeguard information system of the REDD+ strategy.

The planning and decision-making processes in the forest governance pillar were struggling with the issues of lack of transparency and accountability, lack of strong and independent community organization, less attention given to the disadvantaged group and dominance of politically or economically or socially privileged people in decision making and political interference. Bartholdson et al. (2019) also found that less attention is given to the poor and disadvantaged groups of the community who are highly dependent on forest products and whose interests are overshadowed by elite and economically privileged people. The poor transparency and accountability noted in the study area were strongly associated with the poor flow of information among concerned actors, lack of negotiation and lack of accountability of stakeholders for their actions. Birhan et al. (2022) also found that weak accountability and poor transparency were among the challenges of PFM in the Bale Eco-region, southeastern Ethiopia. Mollick et al. (2018) stated that such a lack of accountability and transparency undermines the overall forest governance system because it reduces the level of understanding of the rights and obligations of all participants (Basu and Basu, 2023). If there is no transparency or accountability, there will be little motivation by the local community to manage the forest (Stojanovska et al., 2014). For example, the former WAJIB members were demotivated by the procedures followed to repeal their former forest user group without considering their interests or compensating for their efforts to protect the forest for many years. Again, a lack of accountability at all levels of forest actors provides an opportunity for land grabbers and elite capture, while the focus of law enforcement targets poor people, such as Ahmed, who is easy to accuse. If there is no transparency in making information clear to the public, officials can act without accountability (Troell and Banda, 2016), and justice becomes undermined. When everybody becomes accountable for their actions, the local community can speak about their right to influence decisions (Veen et al., 2022), and then laws will be equally applied to everybody, and justice will be ensured.

However, participation of the local community in planning and decision-making was perceived as excellent, but the informants complained about inadequate participation which was reported to be consultative rather than included in decision-making power. For example, their participation in planning and decision-making during the development of forest management plans and local bylaws was appreciated, which is why they had a valid forest management plan and their bylaws. This ensures that all forest management participants have a voice in the decision-making process at the village level, but the main point is that participation is a kind of consultative rather than a consensus when it reaches a higher level. Participation is crucial for forest development to promote sustainability and secure the benefits of the local community, but participation should be consensus-based rather than consultative for effective forest governance. A study conducted in the Bale Eco-region in southeastern Ethiopia also indicated that although decision-making in PFMs is inclusive, government sectors have more power in decision-making (Birhan et al., 2022). Additionally, the focus group discussion participants in this study claim top-down control of decision-making on issues concerning the special interests of regional and national governments. For example, top-down decisions were made when the former WAJIB repealed. Another problem raised during our study was that the elites who are socially, economically and politically advantaged have the power to control the decision-making process. Studies conducted in Tanzania and Ethiopia also indicated that vulnerable community groups are dominated by small elites in decision-making (Magessa et al., 2020; Yami and Mekuria, 2022), and a study from Nepal showed that the issue of the marginalized group has not been adequately addressed (Cadman et al., 2023). However, for PFMs to be effective in planning and decision-making processes, they should accommodate the interests of vulnerable groups (Liu et al., 2018). If local forest dependents are not invited to participate in decision making, there is no doubt that it will affect the practices of planning, implementation, law enforcement and compliance in forest governance (Myers et al., 2018). For example, if the interest of disadvantaged people such as Ahmad, who have no choice other than forest products, is not considered in decision-making, there will be a gap between what is planned and the situation of their livelihood. FDAP (2023) also stated that local and forest-dependent communities have the right to access energy, land to settle, and natural resources, and food should be recognized as much as we recognize forest protection.

The capacity and coordination of stakeholders working on forest management have made great contributions to mobilizing more resources to ensure good forest governance. A lack of financial, technical and human resource capacity in the study area hinders effective planning and decision-making processes and affects the implementation and

law enforcement of forest governance. Village-level CBO leaders in the Adaba-Dodola PFM lack the financial and technical capacity to ensure law enforcement and monitor forest areas. A study conducted on PFM in Tanzania also indicated that villagers' lack of technical and financial capacity hindered the effectiveness of community forest management (Magessa et al., 2020). The technical capacity problem was not limited to villagers; infringement investigators from forest sectors were also technically poor at collecting evidence and presenting it to a court. A study conducted in Indonesia also indicated that infraction investigators have limited technical and knowledge capacity to gather pieces of evidence and perform follow-up until they make a court decision (WB, 2006). Lockwood et al. (2010) argued that implementation success is influenced by technical, financial and material capacity; the availability of awareness creation and training programs; and intersectoral coordination. In this study, a lack of human, technical and financial capacity was among the main challenges of government agencies working on forests and judicial bodies that hindered them from implementing and enforcing laws. A study conducted in Nepal by Cadman et al. (2023) indicated that a lack of sufficient financial, human resources and technical capacity has hindered forest management activities. The lack of resources for effective enforcement, insufficient technical capacity for inspection and enforcement, complex requirements at court, and poor judiciary and prosecutor awareness of forest issues were all mentioned as reasons for poor enforcement and compliance (Troell and Banda, 2016; Birhan et al., 2022). Therefore, developing the capacity and coordination of the local community and other stakeholders seems to be crucial for improving forest governance in the study area, and this might also create mutual values and norms in the community (Weber, 2018; Molick et al., 2018).

5. Implication for REDD+

The effective implementation of the REDD+ program requires strong political commitment, few drivers of deforestation and forest degradation, strong multilevel forest governance, and strong technical and administrative capacity (Korhonen-Kurki et al., 2014; Beyene et al., 2015). Therefore, providing insights into the overall strengths and gaps of local forest governance could provide an opportunity for practitioners, policy makers and decision makers to enhance the effective implementation of REDD+ in Ethiopia, particularly in Adaba-Dodola. REDD+ has four elements under the Warsaw framework, of which the first is the national REDD+ strategy or action plan. This element requires policies and measures to ensure the effective implementation of REDD+ program activities. The other element is the national forest monitoring system, which needs to provide a baseline for the effectiveness of policies and measures and addresses the implementation and enforcement pillar of forest governance.

In addition, the REDD+ safeguard system aims to ensure issues such as social participation, the rights of local communities, the permanence of achieved results and the preservation of the natural ecosystem. The safeguard system also promotes transparency and effectiveness of the governance system, respect for the rights of local communities, full and effective participation of key stakeholders, and enhanced social and environmental benefits (CfRN 2023). Based on these safeguard systems, the assessment of the performance of forest governance in the Adaba-Dodola PFM indicated that improving transparency provided special consideration for the rights and interests of vulnerable groups in the community. Improving the local livelihood and working for the local community's interest are the issues that need interventions to ensure REDD+ safeguard standards. The better legal and policy framework of the current governance system in the study area provides an opportunity to effectively implement the REDD+ program in the Adaba-Dodola PFM. However, several reform efforts need to be undertaken in the areas of planning and decision-making and the implementation and enforcement of policies and measures for the success of REDD+ implementation. For example, if the poor and forest-dependent community is excluded from the benefits obtained and the elites capture the majority of the benefits, the sustainability of the REDD+ project will be threatened by the excluded group.

The REDD+ implementers can use the findings about the success factors of PFM for the success of the REDD+ project and learn from the weaknesses of PFM to improve the implementation mechanisms. This study highlights the desired attributes for the long-term success of REDD+ and identifies the existing local experiences of PFMs. However, REDD+ alone might threaten the success of PFM by recentralizing forest governance through central government control of incentives and disrupting local forest governance (Aryal et al., 2024). Therefore, ensuring the compatibility of community-based forest management and REDD+ initiatives requires careful implementation for successful forest governance.

6. Conclusion and recommendations

The overall performance of forest governance in the Adaba-Dodola PFM was medium. The legal and policy materials scored better, while the issues of effective planning and decision-making and implementation and enforcement scored lower. The main problems associated with lower performance in planning, decision-making, implementation and law enforcement were lower transparency and accountability in planning and decision-making; political interference; lack of strong and independent community organization; inadequate and ineffective staff capacity; poor intersectoral cooperation and coordination; and lower capacity and willingness of judicial agencies to deal with forest crime. Therefore, the current forest governance system in the Adaba-Dodola PFM needs to be improved in areas of on-ground implementation and enforcement of laws for effective REDD+ implementation and to ensure climate change mitigation and livelihood improvements.

Based on the results of our study, we recommend the following:

- Government agencies interested in forest management and other stakeholders should cooperate and coordinate effective and efficient forest governance
- Local-level PFM leaders need to be empowered in terms of legitimacy and financial capacity to enforce forest laws.
- It would make law enforcement smoother if one of the three government sectors, OFWE, the EPA or the Office of Agriculture, had a legal department, which would be accountable to the head of the office and the head of the court.
- The judicial system should be effective enough to address the issues of corruption, lower technical capacity of persecutors and evidence collectors, lower commitment of the staff, and lengthy court processes.
- Finally, we recommend assessing forest governance by considering other indicators not included in this study, and it is important to focus on a selective component of forest governance to critically analyze issues and ideas rather than overall governance.

Ethical statements and consent to participate

Written permission to conduct the research was obtained from the Sokoine University of Agriculture (SUA) Office of the Vice-Chancellor research committee (Ref. no. SUA/FSC/D/2020/0015/11, dated 26th January 2022). The permission for data collection was obtained from Oromia Forest and Wildlife Enterprise (OFWE) (Ref No: DHBBBO/B4–36/1733, dated March 19, 2022). Participants were not asked to share their names to maintain anonymity. Any participant had the freedom not to proceed after reading the consent statement at the start of the questionnaire.

CRediT authorship contribution statement

Lemma Tiki: Writing – original draft, Validation, Methodology,

Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Kristina Marquardt:** Writing – review & editing, Validation, Supervision, Project administration, Methodology, Formal analysis, Conceptualization. **Jumanne M. Abdallah:** Writing – review & editing, Validation, Supervision, Project administration, Methodology, Formal analysis, Conceptualization.

Declaration of competing interest

The authors have declared no conflict of interest.

Acknowledgments

The authors express their deep gratitude to the REFOREST program for funding this work through the financial support of the Swedish International Development Cooperation Agency (Sida) under grant number 13394. We also appreciate all the institutions involved in this research, Sokoine University of Agriculture, Hawassa University, and Swedish Agricultural University, for their great effort during all phases of this research. Our sincere thanks go to Mr. Omer Mama, the entire data collection team, and the Oromia Forest and Wildlife enterprise for their generous support.

Data availability

The data used for this study are available from the corresponding author upon request.

References

Ameha, A., Larsen, H.O., Lemenih, M., 2014. Participatory forest management in Ethiopia: learning from pilot projects. Environ. Manage 53 (4), 838–854. https://doi.org/10.1007/s00267-014-0243-9.

Ameha, A., Meilby, H., Feyisa, G.L., 2016. Impacts of participatory forest management on species composition and forest structure in Ethiopia. Int. J. Biodivers. Sci. Ecosyst. Serv. Manage 12 (1–2), 139–153. https://doi.org/10.1080/21513732.2015.1112305.

Artelle, K.A., Zurba, M., Bhattacharyya, J., Chan, D.E., Brown, K., Housty, J., Moola, F., 2019. Supporting resurgent Indigenous-led governance: a nascent mechanism for just and effective conservation. Biol. Conserv. 240. https://doi.org/10.1016/j.biocon.2019.108284.

Aryal, K., Maraseni, T., Subedi, B.P., Laudari, H.K., Ghimire, P.L., Khanal, S.C., Zhang, H., Timilsina, R., 2024. REDD+ at risk: Emerging ten questions that REDD+ must answer. Environ. Sci. Policy. 156, 103744. https://doi.org/10.1016/j.envsci.2024.103744.

Ayana, A.N., 2020. Impacts of policy and legal framework on sustainable forest governance in Ethiopia. J. Econ. Sustainable Dev. 11 (5). https://doi.org/10.7176/JESD/11-5-03.

Ayana, A.N., Vandenabeele, N., Arts, B., 2015. Performance of participatory forest management in Ethiopia: institutional arrangement versus local practices. Critical Policy Studies 15 (1), 1–20. https://doi.org/10.1080/19460171.2015.1024703.

Bartholdson, O., Abdallah, J.M., Marquardt, K., Salomonsson, L., 2019. Is REDD+ more of an institutional air than a market process? The concealed social and cultural consequences of an ongoing REDD+ project in Kolo Hills, Tanzania. Forests. 10 (68), 1–18. https://doi.org/10.3390/f10080618.

Basu, A., Basu, J.P., 2023. Impact of forest governance and enforcement on deforestation and forest degradation at the district level: a study in West Bengal State, India. Regional Sustainability 4 (4). https://doi.org/10.1016/j.regsus.2023.11.002.

Bennett, N.J., Di Franco, A., Calò, A., Nethery, E., Niccolini, F., Milazzo, M., Guidetti, P., 2019. Local support for conservation is associated with perceptions of good governance, social impacts, and ecological effectiveness. Conserv. Lett. 12 (4). https://doi.org/10.1111/conl.12640.

Beyene, A.D., Bluffstone, R.A., Mekonnen, A., 2015. Community forests, carbon sequestration and REDD+: evidence from Ethiopia. Environ. Dev. Econ. 21, 249–272. https://doi.org/10.1017/S1355770×15000297.

Birhan, E., Assefa, E., Petrova, M.A., 2022. Determinants of good forest governance in Southeastern Ethiopia: the case of the bale eco-region. GeoJournal. 87, 3027–3042. https://doi.org/10.1007/s10708-021-10415-4.

Blomley, T., Iddi, S., 2009. Participatory forest management in Tanzania: 1993 – 2009. Lessons Learned and Experiences to Date, p. 70.

Cadman, T., Maraseni, T., Koju, U.A., Shrestha, A., Karki, S., 2023. Forest governance in Nepal concerning sustainable community forest management and Red Panda Conservation. Land. (Basel) 12, 493. https://doi.org/10.3390/land12020493.

CDP (Carbon Disclosure Project), 2023. The forest transition: from risk to resilience: global forests report. https://www.cdp.net/en/research/global-reports/global-forests-report-2023.

CfRN, 2023. REDD+ Under the UNFCCC - primer report, coalition for rainforest nation. https://www.rainforestcoalition.org/content/uploads/2024/01/CfRN_REPORT_ReddplusUnderUNFCCC.

Cashore, B., Galloway, G., Cubbage, F., Humphreys, D., Katila, P., Levin, K., Maryudi, A., McDermott, C., McGinley, K., 2010. Ability of institutions to address new challenges. In: Mery, G., Katila, P., Galloway, G., Alfaro, R.I., Kanninen, M., Lobovikov, M., Varjo, J. (Eds.), Forests and Society, Responding to Global Drivers of Change. International Union of Forest Research Organizations, World Series 25, pp. 441–485.

Dang, T.K.P., Van Der Zouwen, M., Arts, B., 2019. Challenges of forest governance: the case of forest rehabilitation in Vietnam. Public Organiz Rev. 19, 425–452. https://doi.org/10.1007/s11115-018-0414-x.

Duguma, L.A., Atela, J., Ayana, A.N., Alemagi, D., Mpanda, M., Nyago, M., Minang, P.A., Nzyoka, J.M., Foundjem-Tita, D., Ntamag-Ndjebet, C.N., 2018. Community forestry frameworks in sub-Saharan Africa and the impact on sustainable development. Ecol. Soc. 23 (4).

EFI (European Forest Institute), 2023. Forest governance indicators: an assessment tool for capturing evidence in areas of governance applicable to the forest sector and forest-related policy processes.

Duker, A.E.C., Tadesse, T.M., Soentoro, T., Fraiture, C.De., 2019. The implications of ignoring smallholder agriculture in climate-financed forestry projects : empirical evidence from two REDD + pilot projects. Climate Policy 19 (1), S36–S46.

FAO, 2020. Global Forest Resources Assessment 2020: Main Report. FAO, Rome. [Italy].

FAO and PROFOR, 2011. Assessing and monitoring forest governance: a user's guide to a diagnostic tool. Washington, DC, and Rome. http://www.profor.info/profor/knowledge/defining-forest-governance-indicators.

FAO/PROFOR, 2014. Assessing Forest governance: A Practical Guide to Data Collection, Analysis, and Use. PROFOR and FAO, Washington DC.

Fasona, M., Adeonipekun, P.A., Agboola, O., Akintuyi, A., Bello, A., Ogundipe, O., Omojola, A., 2019. Incentives for collaborative governance of natural resources: a case study of forest management in southwest Nigeria. Environ. Dev. 30, 76–88. https://doi.org/10.1016/j.envdev.2019.04.001.

FDAP (Forest Declaration Assessment Partners), 2023. Off-track and Falling behind: Tracking progress On 2030 Forest Goals. Climate Focus (coordinator and editor), p. 154. Accessible at. www.forestdeclaration.org. pp.

Gobeze, T., Bekele, M., Lemenih, M., Kassa, H., 2009. Participatory forest management and its impacts on livelihoods and forest status: the case of Bonga Forest in Ethiopia. Int. Forestry Rev. 11 (3), 346–358. https://doi.org/10.1505/ifor.11.3.346.

Gritten, D., Lewis, S.R., Breukink, G., Mo, K., Thuy, D.T.T., Delattre, E., 2019. Assessing forest governance in the countries of the greater Mekong Subregion. Forests. 10 (1), 47. https://doi.org/10.3390/f10010047.

GFI, 2009. Assessing Forest Governance: The Governance of Forest Initiative Indicator Framework. http://www.wri.org/. Accessed on 15th October 2024.

Gyawali, A., Subedi, M., 2011. Assessing the governance: participation and transparency perspective. Prathat J. 16. https://www.researchgate.net/publication/265000561.

Harris, N.L., Gibbs, D.A., Baccini, A., Birdsey, R.A., de Bruin, S., Farina, M., Fatoyinbo, L., Hansen, M.C., Herold, M., Houghton, R.A., Potapov, P.V., Suarez, D.R., Roman-Cuesta, R.M., Saatchi, S.S., Slay, C.M., Turubanova, S.A., Tyukavina, A., 2021. Global maps of twenty-first century forest carbon fluxes. Nature Clim. Change. https://doi.org/10.1038/s41558-020-00976-6.

Holmes-Watts, T., Watts, S., 2008. Legal frameworks for and the practice of participatory natural resources management in South Africa. For. Policy. Econ. 10, 435–443. https://doi.org/10.1016/j.forpol.2008.02.005.

IISD (International Institute for Sustainable Development), 2022. The roots of forest loss and forest governance: still only one earth: lessons from 50 years of UN sustainable development policy. Policy Brief 38. #.

Kahsay, G.A., Bulte, E., 2021. Internal versus top-down monitoring in community resource management: experimental evidence from Ethiopia. J. Econ. Behav. Organ. 189, 111–131. https://doi.org/10.1016/j.jebo.2021.06.030.

Kahsay, G.A., Bulte, E., Alpizar, F., Hansen, L.G., Medhin, H., 2023. Leadership accountability in community-based forest management: experimental evidence in support of governmental oversight. Ecol. Soc. 28 (4), 20. https://doi.org/10.5751/ES-14469-280420.

Kairu, A., Upton, C., Huxham, M., Kotut, K., Mbeche, R., Kairo, J., 2018. From shiny shoes to muddy reality: Understanding how meso-state actors negotiate the implementation gap in participatory forest management. Soc. Nat. Resour. 31 (1), 74–88. https://doi.org/10.1080/08941920.2017.1382628.

Kedir, H., Negash, M., Yimer, F., Limenih, M., 2017. Contribution of participatory forest management toward conservation and rehabilitation of dry Afromontane forests and its implications for carbon management in the tropical Southeastern Highlands of Ethiopia. J. Sustainable Forestry. https://doi.org/10.1080/10549811.2017.1414614.

Kisingo, A., Rollins, R., Murray, G., Dearden, P., Clarke, M., 2016. Evaluating 'good governance': the development of a quantitative tool in the Greater Serengeti Ecosystem. J. Environ. Manage 181, 749–755. https://doi.org/10.1016/j.jenvman.2016.08.002.

Korhonen-Kurki, K., Sehring, J., Brockhaus, M., DiGregorio, M., 2014. Enabling factor for establishing REDD+ in a context of weak governance. Clim. Policy 14, 167–186. https://doi.org/10.1080/14693062.2014.852022.

Larson, A.M., Petkova, E., 2011. An introduction to forest governance, people and REDD + in Latin America: obstacles and opportunities. Forests. 2 (1), 86–111. https://doi.org/10.3390/f2010086.

Liu, Z., Rommel, J., Feng, S., 2018. Does it pay to participate in decision-making? Survey evidence on land comanagement in Jiangsu Province, China. Ecol. Econ. 143, 199–209. https://doi.org/10.1016/j.ecolecon.2017.07.023.

Lockwood, M., Davidson, J., Curtis, A., Stratford, E., Griffith, R., 2010. Governance principles for natural resource management. Soc. Nat. Resour. 23 (10), 986–1001. https://doi.org/10.1080/08941920802178214.

Magessa, K., Wynne-Jones, S., Hockley, N., 2020. Does Tanzanian participatory forest management policy achieve its governance objectives? Forest Policy Econ. 111, 102077. https://doi.org/10.1016/j.forpol.2019.102077.

Mann, C., Loft, L., Hernández-Morcillo, M., 2021. Assessing forest governance innovations in Europe: needs, challenges, and ways forward for sustainable forest ecosystem service provision. Ecosyst. Serv. 52, 101384. https://doi.org/10.1016/j.ecoser.2021.101384.

Maraseni, T.N., Bhattarai, N., Karky, B.S., Cadman, T., Timalsina, N., Bhandari, T.S., Apan, A., Ma, H.O., Rawat, R.S., Verma, N., San, S.M., Oo, T.N., Dorji, K., Dhungana, S., Poudel, M., 2019. An assessment of governance quality for community-based forest management systems in Asia: prioritization of governance indicators at various scales. Land Use Policy. 81, 750–761. https://doi.org/10.1016/j.landusepol.2018.11.044.

Mbeyale, G.E., Dugilo, N.M., Lusambo, L.P., 2021. Impacts of community-based forest management on governance in selela village forest reserve, Monduli District, Tanzania. *Tanzania J. Forestry Nature Conserv. 90 (3)* Special Issue*: Embracing Sci. Technol. Nature Conserv.* 117–129.

Mollick, A.S., Md Khalilur, R., Md Nabiul, I.K., Md Nazmus, S., 2018. Evaluation of good governance in a participatory forestry program: a case study in Madhupur Sal Forests of Bangladesh. For. Policy. Econ. 95, 123–137. https://doi.org/10.1016/j.forpol.2018.07.014.

Myers, R., Larson, A.M., Ravikumar, A., Kowler, L.F., Yang, A., 2018. Messiness of forest governance: how technical approaches suppress politics in REDD+ and conservation projects. Global Environ. Change 50, 314–324. https://doi.org/10.1016/j.gloenvcha.2018.02.015.

OBARD and GIZ (Oromia Bureau of Agriculture & Rural Development and Deutsche Gesellschaft für Technische Zusammenarbeit), 2005. Guidelines For Implementation of the WAJIB Approach in Ethiopia: Based on Experiences of the Integrated Forest Management Project Adaba-Dodola, 2nd Ed. IFMP, Oromia region, Ethiopia, p. 31.

OFWE (Oromia Forest and Wildlife Enterprise), 2023. Participatory forest management 2022 Annual report of Adaba-Dodola district, Dodola, Ethiopia.

PROFOR (The Program on Forests), 2012. Assessing and Monitoring Forest Governance: A user's Guide to a Diagnostic Tool. Program on Forests (PROFOR), Washington DC. ISBN: 978-0-9855195-2-0.

PROFOR (The Program on Forests), 2016. Assessing forest governance in mozambique identifying key challenges and interventions to strengthen governance.

RECOFTC, 2018. Assessing forest governance in thailand, identifying key challenges and interventions to strengthen governance. Policy Brief.

Sari, D.A., Sayer, J., Margules, C., Boedhihartono, A.K., 2019. Determining the effectiveness of forest landscape governance: a case study from the Sendang landscape, south Sumatra. For. Policy. Econ. 102, 17–28. https://doi.org/10.1016/j.forpol.019.01.014.

Secco, L., Da Re, R., Pettenella, D.M., Gatto, P., 2014. Why and how to measure forest governance at local level: a set of indicators. For. Policy. Econ. 49, 57–71. https://doi.org/10.1016/j.forpol.2013.07.006.

Springer, J., Campese, J., Nakangu, B., 2021. The Natural Resource Governance Framework – Improving governance For Equitable and Effective Conservation. IUCN, Gland, Switzerland. https://doi.org/10.2305/IUCN.CH.2021.16.en.

Stojanovska, M., Miovska, M., Jovanovaka, J., Stojanovski, V., 2014. The process of forest management plans preparation in the Republic of Macedonia: does it compromise governance principles of participation, transparency, and accountability? For. Policy Econ. 49, 51–56. https://doi.org/10.1016/j.forpol.2013.10.003.

Subroto, S., 2017. Department of Urban and Rural Development Master's Thesis. Swedish University of Agricultural Sciences.

Tadesse, S., Woldetsadik, M., Senbeta, F., 2020. Challenges to the sustainability of participatory forest management program: the case of Gebradima forest, Southwestern Ethiopia. J. Sci. Sustainable Dev. 8 (1), 14–25. https://doi.org/10.20372/au.jssd.8.1.2020.0139.

Tadesse, T.M., 2016. Master's thesis. WorldCat.org. UNESCO-IHE, Delft.

Thapal, S., Prasai, R., Pahadi, R., 2020. Does gender-based leadership affect good governance in community forest management? A case study from Bhaktapur district. Banko Janakari. 30 (2), 59–70. https://doi.org/10.3126/banko.v30i2.33479.

Tiki, L., Tolera, M., Abdallah, J.M., Marquardt, K., 2024. Comparative assessment of woody species diversity, structure and carbon stock of PFM and Non-PFM forests and its implication for REDD+ in Ethiopia. Trees For. People 16 (6), 100560.

Troell, J., Banda, G., 2016. Policy, Legal and Institutional Frameworks For REDD+ in Malawi Ministry of Natural Resources, Energy and Mining Department of Forestry. Department of Forestry, Malawi.

UNDP, 2015. A users' guide to measuring local governance. United Nations Development Programme. UNDP Oslo Governance Centre, p. 160. https://www.undp.org/publications/users-guide-measuring-local-governance-0.

Veen, H.V., Vyamana, V.G., Santos, M.J., 2022. Forest governance and development effects on tropical charcoal production and deforestation. Environ. Res. Lett. 17 (2). https://doi.org/10.1088/1748-9326/ac462d.

WB (World Bank), 2006. Strengthening Forest Law Enforcement and Governance Addressing a Systemic Constraint to Sustainable Development. Environment and Agriculture and Rural Development Departments, Sustainable Development Network, Washington, DC 20433 USA, p. 93.

Weber, N., 2018. Participation or involvement? Development of forest strategies on the national and sub-national level in Germany. For. Policy Econ. 89 (c), 98–106. https://doi.org/10.1016/j.forpol.2017.04.002.

Woldie, Z., Abtew, A.A., Worku, A., Tadesse, H., 2023. Contribution of participatory forest management to livelihood improvement in Metema district, northwestern Ethiopia. Environ. Dev. Sustain. (2023). https://doi.org/10.1007/s10668-023-04276-9.

WRI (World Resource Institute), 2017. Why does forest governance matter? Retrieved from. http://www.wri.org/project/governance-of-forests-initiative.

WRI, 2016. INSIDER: why is good forest governance crucial for successful REDD+ programs? https://www.wri.org/technical-perspectives/insider-why-good-forest-governance-crucial-successful-redd-programs.

WRI, 2013. Assessing Forest Governance: The Governance of Forests Initiative Indicator Framework. World Resources Institute (WRI).

WB – ARD, 2009. Roots for good forest outcomes: an analytical framework for governance reforms. Report no. 49572-GLB. The World Bank, Agriculture and Rural Development Department. Washington, DC. Available at: http://www.worldbank.org/rural/. Accessed October 2024.

Yami, M., Mekuria, W., 2022. Challenges in the governance of community-managed forests in ethiopia: review. Sustainability. 14 (3), 1478. https://doi.org/10.3390/su14031478.