

Institutional Dynamics in Participatory Management of Village Land Forest Reserves: Evidence from Angai Forest, Tanzania

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Abstract

Participatory Forest Management (PFM) is a central strategy for governing decentralised forests in Tanzania, although its effectiveness depends on complex institutional dynamics that influence governance outcomes. This paper uses a political economy perspective on natural resource governance (PENRG) to analyse institutional dynamics that influence the effectiveness of PFM in the Angai Villages Land Forest Reserve (AVLFR) in Tanzania. The paper draws from a qualitative case study design utilising evidence from 12 Focus Group Discussions (FGDs), 7 semi-structured interviews, and a documentary review. The findings reveal that while PFM in AVLFR has made some progress in enhancing local ownership and community participation, its economic benefits have not been fully realised due to limited capacity among local communities, elite capture, and reliance on external actors. Therefore, the article recommends strengthening local governance structures, increasing community awareness of their rights, and redesigning community engagement strategies to achieve more equitable and sustainable forest management outcomes.

Keywords: Participatory Forest Management, Village Land Forest Reserves, Angai Forest, Tanzania

1. Introduction

Approaches to forest resource management have varied across time and space, ranging from centralised to decentralised systems. The search for an effective scheme of forest resource management continues, perhaps due to an increasing appreciation of the contribution of forest resources to poverty reduction. This is so despite the challenges of management mechanisms and the distribution of related benefits. Literature records various participatory mechanisms used in the management of forest resources that gained popularity during the 1980s and 1990s (Campbell, 2005). Such arrangements include Joint Forest Management (JFM), Community-Based Forest Management (CBFM), and Village Forest Management (VFM), to name a few. In JFM, local communities share responsibilities and benefits of forest management with the government (central or local). The CBFM grants local communities' full ownership and

management rights over forest resources within their respective village lands. The VFM allows the village government to declare and exercise ownership and management rights over a forest reserve within its boundaries. These approaches incorporate collaborative or participatory mechanisms as a central strategy in the country's forest policy, laws, and programmes (Matiku et al., 2013; Luswaga & Nuppenau, 2020).

The notion of community participation justifies the diverse kinds of people-centred or participatory management strategies of forest resources. Nonetheless, numerous studies have observed undue state control that tends to compromise the good intent of increasing the economic efficiency of forest resource management (Haji, *et al.*, 2017; Kipruto & Watanabe, 2016; Gurmessa, 2015; Gobeze et al., 2010). The actual role of the local population falls short of the desired and optimal level, often characterised by a limited engagement and representation (Yemiru et al., 2010). This process occurs not only in the initial but also in the later stages of forest resource management, including the development of strategies and rules for the economic control of resources (Warah, 2008). Perhaps this is why best practices in forest resource management in most developing countries call for broader community involvement, with the optimism that popular participation will be institutionalised through a standard policy strategy (Lemenih et al., 2015).

Tanzania subscribes to the conviction that PFM models are a predictive management strategy, as they enable the sharing of powers and cost benefits among state institutions, local people, and other stakeholders. PFM, as part of an overall rural development strategy, aims to improve rural livelihoods, thereby reducing poverty, while protecting the environment and promoting an equitable distribution of benefits. The National Forest Policy Implementation Strategy (2021 - 2031) considers PFM as a central pillar of Tanzania's forest law and policy, involving a range of governmental and non-governmental stakeholders nationwide (URT, 2021). Indeed, PFM denotes a national strategy towards achieving sustainable forest management by encouraging the co-management of forest and woodland resources by the communities living closest to the resources.

The adoption of PFM approaches in Tanzania dates back to the mid-1990s, when several pilot activities were initiated in northern and western Tanzania. The establishment of different forest reserve types, such as the National Forest Reserves (NFR), Local Authority Forest Reserves (LAFR), Village Land Forest Reserves (VLFR), and Community Forest Reserves (CFR), marked the moment that allowed the transfer of forest ownership and management responsibility from central to village governments (Luswaga & Nuppenau, 2020). The PFM encompassed a wide variety of forest ecosystems, representing Tanzania's diverse ecology, including mangrove, coastal, montane, and moist tropical forests, as well as miombo, acacia-savanna, and thicket woodlands. To date, PFM has engaged a range of actors, including Non-Governmental Organisations (NGOs), both local and international, and Local Government Authorities (LGAs), with support from the Central Government of Tanzania and bilateral donors. Forest management commentators considered the engagement of multiple actors a significant factor enabling Tanzania to have the most advanced community forestry jurisdictions in Africa (Luswaga & Luppenau, 2020; Campbell, 2005).

The government of Tanzania recognises the importance of forestry resources amongst the basic resources for rural transformation and the country's socio-economic development. To reinforce this, the government, through the National Forest Policy (1998) and the respective Forest Act (2002), aims to promote and facilitate the active participation of people in the planning, management, use, and conservation of forests (URT, 2002). However, the National Forest Policy (1998) had limitations that hindered improvements in forest quality and the livelihoods of local communities. While the policy promises to promote decentralisation, several

challenges constrain its effective implementation and, in turn, the effectiveness of PFM initiatives in the country. Persistent challenges include inadequate financing, limited technical capacity at the village level, elite capture, weak enforcement mechanisms, and unequal distribution of benefits from respective forests (Magessa et al., 2020a; Luswaga & Nuppenau, 2020).

Administratively, two ministries are involved in forest resource management in Tanzania. First is the Ministry of Natural Resources and Tourism (MNRT) through the Forestry and Beekeeping Division (FBD), which provides overall guidance (technical oversight and supervision) for the forestry sector. Second, is the Prime Minister's Office – Regional Administration and Local Governments (PMO-RALG), which is primarily responsible for managing decentralised forest reserves through Local Government Authorities (LGAs). The involvement of LGAs in managing forest resources offers local communities an opportunity to play a significant role (Mustalahti & Lund, 2009), thereby enhancing their participation and contributing substantially to effective forest resource management.

In practice, Tanzania employs two main approaches to implementing participatory forestry management: JFM and CBFM. While the first concentrates on the division of forest management responsibilities and returns between the forest owner and forest-adjacent communities, the latter focuses on full ownership and management responsibility for a forest area within the jurisdiction of the Village Land Act, 1999 (URT, 1999). Worth noting here is that there are three categories of land in Tanzania, i.e., (1) village land, (2) general land, and (3) reserved land (URT, 1998). The three categories suggest different implications regarding land management and utilisation, including access, ownership, and control of the land and the resources it contains. Therefore, VLFRs are a type of PFM mechanism that places village land under the control of the village government, wherein private individuals have access to, ownership of, and control over a piece of land.

The Angai Villages Land Forest Reserve (AVLFR) in Liwale District, southern Tanzania, stems from an open-access miombo woodland covering approximately 140,000 hectares. Building on the logging practices of the 1970s, and with technical support from the Finnish-funded Rural Integrated Project Support (RIPS) programme. The Liwale District Council established AVLFR in 1994 to enhance PFM. The three-decade experience of implementation has largely documented the legal frameworks, PFM policies, and conservation outcomes. Despite extensive research on PFM in Tanzania, the question of how institutional arrangements and actor relationships shape participation, distribution of benefits, and governance effectiveness within Village Lands Forest Reserves (VLFRs) has received limited attention (Sungusia et al., 2020). Indeed, this is the case in the context of multi-village land reserves such as AVLFR in Liwale District. Against this background and guided by political economy perspectives on natural resource governance, the article analyses how institutional arrangements, actor relationships, power relations, perceived benefits, and prevailing challenges influence governance outcomes within the VLFRs, such as AVLFR in Liwale District.

The overall objective of this paper was to examine the extent to which institutional dynamics shape PFM practice in AVLFR in Liwale District. Institutional dynamics refer to the design of PFM, including its functioning, actors' interactions and roles, the distribution of benefits, and prevailing challenges (Charmakar et al., 2024; Mwangi & Wardel, 2012). Specific objectives were to characterise the institutional setup, assess the level of actors' involvement, identify perceived benefits, and analyse the prevailing challenges in managing AVLFR in Liwale District. The rest of the article is organised into four main sections: theoretical framework, methodology, results and discussion, and conclusion.

2. Theoretical Framework

This study uses the Political Economy of Natural Resources Governance (PENRG) theory to examine the institutional dynamics of PFM. PENRG is an interdisciplinary theoretical framework that has evolved across various academic disciplines, including political science, sociology, economics, and environmental studies. It is rooted in the foundations of political economy propounded by Karl Marx and elaborates on the interconnections among power relations, class struggle, and control of the means of production (Ribot & Peluso, 2003). Accordingly, it posits that power asymmetry, institutional capacity, equitable benefit-sharing, and dependence on external donors shape participation outcomes, implementation effectiveness, governance legitimacy, and the long-term sustainability of PFM (Ribot, 2004). The theory further assumes that the governance of natural resources is largely determined by power relations among the actors involved (investors, the ruling elite, and local populations) rather than by institutional or legal logics that provide for formal rights. Power asymmetry in form of knowledge and technical expertise, as well as information control constitute an important resource that determines legitimacy and sharing of governance outcomes of natural resource management (Buur et al., 2019; Green & Lund, 2015). Its relevance in the context of this study lies in its focus on explaining institutional arrangements, actors, interests, and power relations regarding the access to and control of natural resources.

The natural resource governance outcomes largely depend on a variety of factors, including not only power relations and institutional arrangements but also stakeholder interests and decision-making processes. Indeed, natural resource governance outcomes depend on competing political and economic incentives (Collier, 2010), the nature of interactions among forest governance actors (Pedersen, 2017), coordination and institutional relationships (Nunan, 2018), quality of participatory institutions (Newig & Fritsch, 2009), and political incentives (Kishor, Castillo & Nguyen, 2015). Furthermore, according to Ribot (2003, 2012), the governance of natural resources, in this case, forest resources, reflects competing interests, and therefore, their governance is inherently political. Implicitly, power, interests, and politics, rather than technical neutrality, shape decisions about its management, access, and distribution. Ribot (2021) further argues that decentralised mechanisms, such as PFM, might potentially reproduce inequalities rather than genuinely empowering local actors. While the institutional setup under the VLFR is intended to mediate access to and control over forest resources at the village level, it may be vulnerable to external influence from NGOs, donors, and state agencies.

Although the PENRG provides an insightful analysis of power dynamics, institutions, and actors' interests in resource governance processes, the theoretical framework falls short of conceptual precision by over-emphasising elite control, state dominance, and structural constraints (Tole, 2010). The theory is further challenged by a pessimistic bias that downplays the likely outcomes of co-management models and neglects the cultural, identity, and symbolic dimensions of natural resources (Cleaver, 2002). Notwithstanding these criticisms, PENRG provides relevant insights into political-economy realities that are fundamentally indispensable for PFM. Indeed, the theory demonstrates potential risks of token participation and elite capture that may negatively affect VLFR governance across access, control, benefits, participation, and accountability (Persha & Andersson, 2014). In the context of this study, PENRG provides a framework for understanding the institutional dynamics in which PFM occurs and for reflecting VLFR's governance structure. Besides, institutional dynamics denote operational manifestations of power relations, institutional arrangements, actor relationships, and benefit-sharing processes (Eliola et al., 2021). Anchored in this theoretical perspective, this study investigated the institutional setup, the level of actors' engagement, the perceived distribution

of benefits, and the prevailing challenges to ensuring the sustainable management of forest resources in VLFR settings.

3. Methodology

To capture the familiarities, opinions, and experiences of community members, development workers, and district officers in the study area, the study employed qualitative research methods. This approach was appropriate as the study sought to understand issues that cannot be adequately captured quantitatively (Mayring, 2000; Daher et al., 2017). The study was conducted in Liwale District of the Lindi Region. Liwale District was purposively selected because it hosts an AVLFR. Angai Forest is one of Tanzania's largest PFM areas, comprising over 140,000 hectares (ha) of miombo woodland and other high-value tree species (Figure 1).

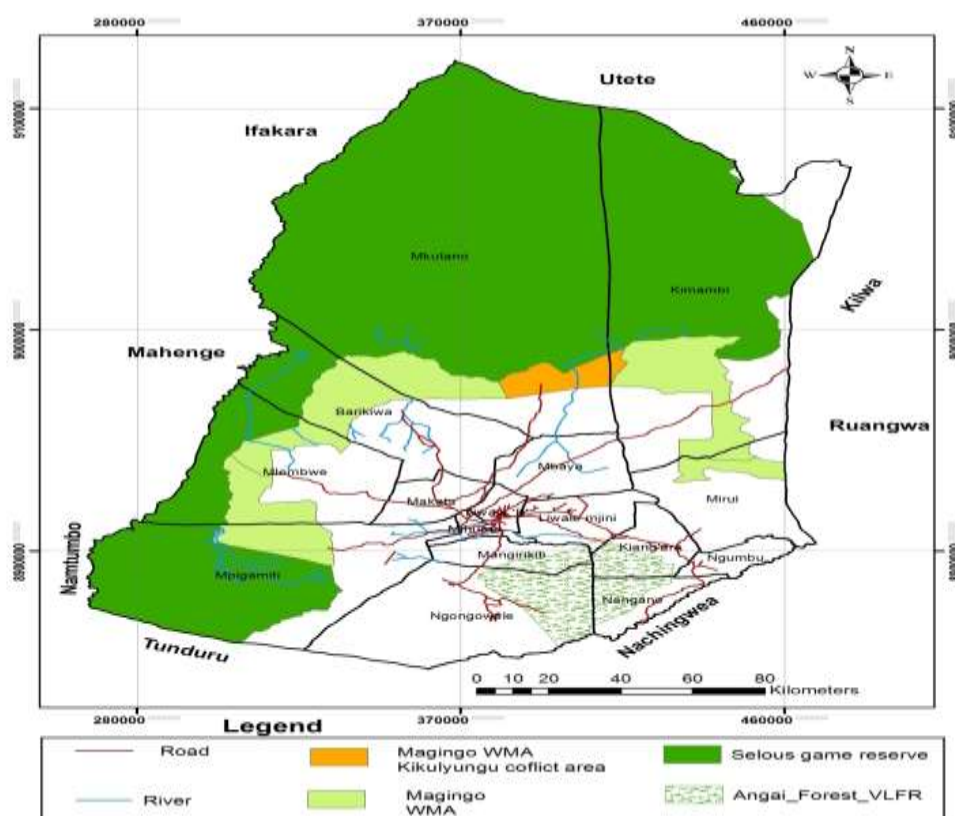


Figure 1: Liwale District Map Showing Important Topographical Features (Liwale District Council [LDC], 2016)

In addition, the Angai forest is known for its long-standing history of community-based participatory forestry management, dating back to the early 1990s (Luswaga & Nuppenau, 2020; RIPS, 2005). Administratively, Liwale District has three divisions (Liwale, Makata, and Kibutuka), subdivided into 20 wards and 76 registered villages. However, only seven wards surround the Angai forest, namely Kibutuka, Nangano, and Kiangara (from Kibutuka Division), and Liwale B, Ngongowe, Lilombe, and Mihumo (from Liwale Division). According to the 2022 National Population and Housing Census, the seven wards account for 32.6% of the total district population of 136,505. Since the focus was on the analytical depth rather than statistical generalisation of the subject matter, Nangano and Mihumo villages were purposively selected. The two villages represented contrasting histories and experiences of participation in AVLFR governance.

Furthermore, AVLFR attracted this study's attention, given the District's land-use composition, which provides more opportunities for conservation and forest reserves than for

other human activities for the respective population. Indeed, a significant portion of the District's land is dedicated to conservation and reserve activities. Only 6,148.60 km² (16.02%) of the 38,380.00 km² that make up the District's total area is used for human settlements, agricultural activities, and animal grazing. The rest of the land, 32,231.40 km² (83.98%), is used as forest and game reserves, including Selous Game Reserve, Angai Forest Reserve, and Nyera/Kipelele Forest Reserve (MNRT, 2022; Liwale District Council [LDC], 2016).

The paper draws from both primary and secondary data collected through Focus Group Discussions (FGDs), face-to-face semi-structured interviews, and documentary review. Field research was conducted in 2016. Although the time has elapsed since the collection of field data, the institutional structures governing PFM in Tanzania have remained substantially unchanged, including the Forest Act (2002), the Village Land Act (1999), the National Forest Policy (1998), and the decentralised governance arrangements. In addition, triangulation with recent secondary data has been conducted to validate the study's findings.

Research participants included local community members, as they are direct beneficiaries and resource users. The household registers helped to randomly select community members from two villages to participate in FGDs. A total of 12 FGDs (5 in Nangano and 7 in Mihumo villages) were conducted, with 6–10 participants each. Out of 12 FGDs, 2 involved members of the Village Natural Resources Committee (VNRC), one in each village. The remaining FGDs involved youth participants (2 in Nangano and 3 in Mihumo) and adult community members (2 in Nangano and 3 in Mihumo). FGD participants were grouped by gender (men and women), and the total number was determined by information saturation.

The study purposively selected seven (7) key informants, consisting of two (2) village government chairpersons, two (2) VNRC chairpersons for their leadership roles, and one District Natural Resource Officer, who served as a key informant and shared insights into technical and oversight roles. Furthermore, two (2) officers, one from Mpingo Conservation and Development Initiative (MCDI) and another from Lindi and Mtwara Agrobusiness Support (LIMAS) Programme, were interviewed, sharing insights into implementation and capacity-building support for PFM in the study area. Thematic analysis was employed to analyse the collected data, involving familiarisation, coding, and the development and naming of themes used to discuss the study's findings. The trustworthiness of the findings was ensured through assessments of data quality and triangulation of data sources. The subsequent section presents the results and discusses the findings.

4. Results and Discussions

This section presents results and discussions on institutional dynamics in the management of AVLFR in Liwale District. The section covers four thematic aspects, including (i) the institutional powers and governance structure of AVLFR, (ii) actor relationships in the management processes, (iii) benefits distribution to the respective communities, and (iv) institutional constraints toward optimal exploitation of the forest resources in the study area and elsewhere in Tanzania.

4.1. Institutional Powers and Governance Structures

Firstly, the present study aimed to assess the institutional basis that establishes the AVLFR's management mechanisms, capturing the specific context that regulates its management processes. As presented in Table 1 below, the study reveals that the institutional setup of the AVLFR is organised around five (5) main areas that shape the PFM practice in the study area.

Table 1: Institutional Powers of the Angai Village Land Forest Reserve

Institutional Components	Established Management Mechanisms of the Angai Village Land Forest Reserve
Legal Framework	The forest management mechanisms are governed by the Village Land Act No. 5 of 1999, which established the legal basis for village ownership, and Forest Act No.7 of 2002 and its regulations, which enable 24 villages to establish the Angai Village Land Forest Reserve (AVLFR),
Village Assemblies and Councils	Established under the Local Government (District Authorities) Act of 1982, Village assemblies (the highest decision-making body) provide management authority by approving management plans, and village councils (the executive body) oversee the day-to-day management of the AVLFR.
Village Natural Resource Committees (VNRCs)	Established under the Local Government (District Authorities) Act of 1982, VNRC is a dedicated village committee (under the village councils) responsible for coordinating and monitoring the AVLFR management activities (forest use, patrolling, issuing permits, and reporting illegal activities).
Supporting or Facilitating Organisations	Governmental units (Forestry and Beekeeping Division & Liwale District Council) provide technical guidance, and Non-governmental organizations (MDI) and partner organisations (LIMAS) assist AVLFR with capacity building.
Community-Based Umbrella Organisation	A joint management body, <i>Muungano wa Hifadhi ya Msitu wa Angai (MUHIMA)</i> , unites all 24 villages around the Angai forest to collectively manage resources under the PFM framework.

Source: Field Data, 2016

The results presented in Table 1 above indicate that the setup enables communities and relevant stakeholders to collaboratively manage AVLFR in a manner that promotes sustainable usage, delivering environmental, social, and economic benefits. The five key components in the institutional setup enable five important practices: local participation, community ownership and control, forest conservation and protection, and long-term sustainability. Commenting on the institutional set-up and powers, FGD participant in the adult group in Nangano village remarked that;

We, as Nangano village members, know that the Village Assembly passes important decisions regarding the management of our village forest based on recommendations from the Village Council and the village natural resource committee. Currently, such decisions are somewhat easy to make because there

is a forest management plan that we were facilitated to develop [Focus Group Discussions: September, 2016].

The involvement of communities highlights decentralisation of power via local governance structures. This approach is widely recognised in literature as vital for community empowerment, particularly in decision-making processes. Ribot (2004) champions decentralising authority to the grassroots as a best practice for PFM, while Blomley and Ramadhani (2004) highlight the importance of shifting forest ownership and oversight from the central government to village governments. As observed in this study, all supporting and facilitating actors promote active community roles in forest management processes, including land use planning, forest planning, and sustainable harvesting. The District Natural Resource Officer illustrated this approach during an interview by stating that,

It is our role to ensure that village governments take a leading role in the management of forest resources in their areas according to established laws and regulations. We have conducted several meetings with local communities in all 24 villages participating in the Angai forest to explain their roles and responsibilities. Where necessary, we do waive some taxes and loyalties on forest products harvested from their village land forest reserves in their favour [Key Informant Interview 1: September, 2016].

This aligns with Article 14 of the Forest Act (2002), which provides for village land forest management plans, hence encouraging citizen participation in forest planning, use, and conservation (URT, 2002). Tanzania's legal and policy framework is generally supportive of PFM and encourages communities to take on meaningful roles in forest governance. This finding aligns with Matiku et al. (2013), who argue that coherent and complementary policies are essential in accommodating local realities. Similarly, Blomley and Iddi (2009) conclude that the institutional environment for PFM in Tanzania benefits from robust support through national laws, regulations, strategic plans, and global forest management agreements. However, these legal and policy provisions, as well as democratic governance and accountability mechanisms at the village level, remain underdeveloped, primarily due to the limited capacity of village leaders, VNRC members, and the broader community.

Ownership and oversight of the AVLFR rest with 24 villages that jointly manage the forest. These efforts are coordinated with support from regional and district authorities, the Ministry of Natural Resources and Tourism, and other partners. Governance of these village lands is grounded in the Village Land Act No. 5 of 1999, which protects the customary land rights of rural populations and delegates land management responsibilities to village governments (URT, 1999). One village chairperson captured the spirit of this shared stewardship, as he stated as follows,

Angai forest belongs to us; we have legal rights to manage and make it beneficial to our people. We have to do this without affecting other villages that also have a stake in the forest, and they need to benefit from the same forest resources [Key Informant Interview 2: September, 2016].

This remark reflects a collective awareness among the villages involved in AVLFR; each community acknowledges and respects the forest's shared nature and the interdependence that comes with co-management. Out of this understanding emerged a novel cooperative arrangement, *Muungano wa Hifadhi ya Msitu wa Angai* (MUHIMA), a community-based umbrella

organisation, which operates with recognition under the Local Government Act of 1982. In its operations, MUHIMA brings together all 24 villages through their VNRC members to coordinate forest management efforts. It offers a unifying platform that benefits all AVLFR villages. However, as highlighted by Blomley & Iddi (2009), despite Tanzania's generally favourable policy environment for PFM, there remains a need to shift local perceptions and attitudes. Specifically, there must be a greater appreciation of the forest's role in sustaining livelihoods to strengthen community commitment.

As presented in Table 1, the institutional framework in place has enabled not only forest conservation and protection but also the integration of AVLFR management with poverty reduction efforts. This dual focus aligns with insights from Wang et al. (2022) and Mustalahti et al. (2012), who argue that PFM must support both biodiversity conservation and climate adaptation through sustainable use. Moreover, AVLFR is actively involved in the REDD+ initiative (Reducing Emissions from Deforestation and Forest Degradation), which aims to increase forest carbon stocks while promoting sustainable forest management practices. According to Tiki et al. (2025) and Lund et al. (2017), REDD+ offers financial incentives to compensate communities for their conservation efforts, which might otherwise limit their use of forest resources.

Overall, AVLFR management adheres to the Village Land Act of 1999, which provides a legal framework for the establishment, use, and protection of village forest reserves (URT, 1999). Nonetheless, there are still challenges with implementing sustainable harvesting practices. This gap highlights the need to enhance both governance systems and local capacities, thereby supporting the PENRG assumptions that institutional capacity influences the effectiveness of PFM implementation. While the policy promotes community involvement, evidence of meaningful engagement remains limited. In reality, land-use activities like shifting agriculture and permanent farming, including cashew cultivation, continue to exert pressure on the forest. These trends contradict sustainability claims and reflect broader deforestation patterns across Africa, where agriculture is responsible for approximately 84% of forest loss (Wertz-Kanounnikoff & Wallenoffer, 2011).

4.2. Actor Relations in the Management of Angai Village Land Forest Reserve

The focus on actor relations aimed to examine the roles and power dynamics of various stakeholders in forest management. This was important for developing an understanding of the motivations of interested individuals, groups, or organizations regarding AVLFR. Answering this question was crucial for understanding stakeholders' influence on AVLFR's management processes. Above all, local communities are expected to be in the driver's seat and exhibit active rather than passive participation. Essentially, the adoption of participatory approaches to forest management requires clear arrangements in which key stakeholders enter into mutually enforceable agreements that define their respective roles, responsibilities, benefits, and authority over the management of defined resources (Matiku et al. 2013). The results from AVLFR indicate that all stakeholders had the opportunity to engage in various PFM processes. However, as illustrated in Table 2 below, local communities, NGOs, the Liwale District Council, and bilateral development organizations demonstrated active engagement in AVLFR management activities, with varying levels of power and influence over forest management processes.

Table 2: Stakeholders' Participation in AVLFR Management

Stakeholders	Descriptions
Local Communities (LCs)	Responsible for the forest resources management as they constitute a dependable livelihood source for local communities.

	• Reasonably informed and aware of some important laws, policies, and guidelines that regulate the conservation and management of the forest reserves. • Participate in wildfire suppression and land rehabilitation, and patrol their forests frequently to combat illegal activities in the forest, as established by law.
Liwale District Council (LDC)	• Provide local communities with legal and policy guidelines for sustainable forest resource management and utilization in the District. • Facilitate the management of AVLFR through administrative support and capacity building for local communities, their village governments, and VNRCs. • Administer district land use planning and provide inter-village coordination of AVLFR management.
Non-Governmental Organizations (NGOs, i.e., MCDI)	• Mobilize resources and forge partnerships with other organizations to support the sustainable management of AVLFR. • Facilitate capacity building in local communities and assist the establishment of VLFR in the surrounding villages in Angai forest. • Advocacy for crosscutting issues, including gender mainstreaming in forest management processes.
Bilateral Development Organizations (BDOs, i.e., LIMAS)	• Support the active participation of village members in decision-making on forest utilization and management. • Training and transfer of technology to local communities by facilitating cost-effective land use planning with modern tools. • Facilitate the establishment of a forest user network, a forum for capacity building, advocacy, and communication about participatory forest management.

Source: Field Data, 2016

In addition to the stakeholders listed in Table 2, the National Forest Policy (1998) identifies other important actors, namely private entities, specialized government agencies, and the Forestry and Beekeeping Authorities. However, during an interview with the District Natural Resource Officer, it was noted that these actors typically operate through NGOs or the district natural resource office. As a result, their individual contributions were difficult to isolate in this study. Broadly, the various stakeholder roles in AVLFR management appear to complement rather than replace community efforts, reinforcing the principle that sustainable forest governance must center on local participation. As Kweka et al. (2015) note, there is no universal model for stakeholder engagement due to the varying social, economic, and political conditions. Therefore, even though PFM holds great promise for empowering local communities, its effectiveness depends on tailoring strategies to the specific realities of each village.

Despite a generally favourable policy environment for stakeholder participation, evidence from AVLFR suggests that some challenges persist among local communities. For instance, although active involvement is expected in forest governance activities such as creating management structures, drafting plans, enforcing rules, and promoting sustainability (URT, 2003), many communities remain passive. This is primarily due to delays in establishing officially recognized VLFRs, which have hindered revenue generation, weakened community

incentives, and, in some cases, facilitated misconduct, such as illegal logging. Moreover, community involvement in planning and monitoring AVLFR activities remains low, despite ongoing efforts by the Liwale District Council to boost participation. These patterns reveal that community engagement is often reactive and externally driven rather than proactive. This issue was clearly illustrated by one VNRC member who was quoted as saying,

As members of VNRC, it is our role to coordinate the day-to-day activities of forest management in collaboration with the village government. Other village members take part in the forest management activities when the need arises, for example, we can invite them to participate in specific activities or when district officers or other officers from LIMAS or NGOs come to visit us [Key Informant Interview 3: September, 2016].

This comment highlights a fundamental challenge that, while VNRCs and village leaders take on most of the responsibilities, broader community participation remains limited. Most of the time, participation takes the form of consultation, resulting in passive rather than active involvement. Compounding this issue is that many villagers lack awareness of the laws, policies, and guidelines governing forest conservation. This information gap hinders consistent and meaningful community participation. Participatory approaches are based on decentralising decision-making power to lower-level institutions, but, as emphasised by Hyle et al. (2019), this only works if local authorities have the capacity to fulfil these roles effectively. Unfortunately, inadequate transparency and weak accountability structures at the village level often lead to elite capture, thereby undermining the legitimacy of forest governance systems. Without intentional efforts to increase awareness and foster democratic engagement at the grassroots level, actual community ownership in forest management will remain out of reach. This reflects the comment shared by an FGD participant in the youth group at Mihumo village that;

We are thankful to our stakeholders, such as the District Council, NGOs, and in a special way, the LIMAS project, for supporting us with training on how to manage our village forest. But I think it is important to mention that there are some activities, especially in the planning processes, that we still rely on because we lack sufficient knowledge and financial resources to be effective in those activities [Focus Group Discussions: September, 2016].

Encouragingly, partnerships with NGOs and development partners are playing a critical role in shaping the future of PFM. For example, the MCDI has played a crucial role in strengthening land tenure, providing technical support, and enhancing local capacity, all of which align with the National Forest Policy 1998. Working in collaboration with MJUMITA (Tanzania Forest Management Community Network) and the Liwale District Council, MCDI helped establish several VLFRs by 2014 (Henriksen et al., 2023). This type of NGO support typically focuses on empowering communities to take ownership of their forests. According to an MCDI representative, helping villages establish VLFRs is a complex task that requires careful negotiations over land use and thorough clarification of user rights. Drafting forest management plans is particularly challenging and requires significant time, skills, and resources to execute effectively. From a PENRG perspective, NGOs' role in this context demonstrates community reliance on external actors for technical and financial resources, hence limiting genuine local autonomy on forest management plans.

Similarly, the LIMAS program, a bilateral agricultural support initiative between Tanzania and Finland, contributes by strengthening stakeholder coordination, offering technology transfers such as GIS tools for boundary mapping, and facilitating forest user

networks. Speaking on the question of decision-making in AVLFR management (LIMAS, 2011), the LIMAS Program Coordinator in Liwale District noted that,

Formulation of VNRCs is one of the important steps in the local control of forest management activities. Again, the effective handling of their responsibilities and the overall functioning of these committees are equally important aspects that the District is interested in achieving in all villages within AVLFR. Thus, we are impressed with what LIMAS has been doing, including engaging forest users to assess the performance of VNRCs [Key Informant Interview 4, 2016].

This feedback reinforces the idea that local communities should take an active role in shaping forest governance, rather than leaving everything to the VNRCs. For programs like LIMAS to have a lasting impact, they must expand participation, encourage shared responsibility, and uphold transparency and accountability within forest user networks. While support from NGOs and development partners is vital for strengthening local capacity, it can also unintentionally foster dependence. For long-term sustainability, the focus must shift toward building self-reliant communities that can manage forest resources independently (Mbeyale et al. 2021). Overall, the findings suggest that community participation remains largely procedural rather than substantive. Although VNRCs and village assemblies formally represent communities, decision-making largely remains concentrated in a small group of actors. This corroborates PENRG's proposition that power asymmetries influence governance outcomes.

4.3. Benefit Distribution from Angai Village Land Forest Reserve

The focus on benefit distribution addresses who gets what in the management of AVLFR *and why*, aiming to explore the benefits of forest resources for local communities in the study area. The purpose was to establish how distribution essentially promotes equitable benefits-sharing in terms of actual forest resource governance outcomes. This objective acknowledges that PFM arrangements, including AVLFR, provide a means to promote sustainable rural livelihoods and broader development goals (Mlawa et al., 2023; Mukama, 2010). As shown in Table 3 below, FGD results indicate that local communities have experienced four categories of potential paybacks: economic, environmental, social, and cultural.

Table 3: Potential Benefits of PFM in AVLFR

Benefits	Description
Economic Benefits	- Monetary incomes are generated from sales of timber and wood products, as well as fees and fines from forest offenders. - Source of employment, i.e., agricultural activities for producing cash crops (<i>cashews & sesame</i>) and food crops (<i>maize, rice, legumes, millet & cassava</i>). - Harvesting and selling of non-timber forest products, i.e., mushrooms, fruits, honey, and roots (<i>ming'oko</i>).
Environmental Benefits	- Ecosystem products and services such as carbon capture, preserving soils, and nurturing a diversity of species (<i>hewa ya ukaa</i>). - Source of nutrient cycling, water and air purification, and maintenance of wildlife habitat in the area (<i>kulinda vyanzo vya maji</i>).
Social Benefits	Regular social use of forest resources, fruits, and herbal medicines from medicinal plants (<i>mitishamba</i>).

	• Source of food for community members, including fruits, honey, vegetables, and roots (<i>hangadi & ming'oko</i>). • Source of fuel from firewood and charcoal, as well as a source of building materials, such as poles (<i>majengo</i>).
Cultural Benefits	• Traditional and artistic use of forest resources, i.e., traditional containers (<i>nyungo & makapu</i>). • Play symbolic functions, such as traditional education, with young ones (<i>Jando & Unyago</i>). • Serve the healing and spiritual purpose, i.e., used to conduct flaws and other traditional ceremonies (<i>matambiko</i>).

Source: Field Data, 2016

Findings from Table 3 demonstrate how AVLFR offers a wide array of benefits to surrounding communities. These include income opportunities through forest product sales, seasonal and part-time employment, and a strong foundation for subsistence farming, which supports over 90% of the district's workforce (LDC, 2016). These economic advantages are further complemented by the daily reliance on timber, wood-based products, and non-timber forest products, such as mushrooms, which are either consumed locally or sold in nearby towns for additional income. Beyond these economic contributions, the forest holds significant cultural and ecological importance. It is deeply tied to ancestral traditions and local identity, and it provides essential environmental services such as carbon storage. The AVLFR's involvement in REDD+ enhances its environmental value. And as Kweka et al. (2015) and Corbera et al. (2020) point out, REDD+ not only incentivises sustainable practices but also helps communities link poverty alleviation, biodiversity conservation, and climate change mitigation through effective forest stewardship.

In addition to the diverse benefits above, residents of Liwale District progressively continue to realise financial outcomes of PFM under AVLFR. For instance, forest products earned an estimated average annual revenue of USD 784,000 in 2009; this amount has steadily increased to USD 2.9 billion in 2024, indicating higher revenue for participating villages (LDC, 2024). However, the participating villages in AVLFR had limited knowledge of the increase in forest product revenue, suggesting information asymmetry in favour of political and administrative elites at the district office. Low revenue collection was attributed to illegal logging. Additionally, profitable ventures like game hunting are not being pursued due to existing hunting restrictions. As a result, communities around the Angai forest tend to derive more subsistence-level advantages than substantial monetary gains. These conditions, marked by policy restrictions, weak enforcement, and unlawful practices, undermine the full economic potential of PFM.

In essence, there is a need to bridge the gap between everyday forest use and formal revenue-generation systems. Doing so could significantly improve financial returns for communities. The current shortfall in benefits is less about ecological limitations and more about governance failures. This includes poor enforcement and missed opportunities, which, if not addressed, risk rendering PFM more symbolic than transformative. A VNRC member voiced this concern during the interview,

So far, participation in forest management has given us many responsibilities despite the limited realisation of desired benefits. We will continue to participate in forest management processes, as we hope that increased support from

various stakeholders will yield greater benefits in the future [Key Informant Interview 5, 2016].

Commenting on the financial benefits of forest harvesting, an adult member of FGD in Mihumo village noted further that;

We have heard, from time to time, that revenue from timber harvesting benefits the people in our community. However, I think, and it has been the concern of many people, that our government at the district and village offices needs to be clearer and more transparent by telling us how revenues collected from timber harvest are distributed or utilised for the development of our village [Focus Group Discussions: September, 2016].

These two quotes highlight the community's perseverance and cautious optimism in the face of limited tangible gains. Ultimately, the way forest benefits are shared plays a crucial role in determining how governance systems function. When communities receive fair, predictable, and livelihood-enhancing returns, whether from REDD+, forest resources sales, jobs, or improved services, they are more likely to engage actively, take ownership, and hold governance bodies accountable (Lusambo et al., 2021; Lord, 2025). On the other hand, when benefits are scarce, unevenly distributed, or diverted through illicit means, trust erodes, participation declines, and the legitimacy of governance structures suffers. Owing to PENRG's assumption that equitable benefit-sharing enhances governance legitimacy, it is plausible to argue that the imbalances highlighted in this study reduce incentives for active participation. Consequently, this weakens the legitimacy of the AVLFR governance structure. This implies that ensuring fair and transparent benefit-sharing is not only an ethical goal but also a necessary condition for building inclusive, sustainable, and effective forest governance under AVLFR.

4.4. Institutional Constraints in the Management of Angai Village Land Forest Reserve

There are several challenges in managing AVLFR that need the attention of all stakeholders, as indicated in Table 4 below. Observed in this study are structural and cultural challenges; management and coordination capacities; awareness and willingness among local communities; negotiation capacities; inequitable market forces; forest destruction and environmental degradation; and the cost of compensation.

Table 4: Major Constraints for Sustainable Management of AVLFR

Constraints	Description of Causes in AVLFR Management
Structural and Cultural Challenges	• Dependence syndrome of local communities on the role of external actors in the effective undertaking of forest management activities. • Financial incentive-based motivation for participation of local community members in forest management activities.
Management and Coordination Capacities	• Lack of consistency from supporting organizations and irregular intervention from local actors. • Access to legislative and policy information regarding their day-to-day forest management activities.

Awareness and Willingness of Local Communities	• Limited information sharing and representation due to the limited participation of local communities in forest management activities. • Few community members enjoy the forest resource privileges at the expense of the larger group, thereby creating a form of "elite capture" at the village level.
Negotiation Capacities and Inequitable Market Force	• Mismatch between the changing pace of the market environment and strategies in PFM realities, especially in terms of local community capacities. • Inequitable market forces that underlie the difficulties facing local communities in preventing the indiscriminate harvesting of forest resources.
Forest Destruction and Environmental Degradation	• Human activities, including the clearing of forests for agricultural expansion, wildfires, and illegal logging, primarily cause forest destruction by local communities. • Lowering of potential incentives, returns, and incomes from forest products and, in the long term, the unnecessary cost of environmental rehabilitation.
Sustainable Management Cost Compensation	• Lack of reliable cost compensation mechanisms to local communities for the cost they forego in their efforts to conserve and protect forest resources and biodiversity. • Partial implementation of cost compensation schemes due to limited budget allocations on PFM activities and a lack of coherent land-use plans.

Source: Field Data, 2016

The findings from Table 4 above demonstrate that structural and cultural constraints significantly undermine the implementation of VLFR in the Liwale district. Local communities prioritise poverty reduction over climate change mitigation, resulting in a persistent mismatch between local expectations and the objectives of external actors involved in managing the Angai forest. Although villagers strongly believe that management and control of AVLFR rest with respective local communities (Mbeche et al., 2021; Abdu, 2021), external service providers continue to dominate the process, limiting the extent to which forest revenues can enhance local infrastructure and social services. This domination sustains structural dependency and culturally embedded motivations, particularly the expectation of allowances, thereby weakening local ownership and autonomy. MUHIMA, which ideally provides an inter-village platform for benefit sharing, exemplifies this challenge because its effective functioning depends on external facilitation for technical guidance and convening costs, making such reliance inappropriate for a body meant to support community-driven PFM.

Institutional and managerial capacity challenges at the village level further constrain PFM performance. Although the Forest Act (2002) mandates the delegation of forest management responsibilities to the lowest levels, communities face substantial capacity gaps, particularly in developing and implementing forest management plans (URT, 2002). Indeed, capacity gaps for local communities persist despite decades of donor support since the 1990s, as external assistance remains inconsistent and local engagement irregular. An interview with the village chairperson from one of the participating villages revealed a lack of clarity regarding

some key legal processes and documents. This leads to confusion over responsibilities between district forest officers, village leaders, VNRC members, and community members. These deficits in legal knowledge, technical skills, and coordination undermine the ability of decentralised structures to optimise forest benefits (Blomley & Iddi, 2009), thereby limiting the intended empowerment inherent in community-based forest management.

Participation constraints, shaped by opportunity costs and gendered responsibilities, also weaken the effectiveness of PFM. Many villagers prefer income-generating activities to attending forest-related meetings, despite the essential role of these meetings in maintaining forest resources. Women's involvement remains minimal, as both men and women reported during FGDs that *"women are too busy to come to the village assembly meetings"*, reflecting the idea that women are often overwhelmed by household roles and responsibilities compared to their male counterparts. Information-sharing inequities exacerbate these challenges. Similarly, only a small group of active members attends meetings with district forest officers and NGO facilitators, becoming more informed than the rest. At the same time, knowledge does not trickle down due to low community interest or intentional withholding (Magessa, 2020). These dynamics result in narrow representation, poor communication, and uneven awareness (Magessa & Hockley, 2023; Magessa et al., 2020b), ultimately weakening community cohesion and reducing inclusive participation in PFM processes. Regarding the constraints for effective participation, a youth member of the FGD in Mihumo village said;

Many of our people struggle to make a living. Not always the case that they will participate in forest management-related issues or meetings, because they also have to look for income or something for their families. Therefore, we feel some conservation activities, for example, will be difficult to sustain because if there are no mechanisms to support them [Focus Group Discussions: September, 2016].

Economic barriers, especially inequitable market forces, pose further challenges to PFM in AVLFR. As Hansen and Juslin (2005) observe, market conditions can either promote or destroy PFM processes. In Liwale, evolving market demands, poverty, population pressures, and improved road networks have collectively exposed local communities to exploitative harvesting practices, reducing their ability to prevent indiscriminate extraction. In parallel, environmental degradation significantly complicates forest resources governance. According to Kweka et al. (2015), local communities identify wildfires, illegal logging, and agricultural expansion as key drivers of forest destruction.

Furthermore, Rucker and Tiemann (2012) highlight that an average of 11 million hectares of forest are affected by bushfires across various forest types. These pressures undermine soil productivity, diminish ecological integrity, and reduce the long-term incentives and income potential of local communities, making sustainable forest management increasingly costly and challenging. This implies that the key issue in forest management and utilisation is balancing harvesting, forest protection, and tree planting while minimising negative impacts on individuals experiencing poverty and generating benefits for them (Coutts et al. 2019; Leminih et al. 2015).

Finally, the absence of adequate compensation for the opportunity costs of conservation further weakens community commitment to PFM. Echoing that sustainable forest management and conservation require mitigation or compensation for the opportunity costs borne by local communities, as the District Natural Resource Officer put it as follows: "Frequent wildlife incursions, particularly elephants destroying subsistence and commercial crops, make livelihood security difficult where compensation remains partial due to budget limitations". The understanding above aligns with Kweka et al. (2015), who argue that weak forest governance,

unclear benefit-sharing mechanisms, and poor enforcement of forest laws and regulations continue to impede sustainable forest management in Tanzania. While population growth is often cited as a source of forest pressure (Burgess *et al.* 2017; Lugazo, 2017), evidence from Liwale suggests that challenges stem more from persistent failures in land-use planning and implementation.

The governance challenges as highlighted in this study reflect the broader political economy dynamics in which external actors possess disproportionate technical expertise, financial resources, and influence over decision-making. Collectively, these structural, institutional, participatory, market-driven, environmental, and compensation-related constraints significantly influence PFM outcomes by reducing trust, weakening community incentives, and limiting the equitable and sustainable governance of AVLFR. As established in this study, local participation is the function of donor-funded interventions, a reality that creates dependence relationships, which, in turn, challenge community capacity and autonomy in forest governance issues.

5. Conclusion

Overall, the sustainable management of AVLFR depends on strengthening the governance capacities of local communities. This is because effective PFM requires continuous engagement, which balances environmental, economic, and social sustainability. Indeed, realising such a transformation requires tailored approaches and sustained support for technical and financial resources. Drawing on the Political Economy of Natural Resources Governance (PENRG) theory, the findings reveal how power relations, incentive structures, and institutional arrangements significantly shape the negotiation of benefits, responsibilities, and decision-making authority within AVLFR. Reliance on external actors, inequitable market forces, and weak local capacities undermine forest governance outcomes, illustrating how asymmetries in access to knowledge, financial resources, and authority shape *who benefits* and *who bears the costs* of forest resource utilisation.

Moving forward, further research and targeted interventions are crucial to ascertain the forms of participation required. To design mechanisms that empower local communities rather than reinforcing reliance on foreign actors, thereby enabling AVLFR to realise the intrinsic benefits envisioned in the context of PFM. Although the study's findings are not generalizable, as it was limited to only two villages, its qualitative insights inform the ongoing discourse on the viability of PFM in Tanzania. Theoretically, the study contributes to the PENRG literature by drawing on insights from AVLFR to support the postulation that the distribution of power, information, and benefits among actors is the primary determinant of PFM effectiveness, alongside formal decentralisation. In conclusion, politically informed interventions are crucial for reshaping power relations, aligning incentives with conservation and livelihood goals, and fostering an inclusive and sustainable governance system for AVLFR.

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