

Forest Governance at Village Level with Potential for REDD+ in Participatory Forest Management, Tanzania



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Abstract

This paper focus on improving forest governance through addressing gaps at grassroots village institutions implementing Participatory Forest Management (PFM), which is the platform for Reducing Emissions from Deforestation and forest Degradation (REDD+) programme in Tanzania. The FAO/PROFOR framework model for Assessing and Monitoring Forest Governance was applied. It was found that governance status does not foretell REDD+ readiness. When villagers gauge the perceived state of governance on a Likert scale, governance status had a mean score of 1.79 out of 4 for the whole study community; indicating weak governance. Weak incentive among PFM stakeholders and poor resource capability of Village institutions were the main hindering factors. Gaps in policy, legal, institutional and regulatory frameworks found to be the underlie causes for the poor governance. The mismatch between parallel administration frameworks of PFM and REDD+ project was a newly emerged barrier for PFM effectiveness.

Keywords: Village Government; Governance; PFM; REDD+; FAO/ PROFOR Framework Model

Introduction

Good forest governance is deemed crucial in ensuring effectiveness of schemes to reduce greenhouse gas emissions from deforestation and forest degradation in developing countries [1-3]. Good forest governance has a potential of achieving in an equitable and sustainable way, the forest ecological needs, social and economic goals at local community, national and global scales, which is the focus of REDD+ initiatives. This is partly from the ever known central role of good forest governance in achieving sustainable forest management (SFM), currently it is assuming greater significance in the context of global climate change discussions. Governance has been one of the most popular catch phrases in the past decade in various fields. The term "Governance" as applied in various fields has a diversity of definitions. This study adopted a consolidated governance definition by [4] that is the interaction of rules, institutions, processes and principles through which a society exercises powers and responsibilities to make and implement decisions. In Tanzania like other countries which have adopted collaborative resources management approaches, forest governance is exercised at different levels along the hierarch of the country's governing tiers. Accordingly through PFM in Tanzania, the key management responsibilities are delegated to

the bottom of the governance pyramid; the communities under village government. Approaches to devolve natural resources management and conservation responsibilities to grass root unity of the community have been promoted globally and even given prime consideration in strategies for pursuing goals of various multilateral environmental and conservation programmes, including the current Reducing Emissions from Deforestation and forest Degradation (REDD+) initiatives. This is because the approaches deemed to be capable of containing complex social, political, cultural and ecological dimensions associated with natural resources management. However, there is little effort that has been put to scrutinize the status of governance prior to introduction of community conservation programmes /projects to have insight on the governance situation inherent within general society and in relation to resources management.

The elements of good governance and empowerment of forest dependent communities are the central doctrine of participatory resources management [3]. Assessment of governance quality in local institutions prior to delegation of prime roles for conservation and management of forest resources at their proximate is generally lacking in Tanzania [5,6]. Improving forest governance requires a systematic approach to identifying areas

of weakness, formulating and implementing suitable responses [7]. In view of that, the authors deemed it is worthwhile to explore the status of forest governance in Participatory Forest Management practitioner communities with deployment of the FAO/PROFOR forest governance analysis framework model. The framework is a useful analytical tool that permits 'diagnoses of the ills' in governance at the policy and operational levels and provides the basis for developing interventions for its improvement. Study elsewhere by insisted that, "Strategy for combating forest crime rests on an assessment of the governance situation of the country, the streamlining of policy framework and the focus on operational activities around a prevention, detection and suppression framework".

In Tanzania, PFM is a collective term of community collaborative approaches to forest resources management, including Joint Forest management (JFM) and Community Based Forest Management (CBFM). The two regimes differ in their levels of power and jurisdiction given to the local authority (village government or community) over the forest resources. JFM is a co-management between community and government applied in State forest reserves while CBFM is applied in forests on village land which formerly were open access resources and thus characterized by heavily degraded forests. Tanzania is commended for being to some extent successful in the implementation of PFM for about two decades, but the approaches are still far behind achieving the expected outcomes on: (i) Sustainable forest management, (ii) Improved rural livelihoods, and (iii) Promotion of good governance at local level. Various studies have expressed challenges on PFM long-term effectiveness and sustainability based on inequity and unclear sharing of benefits, participation, accountability and [8,9]. Re-centralization is a new emerging problem under PFM regimes in Tanzania, where the government exercises utmost authority to forest resources under JFM in parallel with community delegated authority [10,11]. Again in CBFM regime, there has been a government decline to render community with full authority over commercial exploitation of forest resources [12]. So far PFM is estimated to have covered only about 13% of all the forests in Tanzania. It is anticipated that implementation of REDD+ programme could substantially offset PFM management costs and insufficient community economic incentives obstacles [13]. As REDD+ programme in Tanzania is expected to build on the existing PFM frameworks, the unresolved challenges for PFM can also hinder REDD+ performance. A study elsewhere by [14] remarked that, without a clear understanding of existing governance weaknesses and fix those, implementation of REDD+ projects can lead to rolling back of limited gains poor communities have made since the 1980s under PFM. Although a number of studies have related PFM challenges to weak forest governance [15] little have been done to analyze forest governance situation and spot areas of weakness from which the challenges are born. Some few studies

have focused only to some few features of good governance i.e. [12] study on legislative support to local communities' security of rights to forest resources and access to resource benefit flows with a lesson from Tanzania, Mozambique, and Laos; also [16] study on effect of decentralization under PFM and accountability with a case in Mfyome village, South-western Tanzania.

Causes for the disappointing achievement from PFM have been widely researched but little focus has been put on analyzing potential impediments from governance at grassroots village institutions implementing the approaches. This study is inspired by an idea that, implementing new governance approaches on forest resources through unimproved institutions is like the proverb of "putting new wine into an old bottle". Instead new resource governance needed reviewed governance institutions at local level to make village governments capable of handling the new responsibilities and distribute benefits in an equitable manner. Local government performance in villages which are basic institutions implementing PFM has been criticized for poor governance and marked as a potential obstacle to the effectiveness of PFM regimes in attaining conservation goals through sustainable management approach [17]. Good governance at this grass root governance unity of a community is a key factor for success of participatory resources management approaches since governance is the steering of all social and development framework of a society. All planning and implementation happen within the larger framework created by governance systems. Hence a slight fault in governance may put all efforts towards conservation, economic development and well being of the society to a trash. Poor forest governance has awful effects and often crosscutting to economic and welfare of the dependent community and the country's economy as a whole. This study is aimed to establish at village government the institutions implementing PFM governance shortfalls that are potential root cause for PFM failure so as to facilitate effective implementation of REDD+ through the existing PFM framework in Tanzania. Specifically, it was focused on exploring the status of forest governance in Participatory Forest Management (PFM) practitioner communities with deployment of the FAO/PROFOR forest governance analysis framework model. Therefore, we assessed gaps in legal and regulatory frameworks through an intensive review of legal documents supporting PFM; other official documents guiding implementation of PFM and review of published papers. Finally, we explored the governance situation in villages practicing PFM and REDD+ pilot at Kolo Hill forests.

Application of FAO/PROFOR, (2011) framework model for Assessing and Monitoring Forest Governance

Illegal logging and other forestry crimes have been implicated in governance failure in most developing countries including Tanzania [18,19]. Good forest governance hinges on three main "pegs" of laws, institutions and processes; each playing a crucial role to make resources economically profitable and sustainable

managed. Forest laws, for example, governs issues of forest fees, taxes, royalties, subsidies and other fiscal measures provided in the statute and the way they are applied, which can either have a positive or negative impact on the sectoral or national economy apart from ecological, social and political impacts. Institutions are the one who implements the rules and laws. Thus, weakly governed institutions can hardly enforce the forest legislation effectively.

According to [15], poor governance is a major impediment to achieving development outcomes of the forest sector leading to losses of income, employment, government revenues, and local and global environmental services including carbon sequestration. Violations of rules and laws in the forestry sector that threatens conservation of forest resources and biodiversity mainly prevail where governance framework is poorly set [20] Accordingly the recognition of good governance potentials for REDD+ effectiveness have necessitated for substantial efforts to refit governance gaps as a preparatory phase for REDD+. This called for establishment of international forest governance standards in order to avoid overlap and duplication, especially in country-level applications. Accordingly under close coordination with the UN-REDD, a forum of intellectuals, experts and experienced practitioners in forestry and governance fields

from diverse countries globally convened, discussed and found a comprehensive and systematic analytical framework to facilitate description, monitoring and assessment of countries' forest sectors state of governance named "Framework for Assessing and Monitoring Forest Governance" which was developed in 2011 by FAO and the World Bank's Program on Forests.

The FAO/PROFOR forest governance analytical framework model is embedded with 6 principles across 3 pillars which are further elaborated into components and sub-components as illustrated in Table 1. The six governance principles include Accountability, Effectiveness, Efficiency, Equity and Fairness, Participation and Transparency. The FAO/PROFOR forest governance analytical framework is broad because it is designed for application across wide geographical regions, and at national to project levels. However as this framework is versatile, it can be unpacked in different ways depending on the circumstances as considered relevant and effective. For instance in this study, forest governance was assessed at village level with special attention given to villages involved in PFM and REDD+ projects. Following this unpacking, in this study components under pillar 1 were assessed through deskwork of extensive literature search while assessment of components under pillar 2 and pillar 3 were based on empirical data and information from field.

Table 1: Summary of the Principal component analysis (PCA) from seven governance principle and some descriptive statistics of the data (n=250).

Governance principles		Number of indicators within principle	% of variance explained	Mean	SD
		7	85.95	1.9	0.13
Effectiveness	Effectiveness other stakeholders	6	81.38	1.66	0.11
	Effectiveness village government	7	14.15	1.92	0.1
Equity& fairness		10	86.15	1.75	0.07
Participation		10	84.47	2.03	0.11
Responsiveness		11	89.75	2.05	0.1
Rule of law		4	88.5	1.74	0.09
Transparency	General information	10	79.7	1.95	0.11
	Finance & resources	6	16.25	1.86	0.5

Table 2: Per village governance scores from seven good governance principles.

Villages	Principles							Per village score
	Transparency	Participation	Accountability	Equity& fairness	Effectiveness	Responsiveness	Rule of law	
Mnenia	3.13	3.28	3.20	3.22	3.32	3.18	3.09	3.20
Massawi	2.36	2.06	1.47	1.64	2.05	2.67	1.43	1.96
Humai	1.23	1.51	1.27	1.25	1.24	1.43	1.53	1.35
KiseseDisa	0.68	0.58	0.56	0.85	0.70	0.85	0.84	0.72
Kikore	1.62	2.18	2.02	1.51	1.60	1.49	1.61	1.72
Overall mean	1.80	1.92	1.71	1.69	1.78	1.93	1.70	1.79*

*Overall governance score of the study population

Material and Methods

Location of the Study Area

This study is part of big research project under Climate Change Impacts, Adaptation and Mitigation Programme Tanzania (CCIAM). The study site is found in Kondo district located between latitudes 4° 10' - 5° 44' South and longitudes 34° 54' - 36° 28' East in Dodoma region of central Tanzania (Mung'ong'o et al., 2004). The district climate condition is semi-arid with minimum and maximum temperature of 16 °C and 29 °C respectively, while annual rainfall ranges between 500 and 800 mm (KDC, 2011). The study was conducted at Kolo-Hills forests, a part of the "ARK For" REDD+ pilot project commonly known as Isabe and Salanga forest reserves and the surrounding villages of Mnenia, Masawi, Humai, Kisese-Disa and Kikore. Selection of Kolo-Hills site is based on having experience of both PFM and also a REDD+ pilot project site. The forest reserves cover about 346 km² located 30 km east-south of Kondo district. The village and the forest are located at 4° 54' 983"S and 35° 47' 937"E at elevation of range between 1650-2000M above the sea level [21].

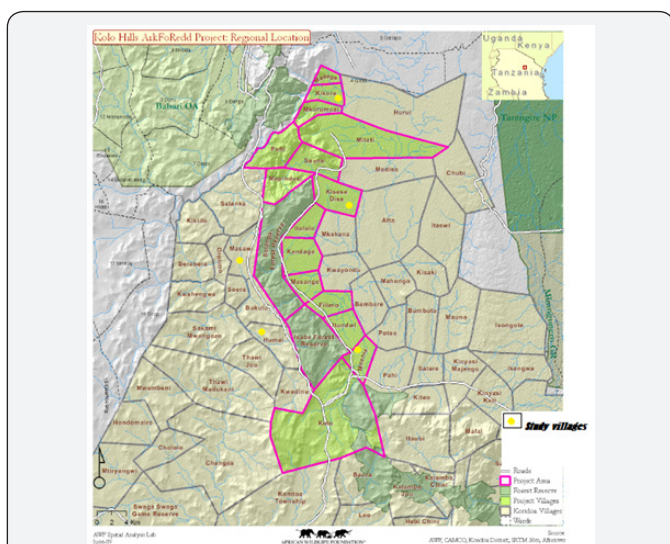
Methods

The authors developed a survey instrument based on the 6 governance principles of the FAO/PROFOR forest governance analytical framework. Household survey was conducted to 250 household heads randomly selected from five villages with disproportionate sampling, whereby 50 households from each village were selected from village registers with an aid of random numbers generated using a computer. The population sizes in these villages were: Mnenia (3328), Humai (1163), Masawi (1972), Kisese-Disa (3138) and Kikore (2649) based on population data from a particular village office during the study visit. Disproportionate sampling of 50 household heads per village was chosen due to: 1st, great variation in population size among the study villages, and 2nd, governance situation analysis among the study villages was based on the mean scores of each governance principle per a fixed number of respondents for each village to ensure the results are comparable across villages of the study site. Therefore, our focus was on governance scores per similar number of individuals from randomly selected households (household heads) from every village with less focus on proportional of selected individuals to village population. Also according to Teddlie and Yu et al. 2007, 50 units sample size is an acceptable size of representative sample in social research. The sampling unit was the household; and it was defined as all members related and unrelated who share: the same dwelling unit (living under the same roof), and same leader, resources, expenditures and meals [22,23]. Since from this definition the household is a group of several individuals that may be characterized by different attributes and perform different roles, the leader/head of household was interviewed on behalf of the household. Apart from the household survey, focused group discussions and key-person unstructured interviews were conducted. Same questions used for household

survey were administered to groups of respondents in focused groups. The focused groups include Village natural resources/environmental Committees (VNRCs) in five study villages; group of Village Forest Scouts (the forest guards); Members of Village Land Use Planning Team; farmers groups supported under African Wildlife Foundation (AWF) REDD+ pilot project; and members of the Community Forest Conservation Group which is responsible for managing the two government owned forest reserves (JUHIBEKO). Since each group composed of more than 10 members, four representatives (2 group leaders and 1 male and 1 female common member) were nominated by their groups to participate in focused group discussions and thus make a total of 20 participants per village. The ratio of female to male in focused group discussion was 1:3 to 2:2 depending on the number of female leaders in groups of a particular village. In the household survey, 86% of respondents (n=250) were male, and this skewed ratio was expected due to the common patrilineal culture of most societies in Tanzania and also the influence of religious both Islam and Christianity beliefs which consider a father/husband in a family as automatic a household head. Key-persons were 2 village leaders (chairperson and village executive officer) of each village, and 4 elders in the community (2 males and 2 females); two district authority forest officers; the district land, natural resources and environmental officer; and two staff from (AWF) which is responsible for implementation of REDD+ pilot named ARK For at Kolo-Hills forests. Again researchers' observation was used alongside with household survey to observe social setting in the study community in relation to daily community interaction with forest resources at their proximate. The use of several methods of data collection is a triangulation technique to reduce errors due to biasness and thus increasing reliability of the data [24]. Questionnaires and checklists of questions are survey tools used for data collection. Both questionnaires and checklists were prepared in English and Kiswahili, and administered in Kiswahili (the national language in Tanzania) by the authors. Kiswahili Language is fluently spoken by the study communities apart from their mother tongue. Questions were developed based on the principles of good forest governance of framework model for Assessing and Monitoring Forest Governance. Based on the framework model, 6 to 16 measuring indicator question statements (variables) for each of the principles of good forest governance were developed. Respondents' opinion or responses to the posed questions were based on the provided list of tentative responses measured on a five-point Likert scale.

Respondents were asked to indicate values reflected agreement with a statement; (0 = strongly disagree, 4=strongly agree) or a rating of the frequency of occurrence of an event or behavior (0=Not at all, 4=Always). A high score indicated a greater agreeing or higher frequency of an event or outstanding performance. The mean scores of indicators yield scores for a particular governance principle, whereas the mean score of all governance principles makes governance score for a particular

village. Governance scores were ranked to reflect the status of governance thus, a score below 1.0 denoted very weak; 1-1.75 point is weak; 1.76-2.5 fair; 2.6-3.25 for good and 3.26-4 for very good (Figure 1). The data were collected from communities of 5 villages: Mnenia, home, Masawi, Kisese-Disa and Kikore (indicated by yellow dots in (Figure 2). Before starting data collection questionnaires were tested by administering to fifteen households as a pilot and lead to minor wording changes following their responses. Data from household survey was done through visits to individual households and administer questionnaires to household heads. For the information which is not obvious, the respondent was asked whether he/she was informed of the issue prior to the indicator question. An example of a statement posed under the transparency in the collection and expenditure of income from forest by village government is: Does the village government collect income from the forest? [] Yes] [] No, [] don't know If yes, is the collection of income from forest and its allocation for expenditure made public?



(Source: ARK For Feasibility Study report, 2010).

Figure 1: Map of the study area showing ARKFor REDD+ pilot and CCIAM project area, and study villages.

- a. Information on income from forest budget is not disclosed to public
- b. Information on income from the forest is accessible to only a few committee members
- c. Information on income from the forest is not put on a note board, but any member of the village can access upon request at the village government office
- d. Information on income from the forest is put on a note board, but not discussed in village general assembly
- e. Information on income from the forest and allocation is on note board and discussed in public meetings include in village general assembly.

Information concerning performance of leaders of village governments, and member of various village committees; district forest administration and REDD+ project administration were obtained through both questionnaire survey and key-person unstructured interviews. The key-person involved village government leaders for information regarding the performance of the district forest administration and REDD+ project administration while key-persons for information on performance of village leaders and committee members were obtained through the snowball technique starting with one of experience elders of the community mentioned by village leaders. Secondary data collection involved an in-depth review of the national forest policy; national forest Act; and Land and village land Acts, which are the main legal tools supporting PFM approaches in Tanzania. Other documents reviewed were PFM national reports and sectoral based forest resource management tools including National Forest Program (NFP) documents and PFM implementation guide. Furthermore, we did an extensive literature review from various publications. Exploration and analysis of the data from the survey were done using SPSS Version 16 and Microsoft Excel Office 2007 computer programs. Content and Structural-Functional Analyses techniques were used to analyze text information from key - person interviews and focused group discussion. Factor analysis was done using Principal components analysis (PCA) to depict interrelatedness between variables (the measuring indicator statements) of a particular governance principle. Analysis of Variance (ANOVA) was used to depict statistical inference of differences in governance scores between villages.

Results and Discussion

Results from in-depth review of legal and policy documents supporting PFM

In-depth review of legal and policy document supporting PFM was done based on the FAO/ PROFOR framework for Assessing and Monitoring Forest Governance model. Important gaps that can hinder PFM and REDD+ effectiveness were revealed in a wide array including in:

- (i) Forest related policies and laws;
- (ii) Legal framework to support and protect land tenure, ownership and user rights;
- (iii) Concordances of broader development policies with forest policies;
- (iv) Institutional frameworks; and
- (v) Financial incentives, economic instruments and benefit sharing

Forest related policies and laws: The national forest policy 1998 while it is encouraging forest adjacent communities to engage in forest management responsibilities with local and central government forest reserves for reward of appropriate

user rights, it does not state who is a provider of working resources to communities. The policy is silent on the role and responsibilities of government institutions; including Forest and Beekeeping Division (FBD) and Tanzania Forest Service Agency (TFS) on the management of central government forest reserves under JFM. Likewise the policy does not recognize the village as a key community institution for JFM, but recognizes an organized community (Policy Statement 3 (p. 17), while in actual practice JFM is permitted by signing agreement for co-management between village and government on management of government owned forest reserves. The policy strongly encourages devolution of management responsibilities of unreserved forests to village governments as a means to improve management, but silent on devolving financial and material resources for the same. According to [14], rights and capacities that are transferred to actors at lower levels are the major determinants of the outcomes of devolution approaches to forestry resources management. The forest legislation provides a clear arrangement for benefits and unambiguous legal procedures in gazettelement of village-land forests, including, Village FR, community FR, private FR. However, the forest policy, Forest Act, and legislation are silent on degazettelement and degazettelement procedures of village-land forest reserves in the future, when the village communities need to utilize the land for alternative social and economic investments.

The forest policy and Forest Act legalized JFM as co-management approach involving the community (invited partner in management) and government (the forest owner) and require management responsibilities to be handled to communities while keeping silence on sharing of economic gains from the forests and on practical management activities or responsibilities of the government part. Similarly the government has been infringing its own approved Forest Act because the forest policy and Forest Act requires signing of JMAs as a pre-requisite for co-management to be implemented, but in most cases JFM has been implemented without approval of JMA by government part. The government has been reluctant in signing JMA particularly those relating to JFM in productive NFRs. A limited number of agreements have been signed by the government out of several hundred villages developed JMAs around a range of forests managed by central or local government for more than a decade [25]. The quality of forest governance through PFM approaches depends heavily on how laws and regulations are applied and respected by stakeholders.

Legal framework to support and protect land tenure, ownership and user rights: The Village Land Act 1999, Local Government Act 1982 and Forest Act 2002 together provide CBFM legal basis for villages to own and manage forest resources on village land in a manner that ensure ecological sustainability and economic well being. Land classification has implications for land management and determines the rights and responsibilities of both community and state property rights. Consequently, the classification of the unoccupied and unused village land for future use as a public land has made that land available for

conservation and earmarked for carbon market under REDD+ initiatives. Once the land is reserved and gazetted as a village forest reserve for carbon credit under REDD+, there is no way the land can be availed to the community for socio-economic utilities since there is no legal provision to degazette forest under the forest Act of 2002. This can compromise the right of the community to access the land in the future for other social and economic investments, thus can lead to land crisis. The extent to which the legal framework recognizes and protects forests-related property rights, including rights to carbon is poor for the fact that Village Land Act authorizes the transfer of Village Land to General Land when deemed necessary for public interest purposes, for instance to establish large scale foreign investment on village land. As a result, the government can transfer Village Land including VLFs to General Land for large scale agricultural production by foreign investors. This is a risk for villagers to lose their land and rights to resources because after the period of the lease, the land is returned to the government and not to the village. The degree to which the legal framework recognizes customary and traditional rights of indigenous peoples, local communities and traditional forest users is contradictory between the Land Act and the Village Land Act. While Land Act (Art. 4 (3)) recognizes customary rights of occupancy, even if the land is not registered and the landholder has no certificate, Village Land Act recognizes village land right of occupancy on registered village, attested by a certificate of registration. Again Tanzania Forest Services Agency (TFS) categories unreserved forest land within villages as 'general land' whilst the Ministry of Lands classifies this land as Village Land. For this ground TFS harvest from the unreserved forest land within villages through district councils whereby district councils retain only 5%, central government taking 95% of the revenue and leaving 0 % to the respective village [26].

Concordances of broader development policies with forest policies: Forest resources management as part of environmental concerns is mainstreamed in National broader development policies including the Strategy for Growth and Reduction of Poverty-MKUKUTA and National Environmental Action Plan (Neap) [27]. Consistency and coordination of national development plans and strategies with forest policies is good [28,29]. However, coordination of sectoral (e.g. mining, agriculture, transport, energy) policies, laws and regulations with forest policies, laws and regulations is weak. Provision for sectoral coordination is mentioned in the Forest Act 2002 but remained on papers. The extent to which forest laws support enabling environment for enhancement of forest dependent communities' livelihoods is rhetorically outstanding but illusive in practice [30-32]. Consistency of village land use plans with forest policy goals and priorities is good. Consistency of forest policies with policies on climate change mitigation and adaptation is good as it is in the national strategy on REDD+ [33]. The existence of means, including high level cross-sectoral policy coordination mechanisms, to harmonize development policies and forest policies is weak [34]. The extent to which

forest and land use policies and laws ensure gender equity is good [35,36].

Institutional frameworks: Clarity of forest-related mandates at national and sub-national government levels is ambiguous [37]. Forest sector in Tanzania exists under multiple strong organizations across three different ministries concurrently overseeing management of the same resource. These include Ministry of Natural Resources and Tourism (MNRT), Regional Administration and the District Councils Local Governments under the President's Office. Horizontally, the forest sector is administered in the three ministries while vertically administered under three government levels; by state (central), meso-government (district authority) and village government (community level). Because of these multiple centres of power and responsibilities, the structure of forest governance is so complex that it leads to ineffectiveness when those centres of power have conflicting goals over the resources. Inefficient allocation of manpower and resources is just one case in point. However multi sectoral-linked nature of forest sector has an opportunity for greater cross-sectoral integration and broad interactions, which are key features for improved governance of forests across levels of state governance and improved engagement between the public, private, and civil society organizations. Adequacy, predictability and stability of forest agency budgets and organizational resources are uncertain. Availability and adequacy of information, technology, tools and organizational resources for the pursuit of agency mandates are inadequate [38,39].

Financial incentives, economic instruments and benefit sharing: Legal provisions under the forest policy 1998 and Forest Act 2002 create a weak environment for equitable sharing of forest revenue between government and co-manager community under JFM regime. There is inequitable distribution and access to forest resources among the two managing partners. Though the community is the primary cost bearer and the actual implementer of forest protection and management through forest patrols, maintenance of fire lines and other JFM activities, only minor forest products for consumption are allowed and accessible to communities. Incentives accrued by local communities are little compared to the costs incurred. In this study, the community mentioned several costs they incur under JFM including difficulties in patrolling vast forest boundaries without transport, casual wear, and risks of being attacked by dangerous wild animals and forest criminals (i.e.; those found doing illegal logging), and loss due to wildlife crops vermin.

Furthermore, the right of communities to hold the government or the government agency accountable in case of violation of the JMA is barred. That is to say, legal provisions under the forest policy 1998 and Forest Act 2002 has provided few incentives that make JFM regime unattractive option for communities and thus it is challenging the effectiveness and sustainability of PFM in government owned forests. Furthermore, it seems as a

disgrace that, the failure of government to control deforestation and degradation due to deficiency in management expenses was reported by handing over the management responsibilities to very poor rural communities while holding facilities and financial resources for management. The perspective of PFM of reducing government management expenses was through reduced constant salary for government employed forest guards and instead the communities would do the same at free of cost in voluntary manner. Therefore, all other forest management running costs would have been availed to communities. Openness and competitiveness of procedures, such as auctions, for allocation of forest resources is poor [39,40]. Mechanisms for the internalization of social and environmental externalities from forest resource use, including payments for forest-derived environmental services have been proposed but not effectual.

Results from household survey

Factor analysis program (Principal components analysis) was used to identify factors within each group of governance measuring indicators, on the grounds of their same pattern of correlations. A single factor emerged from measuring indicators of five governance principles. Two governance principles; effectiveness and transparency split each into two separate factors (Table 1). Effectiveness split into two distinct factors; (i) Effectiveness of performance of village government and (ii) effectiveness of performance of other actors/stakeholders. Effectiveness principle involved thirteen measuring indicator items designed to measure the perceived level of attainment of social and development interventions initiated at village level and supervised under village government. Transparency principle splits into two factors. 1st factor comprised of ten measuring indicator items designed to measure levels of general information flow while the 2nd factor comprises of six measuring indicator items for transparency in financial matters at the village institution [41-45].

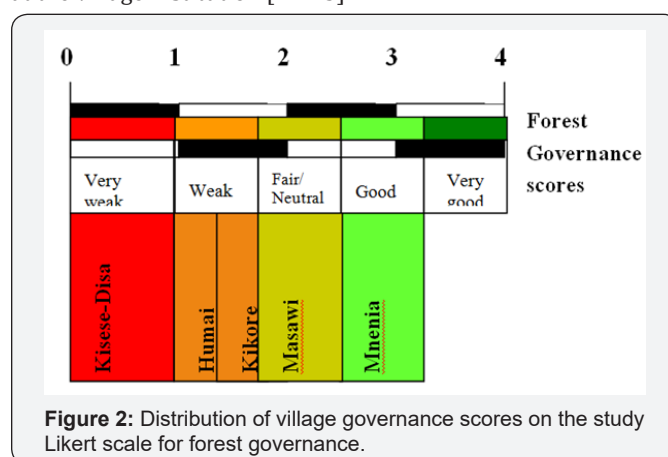


Figure 2: Distribution of village governance scores on the study Likert scale for forest governance.

Likert scale for forest governance scores Scores below 1 point denoted very weak; 1-1.75 point is weak; 1.76-2.5 fair; 2.6-3.25 for good and 3.26-4 for very good. Four out of seven governance principles received mean scores on fair region of the Likert scale: transparency; public participation; effectiveness and

responsiveness. Three governance principles: accountability; equity and fairness; and the rule of law received scores below average at weak region. Governance score of pooled data for the whole study area, assuming the sample is homogeneous was 1.79; indicating governance status is at fair region towards weak. However, governance analysis per village (Table 2) revealed a significant difference in scores at ($P < 0.05$). The Mnenia village score was 3.20 points showing good governance, Masawi score 1.96 at neutral/fair region while Humai, and Kikore scores ranked at weak region and lastly Kiseke-Disa village score was below 1.0 which indicates very weak governance (Figure 2). Those villages receiving considerable benefit from PFM and REDD+ project; and with good furnished village and ward offices scored higher in governance while those most impoverished in resources including short of village office building and receiving little or no PFM and REDD+ benefits (support and REDD+ payments) scored very poor in governance (Table 2) For instance while REDD+ pilot project has supported Mnenia village with construction of village and ward office buildings, and on improved agricultural support to farmers groups, in some villages only agricultural support were provided while other villages including Kiseke-Disa were not considered at all. Village governance scores were matched with: (i) scores on perceived achievement of PFM approach based on community expectations at the time it was adopted to the time before REDD+ project and (ii) achievement of PFM approach based on community expectations at the time it was adopted to time after REDD+ pilot project. The results showed that, PFM had succeeded both before and after the REDD+ project (Figure 3). However, PFM success with REDD+ project seemed to be more sensitive to governance status. Villages which scored higher on governance were also perceived to have better PFM success under REDD+ project. This implies positive influence of REDD+ to PFM success under good governance and vice versa to situation of poor governance. It was found also that good governance at village governments match up with a good resource capacity of the village; and considerable support from PFM and REDD+ projects. Furthermore, it was revealed that the community perceives PFM and REDD+ projects to have very minimal economic benefit to individual households. The measuring indicator on PFM and REDD+ projects' economic benefits to households had a mean score below 1 ($n=250$) and rank the last score among governance measuring indicators. This implies that, minimal benefit of the projects/ approaches to individual households is among important hindering factors in forest resource governance through JFM. The perceived benefit of the forest resource to households is a crucial incentive to motivate their choices towards PFM activities as they are done voluntarily at large extent. Community incentive is a key factor for success of PFM approaches since it greatly influences participation and thus affects most of the other factors (Figure 4). It was also noted that, low turn up in village meetings related to forest management ranked the second least score of governance measuring indicators with 1.05 mean scores ($n=250$). This seems to be a consequence to the incentive factor in view of the

fact that when people perceive PFM has a negligible contribution to their livelihoods they may pay less attention to PFM related activities. Incentive factor may impart cyclic impact to all of governance factors (Figures 5 & 6).

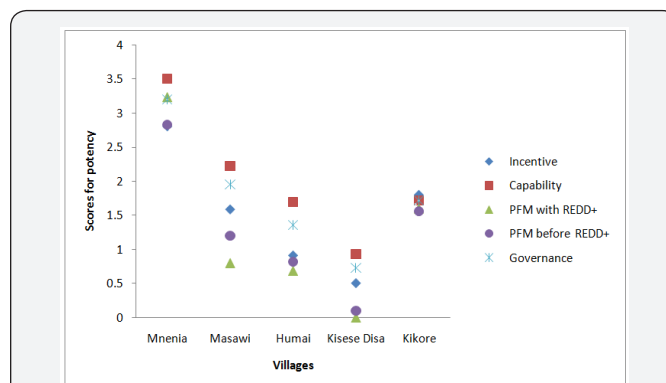


Figure 3: Comparison of governance scores per village versus perceived success of PFM before REDD+ and with REDD+ pilot project; village resource capability; and incentive support from PFM and REDD+ projects.

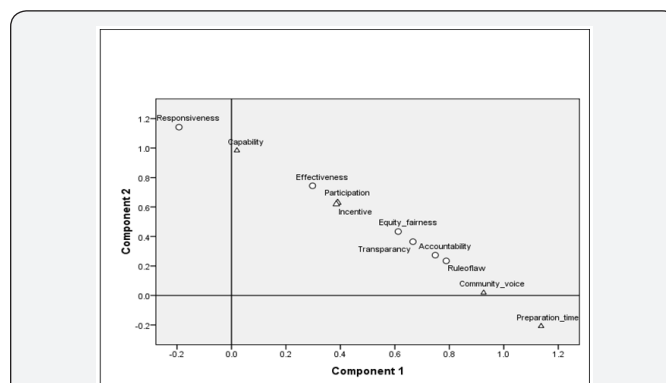


Figure 4: PCA Analysis bi-plot displaying covariance distribution of governance principles with: stakeholders incentives, village capability, community voice, and preparation time as other influencing factors for PFM and REDD+ success.

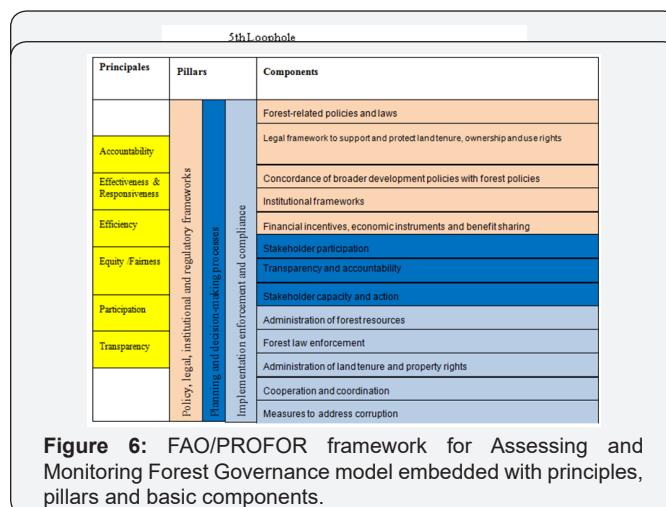


Figure 6: FAO/PROFOR framework for Assessing and Monitoring Forest Governance model embedded with principles, pillars and basic components.

Since the main source for economic incentive to PFM stakeholders is revenue collection from forests, the structure of

forest revenue administration is potentially a fundamental cause for the slow pace and the ineffectiveness of PFM. For instance, study elsewhere by found that the more effective community guards become in protecting the forest, the earnings from PFM as incentive decreases. At local district authority level, the more power and resources are devolved to strengthen communities' control over forest resources under CBFM and JFM, the lesser revenue will be gained from harvesting from general land (open access) forests and illegal harvesting from government reserved. Again evidence from literature [41,42] has shown that revenue collection from woodlands was among the main financial sources for running some district councils. Hence strengthening PFM would mean blocking financial inflows to local district coffers that would necessitate central government compensation through the state budget. Therefore, the structure of forestry revenue administration is potentially a fundamental cause for the slow pace adoption of and the eventual ineffectiveness of PFM. A strong correlation was found among governance criteria with a correlation coefficient (R) value of 0.79-0.98. The correlation between incentive and governance principles was strong, with R coefficient values ranging between 0.86-0.98. Likewise correlation between resource capabilities of villages with governance principles was strong, and particularly the correlation between village resources capability and village government effectiveness, with an R coefficient value of 0.95. This implies that the failure of government to invest substantial effort in strengthening capacity of village governments to effectively execute forest management devolved responsibilities underlies ineffectiveness of PFM. Village leaders of the study villages claimed to receive no management funds from either central government or local authority district councils. The worst situation is where some villages i.e. Kisese-Disa village government at the time of this study had no place for executing village government administration activities. In such situation, it is almost impossible to expect good governance while the governors are lacking a formal place to execute their responsibilities. Forest governance status under PFM approaches was found to be the outcomes of influence from two categories of factors: (i) Influence from governance principles and (ii) Influence from "governance supportive" factors. The authors of this paper named those factors which influence governance status, but are not among governance principles as "governance supportive factors".

Results of focused group discussions

Information from focused group discussions to a large extent corresponded to that from questionnaire survey and key-person interviews. Discussions on how and to what extent the Kolo-Hills forest reserves contribute to people's livelihood found that it is difficult to estimate in quantity the real benefits and contribution of the forest by physical material from the forest. This is because communities are only allowed to gather dead wood for firewood and minor products of medicinal herbs and seasonal fruits which

all are just for household consumption. However, villagers in PFM villages appreciate ecological services, benefits and conservation related opportunities through projects that they enjoy more as compared to those far from the forest. For example, they mentioned major opportunity of having good climatic condition and easy access to clean water supply for domestic and livestock that is lacking for people in few kilometres from the forest. Generally, all groups appreciated PFM as the best approach to manage the forests, but insisted on the need for the government to put clear the issue of benefit sharing and the government to play its role in supporting the communities with funds and facilities required at the village offices to effectively run PFM activities. They mentioned some of requirement they were lacking including some tangible incentives for patrolling crew or joint-village forest guards. They said the lack of incentives to village forest guards had led to dishonest in handling fines from defaulters. Also lack of identity cards for VNRCs members and forest guards that they should hold when they enter the forest for management activities [43-48].

The representative community participation through VNRCs was debated and seemed to be not effective for PFM sustainability because most of PFM incentives are captured by the few who are mostly informed and directly involved in forest activities and leave the majority uninformed and empty-handed. They proposed VNRCs to remain as a community representative board for supervision, coordination and advisor to village government on matters of PFM while practical management activities should be carried out by representatives of every household in a rotational manner. This would enable the whole community to be actively involved and informed of PFM matters and benefit as well. They mentioned local institutions apart from VNRCs which, if recognized, appreciated and inclusively involved in PFM issues could foster "easy rotation of conservation wheel" that is the responsibility of the community in PFM. The mentioned institutions include religious institutions, political parties, primary and secondary schools, health centres and other socio-economic groups i.e. beekeepers, pastoralist groups, farmers groups, and village crediting institutions. Although these institutions are essential in conservation, they are not formally recognized in the forest Act and thus are less involved. Most of the groups agreed that if REDD+ programme is well planned and organized could greatly support achievement of PFM objectives of conservation, livelihood and governance. However, they expressed a concern in anticipation of facing more restriction of access to forest products and services since just for the pilot project community had noted an increased restriction of taking some products. Moreover, there was a challenge of overlapping and overruling village government authority as well as VNRCs and village forest guards' roles with REDD+ pilot project management. As noted by one participant: "It has been experienced at this time of the REDD+ pilot project, the trained team of forest guards is

directly accountable to AWF instead of their respective village governments. (Personal communication). Practically, patrolling of forests was done in a cross-boundary of villages throughout the KoloHills forest landscape without collaboration with village government offices. As a result all matters of protection rested on the mandates of the patrolling crew with no supervision of quality performance from village governments, including handling of offenses, money from fines and recording of daily activities at the village level. This created a gloomy environment on the fate of PFM with REDD+. It was also explained that, concept of REDD+ on PFM framework hasn't been clear and some villages resisted the REDD+ pilot project for fear of losing their rights and opportunities expected under PFM approach. Again, due to limited awareness and transparency as a result of weak inclusiveness during project design and establishment phase, the local community overrated PFM income potentials to individuals and households. Thus, at this time of PFM implementation community failed to appreciate realistic minimal PFM livelihood benefits. Furthermore, intellectual incapability due to low literacy level of the elected village chairpersons was mentioned in focused group discussions at the Kikore village (CBFM village) among challenges for good resource governance. Up-to the time of this study education level of candidates contesting for village chairpersons was not formally among the criteria for candidate selection for democratic elections at village government. As a result a person would be elected based on his/her convincing power of inherent vocal strength, which they said it could not work for issues that needed skills in liaison and bargaining with state and NGOs stakeholders on livelihood aspects in various conservation projects.

Conclusion

With the application of the FAO/PROFOR forest governance analysis framework model, this study was able to establish the weak areas in forest governance at the village government level where the challenges of forest management through PFM approaches are rooted. The status of overall governance at villages which are grassroots institutions implementing PFM does not foretell REDD+ readiness. Tangible incentives for individuals, households and incentive to all government tiers found to be the pivotal factor that underlies success or failure in forest resource governance through PFM approaches. Mismatch between PFM administration structure through the existing village government framework of local government and the REDD+ pilot project administration framework with newly introduced forest protection structure seem to threaten the effectiveness of PFM. Legal and regulatory framework guiding the direction of forest management through PFM was found with several faults which underlies poor forest governance. The focal of effective forest governance is institutional effectiveness and that relies centrally on the responsible authorities having adequate resources; including financial, technical, and facilities. Thus, strengthening of village government capabilities is

indispensable for PFM effectiveness since both the village governments as well as the normal citizens engaged in PFM need to be facilitated to know clearly what to do, how to do and have resources for the same.

Recommendations

There is a need to review Legal and regulatory framework supporting PFM to fill the observed gaps, including the addition of missing provisions and harmonizing inconsistency between PFM and REDD+ project developers have to apply more inclusive participation processes in project design to ensure clarity of project objectives to target communities and participation of key stakeholders from the beginning. As the approach for REDD+ implementation will adopt the existing PFM framework, there should be a mechanism to harmonize REDD+ administration framework within PFM structure embedded in village government systems instead of the establishment of new local institution working in parallel with village government. There is a need to review and restructure forest revenue management framework in a manner that incentivize communities under village government as well as government at district authority and state government to strengthen PFM approaches. According to Saunders et al. 2010 for REDD+ to be practical and effective, there is a need to establish appropriate structures and policy framework to tackle the complex political and economic incentives which have resulted in a lack of forest law enforcement, high levels of deforestation, forest degradation and unsustainable management practices.

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