The implications of improved communications for participatory forest management in Tanzania

Elizabeth J. Z. Robinson[1]* and Faustin Maganga[2]

[1]*Environment for Development Tanzania, Department of Economics, University of Dar es Salaam, PO Box 35045, Dar es Salaam, Tanzania and* [2]*Senior Lecturer, Institute of Resource Assessment, University of Dar es Salaam, Dar es Salaam, Tanzania*

Abstract

Following the 1998 National Forest Policy and Forest Act of 2002, participatory forest management (PFM) is being introduced in Tanzania. PFM has two key objectives: to reduce forest degradation thereby increasing ecosystem services, and to improve the livelihoods of local villagers. A unique data set collected in 2006 suggests that significant challenges remain with respect to communicating the new forest policies if the objectives of PFM are to be achieved. First, villagers as a group are much less well informed than other stakeholders, and their knowledge is often inaccurate. Second, women are less likely than men to have heard of the changes. Third, how PFM will contribute to poverty reduction (a key objective of PFM) is not always clear. Fourth, environmental degradation may not be reduced as much as anticipated – without alternatives sources, villagers often continue to cut trees for charcoal and firewood in the protected forests. Finally, several mismatches in perceptions are identified that could lead to difficulties in implementing PFM.

Key words: communications strategy, forest policy, participatory management

Introduction

Following the 1998 National Forest Policy (United Republic of Tanzania, 1998) and the Forest Act (United Republic of Tanzania, 2002), participatory forest management (PFM) is being introduced as an approach to managing Tanzania's forests, allowing, under specific conditions, local communities to benefit legally from some nearby forests but at the same time re-imposing more restrictive extraction rules in forests that are particularly important for ecosystem provisioning and biodiversity protection (Kajembe & Nzunda, 2002; United Republic of Tanzania, 2006). Two broad approaches to PFM are being introduced. Under community-based forest management (CBFM), villagers can declare and gazette forest areas on village land as 'Village Land Forest Reserves.' The villagers take full management responsibility, setting and enforcing rules and regulations over the forest management and use, including the collection of nontimber forest products (NTFPs). The second approach, joint forest management (JFM), applies to the management of national or local authority forest reserves, in which villagers enter into management agreements with the district council or forest division. Under JFM, villagers may be given rights to collect forest resources such as timber and firewood within forests designated for production, but not those designated as protection reserves (Wily and Dewees, 2001; Lovett, in press). In Tanzania, almost 7% of villages are currently involved in JFM and 10% in CBFM (United Republic of Tanzania, 2006).

The new forest laws, and PFM in particular, are in part a response to continuing degradation and encroachment of Tanzania's forests, exacerbated by a lack of funds and commitment from central government to protect the forests. Indeed, conceptually, PFM could offer a 'win–win' solution for the environment and livelihoods of forest-dependent rural poor. PFM aims to protect ecosystems through improved management and better enforcement of regulations over forest use, whilst also taking into account villagers' rights and often traditional access to resources.

Earlier research and observations have revealed knowledge of the actual content of the new forest laws in general to be very low among rural communities and organiza-

*Correspondence: E-mail: ejzrobinson@hotmail.com

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tions responsible for supporting the forestry sector such as NGOs and local and national government institutions. Improved communications were therefore identified as a critical element of the national PFM process so as to create demand at the local level and improve the efficiency of the supporting organizations. This paper takes a new perspective on PFM and its impact on ecosystems and livelihoods by addressing the extent to which poor communication of PFM and in particular uneven knowledge of PFM rules and regulations among different stakeholder groups can undermine the intended outcome of PFM. This research is relevant to other situations in which many stakeholder groups are involved in the processes that influence ecosystems and change.

Using a unique data set collected by the authors in April and May 2006, this paper argues that a number of significant challenges remain with respect to communicating the new forest policies if the objectives of PFM are to be achieved. The key challenges addressed are the mismatches in perceptions over the impact of the changes, and the different levels of knowledge and understanding of the changes among different stakeholder groups, both of which are likely to lead to difficulties in implementing PFM successfully. Villagers as a group are much less well informed than other stakeholders, and their knowledge is often inaccurate. Many villagers responded 'don't know' to a wide range of questions; women are less likely than men to have heard of the changes, and these differentials are greater in villagers where PFM initiatives are in place. There is also an asymmetry in information and knowledge among different stakeholder groups.

If these challenges are not addressed, there are a number of likely negative consequences. Those stakeholder groups and individuals with better information and knowledge concerning the changes in forest rules will be most empowered to take advantage of the changes, possibly to the detriment of other individuals and groups and the ecosystem. These individuals may also have the opportunity to undertake illegal activities with little fear of being found out or punished. Women are particularly likely to be marginalized and lose out, as they are less knowledgeable and confident about the changes yet often most dependent on forest resources. And conflict may well increase with mismatches in information levels, because of distrust and increased opportunities for people with more information taking advantage of their better knowledge. In turn the ecosystems that PFM is designed to protect are also likely to suffer.

Materials and methods

To collect the data used in this paper number of different socio-economic approaches were used, from structured questionnaires administered to individual villagers through semi-structured interviews with key informants at the ward and district level, to less-structured conversational interviews with individuals at the regional and national level. To allow a comparison of the knowledge levels and perceptions of the different stakeholder groups, many of the same questions were asked to the different groups, although the format of the interviews differed. Although some group discussions were included, they can be dominated by those respondents who are either most knowledgeable or most vociferous, and so the general knowledge levels of villagers could be biased or overstated. Using individual surveys from a random sample of villagers in each village enabled a representative spectrum of villagers' voices to be recorded. Moreover, the data could be analysed by, for example, gender and whether JFM or CBFM was being introduced in a particular area.

Sampling approach

Interviews were undertaken with stakeholders at the national level, and in six regions, Arusha, Iringa, Kilimanjaro, Lindi, Mbeya, and Tanga, at the regional, district, ward, and village level. Within these six regions, districts were chosen where villagers have had both considerable exposure to PFM and less exposure, so that perceptions can be compared with more and less exposed villages. A survey of 503 households was included, approximately 20 per village, a compromise between choosing a sufficiently large sample per village and sampling a sufficiently large number of households, within our budgetary constraints. The sample of villages was purposive, responding to the particular requirements of the research project. Households were chosen randomly from a village list, ensuring that both male and female-headed households were represented.

Results

Information concerning the changes in forest laws typically flows 'downwards' from the national through regional, district, ward and village level. However, whether information flows freely and accurately depends on the effort and abilities of particular individuals and organizations. Typically the most senior individuals have control over information flows and can choose the extent to which

they share the information with those 'lower down.' At each level, information and therefore empowerment can be restricted – whether deliberately or not – such that most likely villagers are the least-well informed. For example, several stakeholders felt that individuals at the district and ward level were deliberately restricting information flows to villagers, and that some individual villagers lacked sufficient knowledge, in part because of the low levels of education.

Both knowledge and confidence levels among different stakeholders differed considerably. First, and simply, some individuals have had more opportunities to get information about PFM, for example, if their job demanded it, or their village was involved in it. Second, some individuals seek out information and have stronger opinions concerning PFM, where it works, and why it might not work. Third, individuals naturally have different levels of confidence in their own knowledge and abilities.

Stakeholder knowledge levels at the village level

The data confirmed that villagers as a group are much less well informed than other stakeholders concerning the recent changes in forest policy and law, and specifically concerning JFM and CBFM. For example, over a quarter of villagers have not heard of the changes in forest laws, compared with only 7% of village leaders (see Table 1). In part, one might expect village leaders to be better informed and more engaged in the PFM process than villagers as a whole – some villagers may be disinterested, some may have little direct reliance on the nearby forests. But, particularly where the differences in knowledge are large, it is possible that village leaders, whether intentionally or not, have not have shared information sufficiently with the villagers. Further, the data show that the differentials in knowledge are greater in villages where JFM and CBFM have been introduced than where it has not, and this is particularly so for JFM villages.

Not surprisingly, villagers and village leaders are more likely to have heard of JFM or CBFM in villages where the initiatives are being implemented (see Table 2). However, even in these villages, many villagers have not even heard of the terms JFM and CBFM (33% in JFM villages and 42% in CBFM villages). In villages where there are no PFM initiatives, only 13% of villagers had heard of the term CBFM and 16% JFM, yet over half of village leaders had heard of these terms. That is, information on the changes has reached the village leaders but not the villagers. This lack of villager knowledge is of concern. If villagers do not even know that CBFM or JFM is an option, then they are not empowered to initiate the process of managing and benefiting from the local forests.

Women are less likely than men to have heard of the changes, and these differentials are greater in villagers where PFM initiatives are in place, suggesting that in villages where JFM and CBFM have been introduced communications initiatives to date have been more successful at reaching men than women. Moreover, women are more likely to answer 'don't know' in villages where JFM and CBFM are being introduced than where there is no initiative, suggesting that the additional information and activities could have confused women as to the purpose of PFM.

Ensuring that women are involved in the JFM and CBFM processes is particularly important given their greater responsibility for collecting NTFPs such as fuelwood, forest fruits and vegetables (Capistrano and Colfer, 2005; Adepoju and Salau, 2007). Women are likely to be particularly knowledgeable about the current state of the different forests around their villages. Yet the contribution of NTFPs to households is often hidden – the resources are rarely sold in formal markets, and collection of the resources, particularly from reserve forests, may well be illegal.

Villagers' specific knowledge concerning PFM was found to be limited and often inaccurate. The large

Table 1 Knowledge of changes in forest laws by village 'type' and gender

Question: Have you heard of any of the following: National Forest Programme, Forest Policy, 2002 Forest Act?	Villagers in villages where:						
	JFM is being introduced (99[a])		CBFM is being introduced (105[a])		No PFM initiative (110[a])		Village leaders (29[a])
	Men	Women	Men	Women	Men	Women	
% answering 'Yes'	93	74	85	57	62	70	85

CBFM, community-based forest management; JFM, joint forest management; PFM, participatory forest management.
[a]Number of respondents.

Table 2 Villager responses disaggregated by village 'type'

Question: have you heard of the following terms? % of *respondents answering yes*	JFM villages		CBFM villages		No initiative	
	Villagers	Leaders	Villagers	Leaders	Villagers	Leaders
PFM	57	93	42	86	35	67
JFM	67	80	35	71	16	67
CBFM	21	40	58	86	13	50
Heard of none of the above	22	0	27	13	43	33

proportion of 'don't know' answers to particular questions suggests that even when villagers are aware in general of the changes they are not sufficiently knowledgeable and empowered to ensure that their rights are protected. For example, even amongst villagers involved in PFM initiatives, a large proportion (more than half of the villagers involved in JFM) did not know or did not have an opinion as to who makes the rules governing these forests.

Stakeholder knowledge levels at the sub-national and national level

Of the sub-national level stakeholders interviewed (at the ward, district, and region level), the ward-level officials stand out as having much less detailed knowledge about PFM and less confidence in their knowledge (see Table 3). Moreover, the ward level officials are most likely to answer that they do not feel that the new forest policy and act have been sufficiently well communicated to them. Ward-level officials are much less likely to have detailed knowledge of even the basic differences between JFM and CBFM, and of the differences between JFM in production and protection reserve forests.

Although the samples are small, for the national level stakeholders there is a strong positive correlation between stakeholders' perceptions of how well the changes have been communicated and how confident the individuals are about their knowledge (that is, those who felt the changes had been well communicated tended to be most confident); for the sub-national there is a weak but positive correlation. This finding suggests that if people feel that the changes have been well communicated, they are more confident about their knowledge concerning the changes. There is a general consensus among all stakeholder groups that those at the district level are particularly well informed and those at the ward level poorly informed (see Table 4).

Table 3 Detailed knowledge of national and sub-national stakeholders

Question: In your opinion, what are the key differences for villagers between JFM and CBFM? (unprompted, multiple answers OK)	Ward (12)	District/ Region (26)	National (7)
Ownership of land	18	8	71
Rights to forest resources for CBFM	17	44	29
Different management of land	8	4	29
Rights to revenues from land	17	28	29
Other	0	12	28
None	42	16	14
Don't know	25	8	0
Question: In your opinion, what are the key benefits for villagers from JFM in production forests compared with JFM in protection reserve forests? (unprompted, multiple answers OK)	Ward	District/ Region	National
Revenue generation for villagers	8	35	71
Rights to resources in the forest	8	35	57
Rights to extract timber from forest	0	15	57
Other	0	4	0
None	42	0	0
Don't know	42	15	14

All values are percentages.

Compared with those at the ward level, regional and district level stakeholders appear to significantly overestimate the extent to which village leaders are informed about changes in forest laws. And village leaders themselves appear over confident about their knowledge concerning the changes in forest laws. Although overall villagers replied that they were relatively confident of their knowledge, many fear that they will have worse *de facto* rights after the implementation of PFM initiatives, even if their *de jure* rights are greater. This may well be true,

Table 4 Perceptions concerning access to information

Question: Do you feel that in general that regional/district/ ward/village level officials are themselves sufficiently informed about the new forest policy and forest act?	Perceptions of regional and district stakeholders over...			
	Regional-level officials' knowledge level	District-level officials' knowledge level	Ward-level officials' knowledge level	Village leaders' knowledge level
Yes/somewhat	55	93	57	48
Not very/not at all	30	4	36	33
Depends/ don't know	15	4	7	19
	Perceptions of ward level stakeholders over...			
	Regional-level officials' knowledge level	District-level officials' knowledge level	Ward-level officials' knowledge level	Village leaders' knowledge level
Yes/somewhat	46	87	40	14
Not very/not at all	40	13	60	79
Depends/ don't know	13	0	0	7

All values are percentages.

especially where villagers were using the forests extensively, albeit often illegally before the introduction of PFM. The villagers' concerns may also be a reflection of their lack of detailed knowledge concerning JFM and CBFM, in particular the role of villagers and the changes in villagers' favour. In contrast, village leaders are considerably more likely than villagers themselves to believe that villagers will have better rights after the changes. Taking account of these mismatches in perceptions is important as they could lead to problems in the implementation of PFM.

Perceptions of key goals and objectives and changes as a result of the new laws

Although stakeholders at all levels typically identify environmental goals – such as conservation, reduction of degradation, and sustainable use of forest resources – as key objectives of the new forest laws, far fewer individuals, and villagers in particular, mentioned socio-economic goals in general and poverty reduction in particular (see Table 5). Village leaders and national and sub-national stakeholders were more likely to mention benefits to villagers, such as empowerment and poverty reduction. That villagers are most likely to identify reduced degradation as one of the key impacts of the changes could be a consequence of past campaigns on forest conservation rather than current information on PFM, given that there have been several extensive campaigns since 1980 such as *Misitu ni Mali*, *Moto na Mazingira* and Village Aforestation.

With respect to the impact of the changes, again villagers focused most on the PFM forests themselves, highlighting reduced degradation – as did the village leaders – although almost one third of villagers could not suggest any changes. Again the perspectives of stakeholders at the national and sub-national level and village leaders concerning perceived or anticipated changes resulting from the new forest laws were different. They were much more likely than villagers to stress also poverty reduction, the empowerment of villagers, the introduction of PFM, improved cooperation and coordination among different

Table 5 Summary of stakeholders' perceived goals and objectives of the new forest laws (unprompted)

% of respondents identifying:	Villagers (503)	Village leaders (29)	Sub-national (44)	National (7)
Environmental goals	74	88	76	100
Socio-economic goals (excluding general 'poverty reduction' response)	2	13	21	0
Poverty reduction	6	19	14	14
Don't know	17	3	2	0

agencies, decentralization, and the involvement of the private sector. Villagers (perhaps surprisingly given responses to later questions) did not highlight possible negative effects of the changes on their own livelihoods. The different emphasis of the different 'levels' of respondents is shown in Fig. 1, which shows clearly that local people are still in the main unaware of the implications of PFM.

Typically, individual villagers are likely ultimately to be concerned with the impact of PFM on their own livelihoods. And indeed, poverty reduction is stated as one of the key objectives of PFM. When prompted, 86% of sub-national stakeholders and all the interviewed national stakeholders believed that the new approaches to forest management will help to reduce poverty. Yet, unprompted, villagers as a group were least likely to identify PFM as having a positive impact on poverty and livelihoods. Most see PFM as an approach to improving conservation of Tanzania's forests. Moreover, in villages where CBFM has been introduced, 29% of villagers felt that poverty had actually worsened (and 17% in JFM villages), and where a PFM initiative is being introduced, villagers are less likely to consider poverty reduction as a key goal or objective than where there is no initiative. Villagers who do see poverty as increasing with the introduction of PFM typically attribute the increase to actual or anticipated reduced access to forest products, particularly in the short run if the forest needs to regenerate.

How PFM will contribute to poverty reduction is not clear to many stakeholders. Villagers in particular had very few ideas as to how poverty would be reduced, and indeed, there are few direct options for poverty reduction (where villagers get tangible direct benefits from the forests themselves, either through more sustainable harvesting or new rights to collect NTFPs or cut timber) where JFM is being introduced to reserve forests where few extractive activities are permitted. Key NTFPs collected by villagers from the forests adjacent to the surveyed villages are fuelwood, poles for house construction, mushrooms and medicine. Other studies that have quantified these benefits suggest that the rural poor have a high dependence on these resources (Narain, Gupta & Van't Veld, 2005). Forest-based options for poverty reduction mentioned by respondents include bee keeping; indirect options include providing villagers with alternative livelihood options or with improved facilities, such as a new school building or hospital.

If national and sub-national level stakeholders are inclined to believe that poverty reduction and general improved livelihoods is also perceived by villagers to be an aim and outcome of PFM initiatives, then these stakeholders may assume that villagers are more positive and engaged with the process than they are in reality, which may undermine the implementation of PFM. One important issue is that the contribution of forest products to household livelihoods is currently not known. It will be

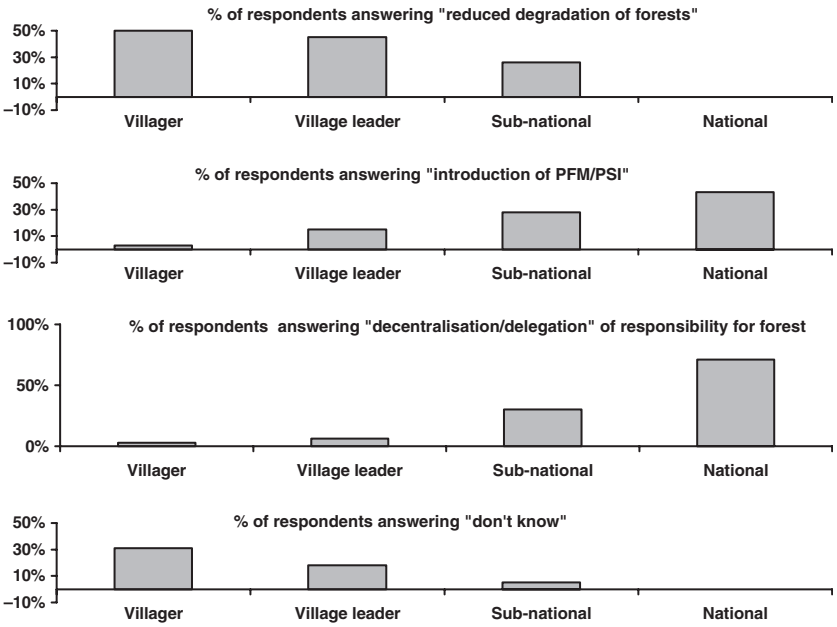


Fig 1 Graphs demonstrating differences in stakeholder responses to the unprompted question 'what are the most important changes caused by the new forest laws that you know of?'

difficult to determine the impact of PFM on poverty reduction without this baseline data.

Opinions and concerns over the outcomes of the changes

Common concerns among stakeholders were that the importance of forest products for rural livelihoods is not sufficiently understood and so poverty could increase without officials realizing; that villagers and officials do not understand the differences between JFM and CBFM; that forest regulations are not sufficiently clear concerning the involvement of villagers in forest activities; that communication among regional, district, and ward officials is not sufficient; that guidelines are not clear; and that there is a limited capacity of partners to negotiate in JFM because of a lack of knowledge and rights. Other concerns were the lack of real enforcement on the ground, despite often well drawn out plans; limited resources for participatory activities; the lack of willingness of some stakeholders to share information fully and release power to villagers; and frustration with the long delays in the implementation of JFM and CBFM programmes. Several of those interviewed felt that these delays encouraged people to assume that there were no laws covering the forests and so to extract whatever resources that they wanted from the forest, thus leading to more degradation and encroachment than would have occurred without the proposed changes.

Another important issue that may not have been addressed sufficiently is that most villagers are poor and for many there are currently few alternatives to the forests for providing a livelihood, so villagers are likely to continue to use the forests as they have done in the past despite the new laws unless alternative options are available to them, or they may use other forests around the village more intensively. This issue is of particular concern where JFM is being introduced for reserve forests. If enforcement efforts are effective, villagers may simply displace their extraction activities into different forested areas, thereby causing increased degradation elsewhere (Robinson, Albers & Williams, 2005).

Concluding comments

This paper has highlighted a number of challenges for the new communications and awareness strategy for PFM in Tanzania. First, villagers as a group are considerably less well informed than other stakeholders, and so specific effort is needed to reach them, and in particular women villagers. If villagers themselves are provided directly with information concerning the changes in forest laws, then they are more likely to be empowered to ensure that their rights are respected. Yet in parallel, village and government officials also need to understand the changes in forest laws and how this affects villagers' rights with respect to the forest resources. Second, particular effort is required to reach ward level stakeholders. They are a key link between district level officials – who are perceived to be best informed about PFM – and village leaders. Yet ward level officials lack knowledge and confidence. Third, there are a number of mismatches in perceptions that could cause problems in the long-term implementation of PFM. Future communications activities could help to reduce these mismatches by ensuring effective communication among different stakeholder groups. Finally, although poverty reduction is stated as one of the key objectives of PFM, the links between poverty reduction and PFM are not clear, and villagers are poorly informed and often have unrealistic expectations.

Acknowledgements

The authors acknowledge and are very grateful to the generous time and cooperation from all those interviewed, from national level stakeholders through different levels of government to rural forest-dependent villagers. Enumeration was undertaken by Simphorosa Francis, Rose Komba, Rose Mangilima, John Mero, Christina Missana, Subira Mosha, Fredrick Mwakitwange, and Mohamed Swai. Thanks are also due to PEMconsult East Africa and TFCG, and the individuals who provided feedback on interim drafts. This paper draws from work done for the Ministry of Natural Resources and Tourism, under the Project on Development and Implementation of an Awareness Campaign in Participatory Forest Management and Private Sector Involvement in Plantation Forest Management.

Conflicts of interest

The authors declare no conflicts of interests.

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