8 An assessment of Participatory Forest Management inspired by adaptive collaborative management in Malawi

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Introduction

Participatory Forest Management (PFM) refers to processes and mechanisms that enable people who have a direct stake in forest resources to be part of decision-making in all aspects of forest management, from managing resources to formulating and implementing institutional regulatory frameworks (Klooster 2000). Since the famous but controversial article, 'The Tragedy of the Commons', was published (Hardin 1968), management approaches on shared natural resources – common pool resources – have been widely discussed. In the context of sustainable forest resource management, people-centered participatory approaches have been given more attention in developing countries. Numerous studies have shown that PFM approaches have been instrumental not only in the recovery and maintenance of forest conditions, but also to ensure sustainable use by local communities who rely on the resources to meet their livelihoods (Banana et al. 2012; Dhakal and Masuda 2008; Gobeze et al. 2009; Hajjar et al. 2021; Islam et al. 2014; Kamoto et al. 2013; Kibria, Jashimuddin and Makoto 2014; Matiku, Caleb and Callistus 2013). Indeed, these approaches are central to organizing people, making a community-based institution and implementing forest management activities based on collective interests at the community level (Iversen et al. 2006). Above all, PFM plays a key role for livelihood improvement of communities living near the forests (Hajjar et al. 2021; Mbuvi et al. 2009).

Malawi has a unique PFM experience built upon initial endeavors that piloted the adaptive collaborative management (ACM) concept. A number of studies have been conducted to assess whether PFM initiatives in Malawi have achieved their objectives as expected, and to draw lessons for future applications/replications to other sites. Taken collectively, they contribute to providing an unusual degree of monitoring and outcome assessment for the PFM experience in Malawi. We review and discuss a number of these studies that were conducted to assess PFM processes, performance and outcomes in Malawi. We draw lessons learned and best practices for sustainable forest management (SFM), especially as the country transitions to embrace forest landscape restoration (FLR) policy. The implementation of FLR highly relies on the country's experience of PFM. Our analysis also offers reflection on what (and how) to improve PFM approaches and implementation, including improving Malawi's Standards and Guidelines for PFM.

Forests and participatory governance in Malawi

In 1975 and 2010, Malawi's forest cover was about 47% and 20% of its land surface area, respectively (AAS 2012; Mauambeta et al. 2010). This illustrates the severe degradation of forest resources and the considerable change in forest cover that the country experienced. Scholars of forest management in Malawi recognize that social factors such as biomass-based energy needs, livelihood needs and poverty status affect forest degradation. Therefore, combating poverty is a prerequisite for sustainable forest resource management. The Government of Malawi has set utmost priority on people-oriented forest management approaches since the 1990s. PFM is seen as a way to accomplish these goals and is stipulated in the National Forest Policies of 1996 and 2016 (GoM 1996, 2016) and operationalized by the National Forest Act of 1997 (GoM 1997).

Malawi's 1965 Land Act (GoM 1965) and 2002 Land Policy (GoM 2002) recognize three types of land: public, customary and private land. Public forested lands are managed by the Department of National Parks and Wildlife and the Department of Forestry (DoF). Public lands are held in trust and managed by the government or traditional authorities (TAs) and openly used or accessible to the public at large. This category of land includes land gazetted for use as national parks, recreation areas, forest reserves (FRs), conservation areas, and historic and cultural sites. Customary land is all land held, occupied or used by communities under customary law and is under the jurisdiction of TAs. Private land is all land that is exclusively owned, held or occupied under (a) **freehold tenure** and (b) **customary land** allocated exclusively to a clearly defined community, corporation, institution, clan, family or individual. Such exclusive allocations of customary land will henceforth be known formally as a **'customary estate'** (GoM 2002, 28). It is important to note that a **leasehold estate** can be created out of government land or any private land, including customary estates, so long as the term of the lease is less than that of the owner (GoM 2002, 13).

The law recognizes two main types of PFM, namely Co-management and Community Based Forest Management (CBFM). Co-management, in contrast to CBFM, is based on a management agreement between local communities and government authorities regarding the management of state government FRs or plantations. With Co-management, land ownership remains with the government, while local communities are duty bearers and, in turn, get user rights and access to some forest products and services (GoM 2005). CBFM, however, takes place in forest on village lands and villagers take full ownership of village forest areas (VFAs; GoM 2003, 2005). In brief, PFM takes place on customary land through the management of VFA by communities, or in state forest reserves and plantations through co-management between communities and the DoF (Box 8.1; USAID-Malawi 2015; Zulu 2013). In 1999, there was only one FR under co-management; by 2010, the number had grown to 12 and to date there are 14 FRs under co-management (USAID-Malawi 2021). In 1996, establishment of VFAs was sanctioned by GoM Forest Policy. Each village had to establish a VFA in customary-degraded lands. Kamoto (2007) reported a total of 1,100 VFAs in

Lilongwe district, of which 300 were VFAs with indigenous trees. In 2012, Lilongwe recorded 438 indigenous VFAs (GoM 2017). This number has grown since that time (District Forest officer Lilongwe, personal communication). Malawi has committed 4.5 million hectares to restoration under the AFR100 Bonn Challenge. This means that communities will be encouraged to establish more VFAs as various projects roll out to support this initiative.

BOX 8.1 Overview of Participatory Forest Management in Malawi

PFM activities in Malawi are carried out primarily through establishment of VFAs or co-management agreements in forest reserves. These programs are summarized below.

Village Forest Areas: VFAs enable forest communities to establish formalized rights to manage customary forest lands. In order to establish a VFA, a Forest Management Agreement is developed and signed with the District Forest Office (DFO). Plans are developed by communities in conjunction with local extension agents on the basis of a Participatory Forest Resource Assessment. At the community level, VFAs are managed by Village Natural Resource Management Committees (VNRMCs).

Forest Reserve co-management: Co-management of forest reserves aims to distribute the costs and benefits of managing FRs between DFOs and village communities living within the buffer zone of the reserves. Co-management plans are developed by the DFO and communities, in line with the strategic plan for the FR. These plans define roles and responsibilities as well as set out objectives and rules for resource management within the reserve. FRs are divided into blocks, which are managed by a Block Management Committee (BMC) composed of representatives from member villages. In addition to BMCs, Local Forest Management Boards (LFMBs) are also established around FRs to serve as a multi-stakeholder entity for convening community representatives, TAs, civil society groups and government officials. Benefits derived from income-generating activities in the blocks are divided between the communities (60%), DFO (30%) and LFMB (10%).

It is important to note that, in the attempt to improve co-management operations, some districts have registered some amendments to the institutional arrangements related to the BMCs and LFMBs. The amendments include either overhauling BMCs and replacing them with existing VNRMCs or up/downgrading the scale of operation of the BMCs. LFMBs, which in most cases have become obsolete, have been replaced with newly established institutions integrated in the local governance structure following the decentralization policy (see Djenontin and Zulu 2021, for more details). However, in many other districts, where the initial arrangements still apply, BMCs and LFMBs might have become obsolete and not be operating as intended.

Malawi has established Standards and Guidelines for PFM (GoM 2005), which outline the basic framework for implementation of PFM activities as well as guidelines to support best practices (Figure 8.1). The Standards and Guidelines for PFM in Malawi were developed based on lessons learnt from implementation of co-management and CBFM initiatives in Malawi. Of importance are the initial co-management pilot project (1992–1999), the ACM project (2000–2005) at Chimaliro Forest Reserve and a Social Forestry Project promoting CBFM (1997–2004; GoM 2005). Using the experience gained from implementing the ACM project at Chimaliro Forest Reserve, the first author of this chapter was involved in developing Malawi's Standards and Guidelines for PFM. Specifically, ACM was implemented in a pilot collaborative management in Chimaliro Forest Reserve, which had been a 'no go' zone for local communities. However, following the Earth summit in 1992, Chimaliro opened up for community involvement, first as a co-management site under a World Bank project with the Research Institute of Malawi. Challenges experienced in the 'new' paradigm shift were embraced by the ACM project from 2000 to 2005, and lessons were drawn for future co-management experiences. With the experience gained from the pilot ACM project, the DoF developed what were considered 'best practice' standards for promoting improved and sustainable forest management in support of rural livelihoods and sustainable development in Malawi.

The Service Standards for Participatory Forestry (Figure 8.1) were built on both theoretical and practical perspectives in forest governance. First, the service standards drew heavily on the 'worm approach' (shown in Figure 2.1) that the ACM project used at Chimaliro Forest Reserve and Ntonya Hill for its Participatory Action Research (PAR) for forest management. PAR drove the ACM process using the worm (with its four stages of observation, action, monitoring and reflection) as it proceeded in a systematic, iterative mode, allowing 'a process within the local community in which people…can jointly plan improvements in local conditions…gain power and skills in dealing with others and develop a self-monitoring system to enhance sustainability' (Colfer 2005, 5). The four main areas of the Service Standards for Participatory Forestry (setting strategic goals and roles; institutional building, strengthening and prioritizing actions; implementing practical actions for sustainable forestry and livelihoods; and finally, performance monitoring and learning) mirror the four stages of the worm. This indicates the overlaps in the stages between ACM, PAR and the Service Standards for Participatory Forestry, as the latter largely draws from the worm of PAR in the ACM approach. Second, Ostrom's design principles for managing the commons under governance of common pool resources (Ostrom 1990) also informed some specific service standards, including service standards 1, 4, 5, 6 and 16.

Several PFM programs were initiated to apply these Standards and Guidelines, with support from different donor agencies. The most significant was the Improved Forest Management for Sustainable Livelihood Programme (IFMSLP) supported by the European Union. The program was implemented in two phases, Phase I (2005–2010) and Phase II (2011–2014), and in 12 districts out of the total 28 districts in Malawi. Carrying over the same activities from Phase I, Phase II
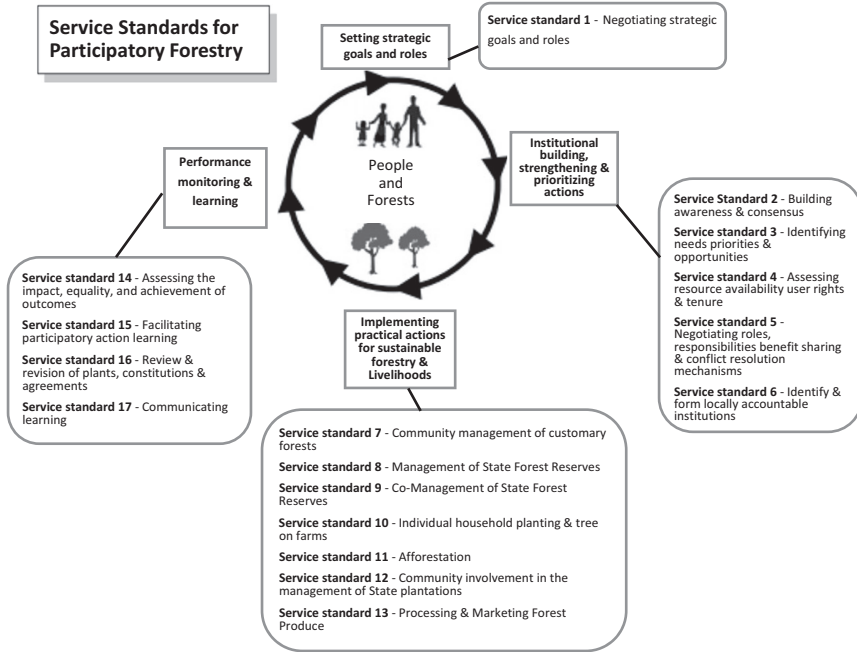
Service Standards for Participatory Forestry

Setting strategic goals and roles

Service standard 1 - Negotiating strategic goals and roles

People and Forests

Performance monitoring & learning

Institutional building, strengthening & prioritizing actions

Service Standard 2 - Building awareness & consensus

Service standard 3 - Identifying needs priorities & opportunities

Service standard 4 - Assessing resource availability user rights & tenure

Service standard 5 - Negotiating roles, responsibilities benefit sharing & conflict resolution mechanisms

Service standard 6 - Identify & form locally accountable institutions

Service standard 14 - Assessing the impact, equality, and achievement of outcomes

Service standard 15 - Facilitating participatory action learning

Service standard 16 - Review & revision of plants, constitutions & agreements

Service standard 17 - Communicating learning

Implementing practical actions for sustainable forestry & Livelihoods

Service standard 7 - Community management of customary forests

Service standard 8 - Management of State Forest Reserves

Service standard 9 - Co-Management of State Forest Reserves

Service standard 10 - Individual household planting & tree on farms

Service standard 11 - Afforestation

Service standard 12 - Community involvement in the management of State plantations

Service standard 13 - Processing & Marketing Forest Produce

Figure 8.1 Standards and Guidelines for PFM in Malawi

was deemed important to sustain the momentum instigated and to allow long-term processes to solidify outcomes. The main aim of IFMSLP was to improve the livelihoods of forest dependent communities through a combination of three strategies: (1) PFM in FRs – co-management, (2) PFM in VFAs – CBFM and (3) forest-based enterprises (Olivier and Mwase 2012; Remme et al. 2015; Zulu 2013). With co-management, groups of villages were organized as BMCs that featured elected members from villages associated with delineated forest blocks. In addition, an LFMB, which comprised district officers for forestry, agriculture, fisheries, water, community services, the chief executive of district assembly, TAs and non-state actors, was created to coordinate management across the blocks of an FR. Under CBFM, VNRMCs managed the designated VFAs on communal land areas (Zulu 2013). The introduction of PFM in the program sites was expected to improve forest conditions, socio-economic status of the local community and sustainable management of the forest resources.

In addition, the Protecting Ecosystems and Restoring Forests in Malawi (PERFORM) project was implemented from 2014 to 2019 to consolidate and improve the legacy of the IFMSLP. PERFORM worked in 3 of the 12 IFMSLP districts. However, given the scant success of the LFMBs as an umbrella body of local governance structures, the project made some noteworthy changes in the co-management institutional arrangements, which are yet to be legally endorsed

in the forest policy. The changes involved diverse scale rearrangements and changes in the functional roles of the community-led forest governance structures (Djenontin and Zulu 2021).

Overall, PFM has changed forms and scales from the IFMSLP and PERFORM eras to today and its evolution and dynamics mirror the kind of adaptive and collaborative processes encouraged within ACM. ACM used the iterative 'worm' of PAR to capture this process (Colfer 2005; and more recently, see Mukasa et al. 2022, their Figure 5.1). The worm reflects the iterative process of observation, planning, action, monitoring and reflection. Malawi's PFM has a similar iterative process of setting goals, like visioning in ACM planning, then institution building, and then implementing practical actions, followed by performance monitoring and learning. There is a strong congruence between the Standards and Guidelines for PFM in Malawi (Figure 8.1) and the ACM PAR worm.

Literature assessing PFM performance

Our analysis and insights are based on a variety of studies that assessed the governance processes, institutional arrangements, institutional performances, socio-economic, institutional and biophysical impacts of PFM in Malawi. The studies covered all the 12 districts in which IFMSLP was implemented (Figure 8.2). We reinforce the analysis with our experiences of and research on the forest management context and dynamics in Malawi.

Kamoto and Milner (2003) facilitated ACM processes – using visioning, PAR, focus groups and content analysis – and examined its impacts on Chimaliro Forest Reserve in Kasungu district and Ntonya Hill in Zomba district. Kamoto (2007) further examines the impacts of ACM in Chimaliro Forest Reserve, where she focused on collaborative monitoring of bee-keeping activities in two co-management blocks.

In 2013, Kamoto et al. (2013) assessed the implications of neglecting local institutions in policy development for community-based natural resources management (service standard #6). These authors raised the issue of policies that do more harm than good in community-based forest management. Specifically, they highlighted elite capture, negative consequences of external incentives, worrying decision-making processes, and conflicts between traditional and imposed institutions.

Zulu's (2013) study supplemented qualitative analysis with descriptive statistics based on a household survey of 45 men-headed and 20 women-headed households between 2009 and 2012 in Ntchisi Forest Reserve. His study covered 36.1% of the 180 households in the study site. He also conducted focus groups, observed and compiled secondary data. He examined the challenges in implementing co-management and achieving SFM and improved livelihoods. The study, conducted in Ntchisi district after the fourth and sixth years of co-management, used mixed social science research methods.

When the IFMSLP was in its seventh year (2012), Chinangwa, Pullin and Hockley (2016) assessed the impact of forest co-management on community livelihoods and welfare in Zomba and Ntchisi districts. They interviewed 32% of the

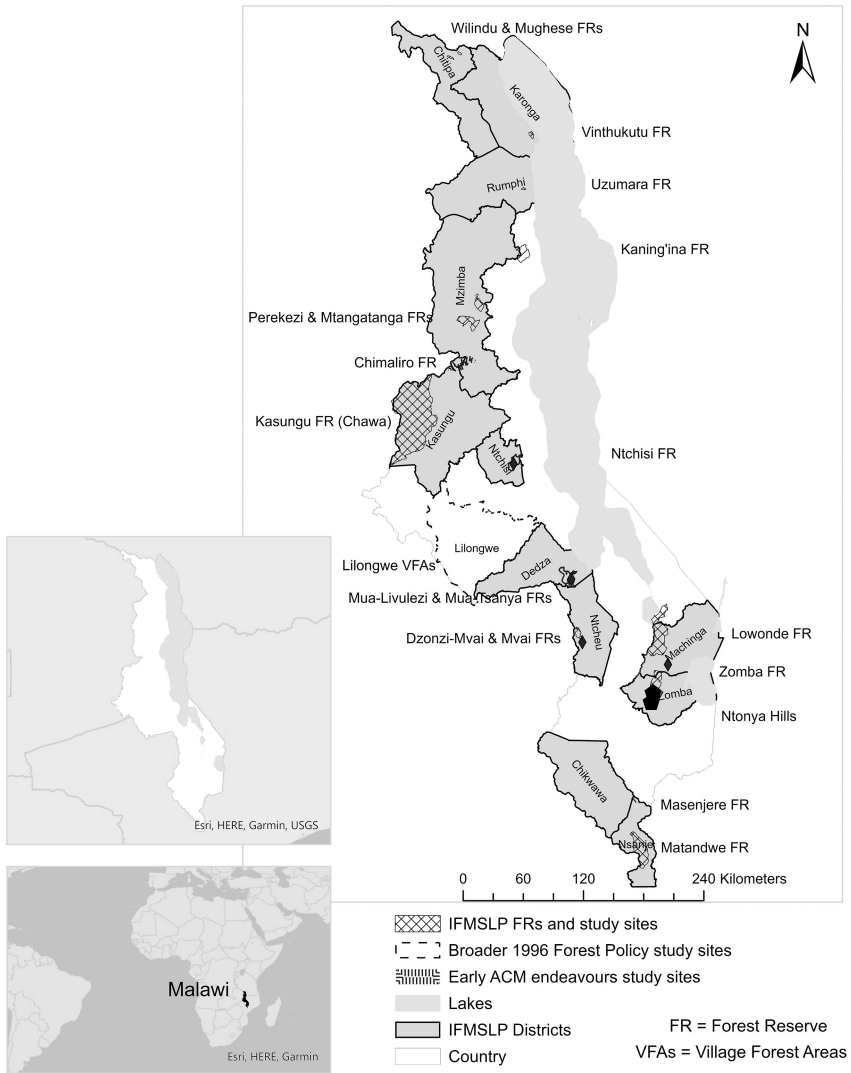Study sites for early pilot ACM, IFMSLP, and Forest Policy implementation

Figure 8.2 Districts and forest reserves with PFM under the IFMSLP

households (n = 213) in the study communities and used a sustainable livelihoods framework and a quantitative analysis. The authors used Probit and Tobit regression models, implemented in STATA, for statistical analysis of their survey.[1]

In 2013, Mtambo and Missanjo (2015) analyzed CBFM biophysical outcomes in terms of tree species richness and diversity. They compared four VFAs under

the CBFM approach and four others outside CBFM in Kasungu district. These authors inventoried 160 plots (20 from each of eight VFAs), using systematic line transect sampling. Tree species stocking, for all woody species of all stages, was enumerated and their species names were also recorded. Tree species richness and diversity were determined by using a Rėnyi diversity profile in Biodiversity R. Biodiversity R. is software that does all the biodiversity analyses, while Rėnyi diversity profiles are curves that provide information on richness and evenness. The shape of the profile is an indication of the evenness. A horizontal profile indicates that all species have the same evenness. The starting position at the left-hand side of the profile is an indication of the species richness. A profile that starts at a higher level has higher richness. The major advantage of Rėnyi diversity profiles is that sites can easily be ordered from high to low diversity. If the profile for one site is everywhere above the profile for another site, then this means that the site with the higher profile is the more diverse of the two.

Chingaipe et al. (2015) assessed the effectiveness of local co-management institutions in sustainable management of forest resources in Dedza district. The study interviewed approximately 35% of the population (n = 214) in the selected communities and adopted mostly a qualitative analysis (with Chi-square tests).

Banda, Senganimalunje and Missanjo (2015) examined community attitudes and perceptions toward management of Kaning'ina FR in Malawi, with much emphasis on (1) determining if people are aware of the environmental problems in the reserve, (2) identifying types of illegal activities being conducted in the reserve and (3) identifying possible strategies to combat those illegal activities. The study interviewed approximately 30.2% of the population (n = 42) in the selected communities and adopted a qualitative analysis with Chi-square tests.

Two other studies were conducted in Mua-Livulezi FR in Dedza district. Senganimalunje, Chirwa and Babalola (2015) examined the potential and effectiveness of local institutions and institutional arrangements associated with co-management. Senganimalunje et al. (2016) evaluated the effect of PFM on community organization, forest access, forest use, product availability and commercialization of forest products. Both studies used data collected with mixed social science research methods in about 30% of the villages that were part of the targeted co-management, covering about 49% of the population (n = 300) in the community.

In 2015, Remme et al. (2015) conducted a review of the IFMSLP. The review critically assessed PFM in Malawi and identified lessons learnt and best practices based on a mixed-method approach that involved both primary and secondary data. The exercise focused on obtaining evidence-based conclusions, which also contributed insights into the PERFORM project. Site visits were done in all the 12 districts that were implementing the IFMSLP. This included 25 co-management blocks, 16 VFAs and 40 forest-based enterprises. GIS and remote sensing techniques were used to assess changes in forest cover over time.

In addition, in 2018–2019, two other studies were conducted in Mua-Livulezi FR and Ntchisi FR in Dedza and Ntchisi districts, respectively. Djenontin, Zulu and Ligmann-Zielinska (2020) analyzed the nature of the decisions to engage in restoration at individual (farm-household) level and in collective actions

(community-level). This study used a mixed-methods approach with qualitative data from 7 focus group discussions and role-playing games, and quantitative data from a household survey of 480 participants. Then, Djenontin and Zulu (2021) investigated the structure and functions of the current governance system supporting collective landscape-scale agro-forest resources restoration. The authors used a polycentric governance system lens, implemented through a novel theory of polycentric governance – the Ecology of Games Theory. This analysis was based on 35 focus group discussions with local level resource-governance bodies leading restoration efforts, 21 key informant interviews with district level officers and local TAs, and 16 such interviews with national level officers.

In 2019, Gondwe et al. (2019) assessed woodland/forest cover status through Land use/land cover (LULC) classification across Malawi and compared forest cover within and between forest governance strategies, including 11 co-management and 12 government-managed FRs between 1999 and 2018.

Together, the portfolio of studies examined cuts across the country, in north-south and east-west directions, with a variety of local communities exhibiting a diversity of ethnicities. Insights from these studies on PFM implementation and outcomes and subsequent PFM dynamics contributed to provide an overview of a contextualized ACM in Malawi.

PFM performance and outcomes

This section critically assesses the performance of PFM in Malawi in accordance with the requirements of good forest governance in achieving the intended outcomes as designed by Malawi's DoF for its relevant projects and initiatives. Mainly, IFMSLP had four results areas: (1) sustainable livelihood strategies promoted within impact areas; (2) equitable access to forest resources secured by increasing the area under SFM arrangements; (3) strengthened governance of key forest resources within the forest sector and (4) communication and advocacy enhanced among stakeholder groups along with administrative and technical support. By giving communities legal rights to access and use forests sustainably, PFM is thought to potentially provide opportunities and capabilities for accessing the different forms of capital that forest and forest systems provide and support. More broadly, these PFM goals are in fact integral to, and respond directly to, the recent COP26 Declaration on forests' importance in addressing climate change.

One outstanding feature of the results presented here is the variation in the conclusions from one study to another. This is not an uncommon problem in assessing ACM-style efforts, but it is one that interferes significantly with 'proving' the nature, extent and quality of ACM impacts. One example of this problem, highlighted, for example, in the section on livelihoods and welfare, revolves around definitions. What exactly is meant by livelihoods? For some research, only monetary income directly attributable to restoration may be considered; yet from an ACM livelihoods perspective, one needs to look more holistically at a family's access to the various sources of subsistence 'income'. This recurrent definitional problem is evident in our material below.

Performance of PFM *with regard to improving livelihoods and welfare*

Since the implementation of IFMSLP, a number of studies have been conducted to assess the impacts of PFM on forest communities' livelihoods and welfare. No or minimal positive impacts of PFM in terms of livelihood improvements of forest communities have been reported (Chinangwa, Pullin and Hockley 2016). Authors have reported varying perceptions of communities on PFM livelihood outcomes. For example, Chinangwa, Pullin and Hockley (2016) reported that approximately 57% of Zomba-Malosa communities and 71% of Ntchisi FR communities perceive that the IFMSLP has had no impact on their livelihoods. Similar findings were reported by other authors. Zulu (2013) and Senganimalunje, Chirwa and Babalola (2015) reported that overall project outcomes from all 12 FRs under the IFMSLP showed significant progress toward meeting some quantitative targets, but income generation was generally disappointing. Low and generally disappointing cash benefits burdened poor communities with conservation costs and created perverse incentives to overharvest forest resources. These findings imply that contrary to the IFMSLP plan of improving livelihoods and welfare of poor communities, communities in some instances were made worse off.

The measure used to assess livelihoods was very narrow, but there were other livelihoods benefits (Colfer 2005; Senganimalunje, Chirwa, and Babalola 2015). Firewood was the dominant forest enterprise for the FRs, many of which had wood extraction and marketing challenges. Money-generating activities in FRs, such as firewood sales and pottery that the co-management program initiated were of low value. The minimal positive impact on livelihoods creates uncertainties for the program's long-term success with regard to livelihoods (Chinangwa, Pullin and Hockley 2016).

Zulu (2013), for example, found that the formalized firewood group in Ntchisi only raised Malawi Kwacha (MK) 12,996 or ~US$95 net from firewood sales after paying MK9,000 in license fees to the BMC, without accounting for labor costs; and group members received only MK 1,000 (a measly US$ 7.32) for 15 weeks of work, two days weekly. Consequently, the firewood group abandoned commercial firewood production after one (2009) harvesting season.

However, IFMSLP has helped forest communities to attain new income sources, such as (1) wage labor during firebreak construction and maintenance, (2) income-generating activities, for example, sale of timber, firewood, pottery (clay pots), as well as bee-keeping and mushroom farming, and (3) indirect benefits in the form of dry season irrigated agriculture. These activities were not directly spelled out in IFMSLP plans as drivers of livelihoods improvement; instead, they provide evidence of the importance of the ACM emphasis on responsiveness to local conditions and opportunities; Emphasis was put instead on sale of forest resources such as firewood and other non-timber forest products (NTFPs).

Performance of PFM *with regard to strengthening forest management institutions*

Institutions are defined as systems of established, prevalent and social rules that structure social interactions. Local resource management institutions exist to control resource governance in order to ensure sustainability and reduce problems of access to the resources in and around the local communities (Chingaipe et al. 2015). In this case, formal local forest institutions are mandated to make decisions in a participatory manner, a role that development agencies have often assumed cannot be done by communities (Chingaipe et al. 2015). To participate effectively in forest management, these institutions need to develop SFM capacities.

Zulu (2013) reported some progress in capacity building of forest communities. For example, in Ntchisi, the IFMSLP invested in communities focusing on exchange visits for forest users, on-demand training for diverse skills, and grants of basic start-up forest management tools and enterprise. The program also invested in extension-staff training focusing on gaps in social facilitation skills, forest policy, participatory indigenous forest management and enterprise development. The series of capacity building activities significantly improved the organizational, institutional and technical capacity of communities and extension staff.

Such institutional capacitation is critical as many recognize the importance of strengthening local institutions in adapting to and even mitigating climate change – an additional environmental risk that both forest resources and local populations bear. Effective mobilization of and response to local communities' interests in addressing climate change will require the kinds of institutional strengthening that PFM has tried to promote.

In contrast, despite efforts by the IFMSLP to build the capacity of local institutions in SFM, local institutions did not attain adequate knowledge in fire management and management of regeneration, for instance (Chingaipe et al. 2015). Other studies have found similar results; there is a knowledge gap in forest communities due to the complexity of forest management and the PFM model, and inadequate training (USAID-Malawi 2015). Managing forests using the PFM model requires financial resources for both natural and human capital.

Despite having clear roles and responsibilities for co-management as defined by IFMSLP using the Standards and Guidelines for PFM, local forest institutions at the community level and DFO staff are challenged to carry them out in practice due to lack of capacity. Unsustainable forest management and unacceptable harvest levels in a few co-management blocks were observed (USAID-Malawi 2015).

Another issue that constrains efforts to strengthen forest management institutions is trust building and transparency. Participation of communities in co-management activities is highly influenced by communities' level of trust in co-management leadership with regard to financial accountability and transparency (Chinangwa, Pullin and Hockley 2016). Most participants in co-management programs in Malawi perceive benefit distribution as unfair and that only a few influential members of the community, for example, committee members and chiefs,

obtain benefits (Chinangwa, Pullin and Hockley 2016). For example, both Zomba-Malosa (87%) and Ntchisi (72%) forest users who had indicated no willingness to participate in co-management attributed their decision to lack of benefits from the program and lack of trust in the leadership with regard to financial accountability and transparency.

Performance of PFM *with regard to communities' participation in forest management*

A policy goal under PFM is to empower rural communities to conserve and develop Malawi's forest resources for the economic and environmental benefit of the present and future generations. This requires transferring certain management responsibilities to the community level; this decentralized form of natural resource management is seen as a mechanism for sustainability as local communities are empowered to make decisions over natural resource use (Kamoto et al. 2013; Senganimalunje, Chirwa and Babalola 2015). High levels of social capital are seen to increase collective action and conformity to rules required for long-term sustainability.

Kamoto et al. (2013) and Remme et al. (2015) reported that in Malawi, forest management had been dominated by men and efforts have been made to encourage women's participation, particularly in PFM. A significant achievement was obtained when it was decided that in most community bylaws a quota of positions in the forest committees (VNRMC and BMC) would be for women. In some cases, 50% and in others 30% women's representation was stipulated. Remme et al. (2015) reported that women's participation in forestry activities under IFMSLP and other projects was generally high, especially with respect to forest produce and services that are important for household needs, including the collection of fuel wood, and NTFPs. Men appeared generally more interested in commercial activities such as timber production or securing water for irrigation. Despite the high level of women's participation in forestry activities, their representation in decision-making and leadership positions remained relatively low. Such a situation is generally due to cultural factors that place women as subordinate to men. In addition, women are time-poor and already overburdened by household management requirements. These authors also reported that the IFMSLP and other projects contributed to a high level of participation by women in PFM but many of the committees and leadership positions were dominated by men. They recommended that there was a need for further participation and a greater role of women in decision-making structures. Despite this finding, in some atypical areas, especially in Zomba, a great majority of women were found to participate, including as officials. For example, Mtogolo BMC had 67 members, of whom 64 were women, and the chairperson, treasurer and secretary were all women. The explanation given was that women are prime beneficiaries/users of forest products, while men were more concerned with earning an income and were also often the ones involved in illegal activities. Although women were mostly well represented, their decision-making power could be constrained by cultural conditions as the men were usually most vocal during meetings.

Literature indicates that communities participate more in PFM when they have a village forest (Banana et al. 2012; Chang and Andersson 2021; Mukasa et al. 2012; Pham et al. 2021; Riggs et al. 2021; Schweizer et al. 2021; Wilson and Cagalanan 2016; Zulu 2013). Zulu (2013) reported that having a VFA had significant synergistic effects on communities' participation in various co-management activities under IFMSLP. He found that communities that are well organized and have strong social capital and traditional leadership are more successfully implementing PFM.

Under IFMSLP, local ownership of FRs was high in Ntchisi (Nyanja) with 69% of community members considering communities to be the owners of the assigned block, while a few (29%) cited the government as the owner. As an indicator of communities' participation in forest management, one in three respondents had informed DoF staff or BMC members of rule-breaking by others. Approximately 88% of those who had participated in co-management (46.2%) were very satisfied with their participation and 91% of respondents were willing to continue or start participation in co-management (Zulu 2013).

Other authors have reported similar findings from other IFMSLP impact areas. Although a majority of communities perceive the program did not economically benefit them, approximately 83% (Zomba-Malosa) and 81% (Ntchisi) of respondents were willing to pay membership fees to participate in the forest co-management program. With approximately MK 1,000 (US$ 3.5) in Zomba-Malosa and MK 400 (US$ 1.4) in Ntchisi mean annual willingness to pay, it can be argued that the estimated willingness to pay is due to communities' optimism of future benefits that forest recovery could potentially provide.

However, other authors have observed different levels of communities' participation in co-managed FRs and VFAs with the latter enjoying more community participation. USAID-Malawi (2015) reported that community ownership is considered stronger on VFAs, where stricter community rules are put in place and enforced by traditional leaders. It can therefore be argued that communities participate more in VFAs and prefer to deplete forest resources in FRs' blocks rather than on VFAs. Having FRs further away from villages, and in some cases large forest blocks, negatively affects participation levels of communities. In the case of the VFA, the VNRMC performs control and patrolling, fire break construction, and weeding and slashing. In co-management blocks of Chimaliro Forest Reserve where PAR was facilitated, the BMCs intensified monitoring of resources through patrols and through the reflective and learning cycles of PAR. This collaborative monitoring had lasting impacts on improving honey production and communities' livelihoods. This was because the illegal thefts of honey were completely halted by the rigorous monitoring and learning sessions.

Despite IFMSLP efforts to include forest communities at all levels of forest management, some authors have reported exclusion or weak participation of communities at the forest management policy level. Communities are rarely consulted at the policy level, and when consulted their contributions are not taken on board (USAID-Malawi 2015). Lack of involvement of communities at policy levels has resulted in some activities, such as harvesting of forest resources, being

implemented with little knowledge of communities and consequently not implemented according to co-management plans. Kamoto et al. (2013) had similar findings and argued that when voices of local authorities, communities and NGOs are not heard during policy formulation, policies are implemented with little knowledge of the institutions already in place in local communities. Such findings can be attributed to lack of effective facilitation of the reflective learning embedded in ACM/PAR and the standards and guidelines for PFM by the extension agents. Effective and efficient facilitation of the processes of ACM or the Standards and Guidelines for PFM should empower communities to develop strategies to overcome any challenge in forest management.

Incentives for communities' participation in sustainable forest management

Overemphasis on cash incentives, initially considered the primary motivation for forest communities to participate in co-management, overlooks locally significant non-cash motivations, inflates local expectations and creates perverse incentives that undermine socio-ecological goals of PFM.

Despite the project focus on income as the overriding incentive for communities' participation in co-management, non-cash motivations relating to the rainfall regulation role of forests (forests are seen to bring rain) or rights-based issues of equitable access to forest resources emerged as more important (Djenontin, Zulu and Ligmann-Zielinska 2020; Kamoto 2007; Kamoto and Milner 2003; Remme et al. 2015; Zulu 2013). For instance, Kamoto and Milner (2003) showed that, in a situation of multiple and overlapping claims on land, negotiations on land rights and learning changed the trajectory of forest management in Chimaliro Forest Reserve and Ntonya Hill, the two earliest ACM sites. In both sites, the government had allocated forest land previously under their domain to communities for co-management; however, the government did not follow ancestral land rights when allocating the land. This was a contentious issue among communities and proved problematic. However, after facilitation of PAR using the worm, the communities understood the government rationale and began again managing the allocated forest land effectively. This finding is supported by the second-generation commons theory, which states that humans have the need and ability to cooperate for broader social benefits or altruistic motivations under certain conditions. In the case above, the community benefits and motivation were their ability to access ancestral forest land with its resources, which had been denied for decades.

While incentives encouraged local interest and desire to be involved in co-management, expectations were raised and acted as an additional focus and opportunity for elite capture. Some authors have suggested that the use of incentives to encourage individuals and communities to implement policy and activities devised and brought in from 'outside' can be interpreted by local people as 'payment' for doing what a project or government wants (Kamoto et al. 2013; see also Chapter 9); and that this has become divisive and the source of unhealthy competition among both community members and NGOs (Djenontin and Zulu 2021).

Performance of PFM *with regard to ecological health and other environmental outcomes*

Since the implementation of IFMSLP, forests under PFM have enjoyed more abundant tree species than non-PFM forest. Restrictions imposed on access to forest products found in the VFA's under PFM resulted in higher tree species richness. It appears that co-management may be an effective method to manage/protect the reserve – certainly more so than bureaucracy-based management and community-only management, i.e., CBFM (Mtambo and Missanjo 2015; Zulu 2013).

The PFM approach has provided sufficient incentives and consensus to promote behavioral change reducing deforestation and forest degradation in forest areas. Approximately 32% and 24% of respondents in Zomba-Malosa and Ntchisi, respectively, attributed the reduction in access to forest resources to the strict laws and regulations being enforced under the co-management program (Chinangwa, Pullin and Hockley 2016). Illegal forest activities have declined, and this could indicate and foster forest resource restoration and better management of FRs in Malawi.

Such positive outcomes are directly relevant to the recent COP26 Declaration, which explicitly emphasizes resource restoration and reducing deforestation and forest degradation as key elements in addressing climate change, despite the short- and long-term trade-offs that need to be factored in (Miller et al. 2021).

However, other authors suggest that co-management has coincided with declining forest resources due to increased illegal use of the forest resources. Increased time used to collect desired forest resources compared to the past five years, as reported by communities, could indicate forest degradation, despite the co-management program (Senganimalunje, Chirwa and Babalola 2015). Other studies supported the argument by mentioning that despite forest co-management, forest resources have dwindled due to high illegal forest activities (charcoal production, timber sawing and encroachment for farming), which accounted for 53.5% of the illegal activities. Further, the empirical comparison of forest condition in selected co-managed and solely DoF-managed FRs between 1999 and 2018 by Gondwe et al. (2019) showed no advantage for co-management. Their study reveals that forest cover declined by 37% in co-managed FRs, with 9 of 11 FRs studied showing declines; and by 11.6% in DoF-management FRs, with 10 of 12 FRs declining in cover. USAID-Malawi (2015) also reported patches of deforestation in Machinga Forest Reserve.

The seemingly conflicting findings across studies point to common challenges in assessing environmental outcomes of forest management and governance with much certainty. This also highlights issues of temporal and spatial scales of assessment and of methodological choices/approaches of impact evaluations. Improving assessment and accuracy of environmental and ecological status of forest resources, using robust methods combining GIS, remote sensing and appropriate modeling approaches, is important to understand more fully the role of PFM experiences in Malawi, so as to build on the positive and reduce the negative. In addition, the conflicting findings can be explained by how well the facilitation of

co-management/CBFM was done by the government to enhance social learning. The experience in facilitating ACM shows that the processes require investment in time, financial resources and human capacity (knowledge and skills). In the absence of any of these, despite having well-crafted standards and guidelines for PFM, the results may be varied.

Lessons learned and best practices

This section critically discusses the lessons learned and the best practices for improving the implementation of PFM for achieving SFM and FLR, including addressing climate change:

- **Continuity of support:** PFM is a complex process that requires proper introduction, facilitation and mentoring of communities over a longer period. Experience from IFMSLP shows that intensive capacity building, financial support and monitoring are required. A target-oriented and rushed approach, trying to reach too many areas within a short time, contributes to underperforming and weak local PFM structures. Discontinuity of support for some time can also have negative effects on people's motivation and be disruptive. An analysis of blocks and VFAs in the IFSLMP showed that the areas that were more frequently visited by the extension officers did better than those left on their own. It is important that extension officers be in frequent contact with the BMCs and VNRMCs and share responsibilities.
- **Forest management plans**: These plans are necessary tools for PFM. However, the development and approval process are time-consuming and have required enormous inputs from DoF staff at the cost of providing direct support, coaching and monitoring of the BMCs and VNRMCs. Experience from IFMSLP shows that the delays in approval of the forest management plans have been a cause of frustration for the involved communities who would get demoralized over the long wait time. However, learning from this experience, the DoF has devolved some of its functions of forest management to district councils and therefore no longer requires the Director of Forestry to sign the forest management plan; it can now be signed at the district level. This will expedite the process and reduce frustrations.
- **Impact area:** The selection of FRs for co-management requires an adequate needs assessment and prioritization based on clear criteria. The argument of some officials in the DoF that co-management should only be undertaken in FRs that face a lot of pressure and problems of encroachment might seem logical but the chances for success are much lower than for FRs that are still in better condition. Examples in the North, such as in Chitipa where the FRs are still intact, show that co-management works well. We argue that it is better to assess the conditions and prioritize based on a set of criteria that includes better returns to communities for managing the forest than applying a one-size-fits-all approach, based on levels of forest degradation.
- **Harmonization of extension approaches:** There is a strong need for harmonization of extension approaches. Many organizations provide handouts or

pay farmers for project activities, such as seedling production or tree plant-ing. The use of incentives to encourage communities to implement activities can be interpreted by local people as 'payment' for doing what a project or government wants. This has created a dependency syndrome, a tendency to forget the people's own agency (see similar conclusions in Chapter 6, this volume).

- **Capacity building:** PFM is a long-term process and would benefit from on-going capacity development and mentoring. Through IFMSLP, Malawian institutions (Malawi College of Forestry and Wildlife, Bunda College) were trained to build capacities which contribute to sustainability. However, there is a need for in-service capacity development programs within the DoF and other relevant institutions to ensure that all field staff are trained in PFM. In addition, as TAs, group village headmen and village heads (customary land authorities) are considered critical in the effective implementation of PFM, consequently ongoing capacity development is necessary for TAs and chief structures, to strengthen their leadership and organizational capacity to support PFM.
- **Multi-sector approach**: The IFMSLP experience shows that the use of col-laborative stakeholder platforms in the district, such as the District Environ-mental Sub-Committee, is useful but also inadequate if these institutions are not actively involved. PFM must not only rely on the DoF but should involve a multi-sectoral approach, including state and non-state actors to ensure that adequate expertise is provided and resources are shared. This is especially important if a more holistic approach is followed that also considers alterna-tive (non-forest-based) livelihood activities and that recognizes the impor-tant interlinkages among forest management, other livelihood resources, and addressing climate change.
- **Income-generating activities:** The focus of PFM should not be predomi-nantly on income generation but should equally consider other non-cash-based and environmental objectives and benefits from forest management for the community, including sustained access to firewood and NTFPs and continued water supply for consumption and irrigation especially where ac-cess to these resources is denied in the absence of PFM. A narrow pursuit of cash-based benefits also creates incentives to overharvest and to focus pre-dominantly on a few activities. The 'tangible' benefits that are often referred to as a necessary pre-condition for communities to enter into PFM do not have to be direct cash. Intangibles are also important to people.
- **Factors influencing PFM performance:** Experience from IFMSLP indicates that there are important conducive as well as disturbing factors that influence the performance and outcomes of PFM. The main factors are grouped into four clusters. The first cluster refers to the PFM support mechanisms, i.e., the approach followed, the quality of services delivery systems, and the available resources and institutional capacity to support the PFM process. The second cluster refers to the conducive environment to support PFM in terms of pol-icies and legal framework. The third cluster refers to the community-level factors that influence PFM implementation; and the last cluster refers to the

local external conditions that facilitate or hamper PFM. The performance of ACM was related to the four clusters above in the sense that the early ACM had a support mechanism as a CIFOR-funded project, and enormous support mechanisms were put in place for all processes from human resources and site selection and other initial processes, including understanding the policy environment through background studies. ACM processes of visioning, building future scenarios and PAR using the worm in reflective cycles made the facilitators understand the community and external factors that influenced adaptive collaborative management of forest resources. The community and facilitators were all immersed in the process at regular intervals and therefore this enhanced the social learning. PFM, if implemented with the same rigor, might yield better sustained outcomes.

Conclusion

Despite the conflicting evidence in this chapter, we have identified a number of positive impacts from the PFM approach as implemented through IFMSLP in Malawi. A crucial one has been the transformation of the relationship between many communities and the DoF. In many places, the approach has provided incentives[2] and consensus to promote behavioral change, thereby reducing deforestation and forest degradation. ACM, which inspired PFM implementation in Malawi, aims to level the playing field, resolve conflicts, foster collaboration and negotiation, build skills and capacities and promote gender equality even among communities with diverse views. This is the lesson that was drawn and that inspired PFM in Malawi. The same ACM approach that was learnt and applied in PFM at a broader scale has opened up opportunities to improve local livelihoods and demonstrated gains to SFM, especially on the restoration of degraded forests in customary land forests and co-management of FRs. However, experience from IFMSLP indicates that despite the forward progress, many improvements in the performance and outcomes of PFM are possible. Therefore, we need to continuously apply the ACM concept which is aimed at catalyzing change while continuously monitoring performance and consciously learning from it. Policy makers and practitioners need to embrace the ACM-inspired standards and guidelines for PFM by more explicitly and consistently implementing the reflective cycles at all levels, so that the learning can more consistently inform the next steps.

Notes

1 These combinations of qualitative and quantitative approaches are replicated in the work of Mukasa et al. (2022) and Bomuhangi et al.'s (2022), qualitative and quantitative analyses of ACM impacts, respectively, in Uganda.
2 For example, Kamoto et al. (2013) reported that some village heads established VFAs because they were envious of the incentives from NGOs and development partners such as irrigation equipment, boreholes, training of VNRMCS and subsequent daily subsistence allowances that go with it, among other benefits that other villages received.

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