

# CONTRIBUTION OF PARTICIPATORY FOREST MANAGEMENT PRACTICES FOR SUSTAINABLE LIVELIHOOD IMPROVEMENT OF THE LOCAL COMMUNITY: A REVIEW FROM SUB SAHARAN AFRICA

Girma Tegegn

Jimma University, Ethiopia

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## ABSTRACT

Environmental resource commons governance in general, forest resource commons in particular requires attention to ensure sustainable development. There are two dominant contending views in this regard, one is the tragedy of the commons authored by Garrett Hardin and the other is the intuitionist approach owned by Elinor Ostrom. Without forest it is difficult to think of the life of the agrarian society that means the life of the rural people in one way or the other highly attached with forests. The aim of this seminar paper to show whether participatory forest management approach has enhanced forest coverage and improved the communities' livelihood in Sub Saharan Africa states or not. This review is based on secondary source analysis of some selected Sub-Saharan African States. The analysis result shows that in most of the Sub-Saharan Africa states the contribution of Community Based Forest Management or Participatory Forest Management (PFM) approach is positive except for Tanzania and Malawi where research evidences show that the poor household income is not changed. In some instances, there is intra-state variation due to problem of implementation. Generally stating, compared to state-controlled forest management, participatory forest management system is more useful for forest sustenance. Also from income perspective, it helped to diversify income sources, increase household income level, and build household assets of the forest dependent communities. Recent report by the Federal authority in Ethiopia showed that forest coverage has increased from 3 to 4% to 17.2 % by the effort of the various bodies' understandably in which PFM institution has a share. In order to ensure forest resource sustenance via Participatory Forest Management Approach, there should all stakeholders' participation mainly the poor forest dependent communities' voice should be heard in all the process of policy making and implementation.

## Keywords

Participatory Forest Management. Forest Commons Sustainability. Income. Sub Saharan Africa

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## Introduction

### Background and Theoretical Notions

Environmental resource commons governance in general, forest resource commons in particular requires attention to ensure sustainable development. Environmental governance at large refers to institutionalized modes of social coordination to produce and implement collectively binding rules on natural resource use and environmental impacts and to secure and provide collective environmental goods. The governance structure and processes are meant to prevent, mitigate, and respond to environmental problems (Hamann et al. 2018). Current environmental governance literature shows that there is a growing role for non-state actors and mixed governance approach which involves the participation of state and non-state actors (Hamann et al. 2018).

Regarding environmental resource governance, there are two dominant contending views. The

first theory is *the tragedy of the commons* view developed by Garrett Hardin, and the other is *Common Pool Resource* governed by institution developed by Elinor Ostrom. Garret Hardin was an American ecologist in 1968 published his work in science called *the tragedy of the commons* that suggests sustainably managing natural resources; property rights of the commons resources should be governed by state or privatized. In contrast to Hardin's thesis, Elinor Ostrom supported for establishing institution a long with a set of principles that allow identifying situations in which communal property arrangements are likely function well.

Hardin discussed a metaphor to explain the issue of commons governance by considering a pasture "open to all," that belongs to a certain number of herders. Each herder gets direct benefits for their own cattle, so that they have an interest in having more and more animals, and will be tempted to increase the number of their livestock. However,

each herder also suffers from the deterioration of the pasture in case of overgrazing; that means an individual rationality for each herder (increasing the number of their livestock) is different, if not incompatible. Thus, the tragedy of the commons recommends privatization for better resource management (Hardin, 1968).

Ostrom's work in point of fact answers popular theories about the "Tragedy of the Commons", which has been interpreted to mean that private property is the only means of protecting finite resources from depletion. She has documented in many places around the world how communities devise ways to govern the commons to assure its survival for their needs and future generations. A classic example of this was her field research in a Swiss village where farmers tend private plots for crops but share a communal meadow to graze their cows. While this would appear a perfect model to prove the tragedy-of-the-commons theory, Ostrom discovered that in reality there were no problems with overgrazing. That is because of a common agreement among villagers that one is allowed to graze more cows on the meadow than they can care for over the winter a rule that dates back to 1517. Ostrom has documented similar effective examples of "governing the commons" in her research in Kenya, Guatemala, Nepal, Turkey, and Los Angeles.

Likewise Cox (1985) criticized the tragedy of the commons refers to the common grazing lands of medieval and post-medieval England which contrasts from the modern concept of the common grazing land that was not available to the general public but rather only to certain individuals who inherited or were granted the right to use it, and use of the common even by these people was not unregulated. The types and in some cases the numbers of animals each tenant could pasture were limited, based at least partly on a recognition of the limited carrying capacity of the land.

Ostrom in her book-*Governing the Commons* published in 1990 outlined eight (8) design

principles to combat commons related problems; a design principle according to her is defined as an important element or condition that helps to account for the success of institutions in sustaining the Common Pool Resources (CPR). These are: clearly defined boundaries, congruence between appropriation/provision rules and local conditions, collective-choice arrangements, monitoring, graduated sanctions, conflict-resolution mechanisms, minimal recognition of rights to organize, and nested enterprises.

Empirical evidences regarding the Hardin and Ostrom thesis of commons show that for instance according to Basurto and Ostrom (2009), Hardin's theory was based on pastoralists that overused their common pasture that was not owned privately or by a government that to avoid the tragic future overuse of resources he suggested for either: (i) state control or (ii) individual ownership or privatization (Basurto and Ostrom 2009).

Basurto and Ostrom, in the article *the Core Challenges of Moving Beyond Garrett Hardin* stated that Hardin had predicted for some Common Pool Resources. They mentioned that the major problem of Hardin's view was considering the tragedy as a universal phenomenon. Overharvesting frequently occurs when resource users are totally anonymous, do not have a foundation of trust and reciprocity, cannot communicate, and have no established rules.

Ostrom et al (1992) argued that if the people are enabled to sit in a round table discussion and talk about their common concern on resource utilization they can develop trust and reciprocity. Accordingly, they can address the concern of overharvesting and work jointly for common cause (as cited in Basurto and Ostrom, 2009). In addition, Basurto and Ostrom cited numerous works pertinent to the use of Common Pool Resources such as inshore of fisheries, forests, irrigation systems, and pastures by establishing a diversity of norms and rules that have helped them to address problems related to overharvesting

(Basurto and Ostrom 2009). Currently, Ostrom's institutionalism approach has got wide acceptance for commons governance.

Participatory Forest Management approach is the fruit of Ostrom's institutional approach to environmental resource governance. It has grown under various names in different states of the developing world. Numerous empirical evidences show that in the past over twenty year's people's participation in the management of forest resources has got wide acceptance to enhance forest sustainability, thus presently more attention is given to local decision making than central decision making (Islam et al. 2015 as cited in Solomon et al. 2017). This policy shift emanated from the reality that the state owned forest management or the centralized approach failed to bring the desired result (Tsfaye et al. 2012 as cited in Solomon et al. 2017).

There are mixed results regarding the contribution of Participatory Forest Management to forest coverage enhancement and improvement in community's livelihood (see for instance Luswaga 2020). Against this background, this paper has assessed whether participatory forest management approach has enhanced forest commons sustainability, and improved forest dependent community's livelihood in Sub Saharan Africa.

## **Objective, and Materials and Methods**

### **Objective**

The main objective of this review is study whether Participatory Forest Management Approach has Enhanced Forest Commons Sustainability, and Improve the forest dependent Community's Livelihood in Sub Saharan Africa.

### **Materials and Methods**

The study employed systematic review of related literature from web of science, JSTOR, Google scholar, Scopus, spring link, and grey literature. A criterion of inclusion and exclusion was established in selecting literatures on the basis of

their title, geographical area and their relevancy to the objectives of the study.

### **The Need for Participatory Forest Governance**

Participatory Forest Management approach is one aspect of decentralization of natural resource management. According to Mohammed and Inoue (2012), Participatory Forest Management is a political and economic process that implies a redistribution of power and resources (Larson and Soto 2008 as cited in Mohammed and Inoue 2012). Various studies including Mohammed and Inoue argue that decentralization of natural resource management is more suited to supporting better natural resource governance and to improving livelihoods of resource users in developing nations (Mohammed and Inoue 2012). Decentralization may take different forms: (i) delegation is the transfer of decision making power to a semi-autonomous organization that is not a political and administrative extension of government (Oyono 2004 cited in Mohammed and Inoue 2012).

Andersson (2006) stated that for many commentators, decentralization policies are panacea that could ameliorate human problems on unsustainable development. In contrast, for others, it is a tragedy that would cause to disordered resource use and a " " race to the bottom" ". Andersson (2006) citing the works of numerous scholars has identified that there are certain assumption for success of decentralized natural resource governance.

One is the superior cost effectiveness of local vis-à-vis central authorities to incorporate local information of time and place into public policies. According to FAO (2005), forests cover about 30 percent of the global land mass. Nevertheless, the forest coverage declines from time to time. Furthermore FAO (2005) report showed that some 13 million hectares of forests are being lost on annual basis (as cited in Agrawal 2007). Various studies including Agrawal (2007) indicate that decentralized forest management is a key to balance biodiversity conservation with demand for

economic development, and for improving forest-dependent local peoples' livelihoods.

This decentralization has got constitutional support in the FDRE constitution that states “the right to ownership of rural and urban land, as well as of all natural resources, is exclusively vested in the State and in the peoples of Ethiopia. Land is a common property of the Nations, Nationalities and Peoples of Ethiopia and shall not be subject to sale or to other means of exchange”. Art. 40 (3).

Citing Sayer et al. (2005) and Jagger et al. (2005), Mohammed and Inoue (2012) stated that decentralization has been an important policy tool in forest governance. Decentralized natural resource governance enables the federal or central government cedes decision making rightly over resources to lower-level actors and institutions (Mohammed and Inoue 2012).

Chirenje et al. (2013) discussed that over the last two decades community participation in the management of government owned forests has become a theme of policy and academic work in attempts to enhance sustainable forest management in many developing countries ( as cited in VanLaerhoven and Barnes 2014). Islam et al. (2015) stated this as a move from central to local decision making, in which local communities participate in conserving and managing their forests (VanLaerhoven and Barnes 2014).

### **The Roles of Participatory Forest Management Approach in enhancing forest coverage and improving income**

In Sub-Saharan Africa PFM is widely practiced. Findings regarding the role of participatory forest management approach in sustaining the forest commons and improvement in income of the people are mixed meant that in some there is positive outcome in improving forest sustenance and in others not.

In Kenya like other Sub Saharan African states Participatory Forest Management was introduced in the early 1990s and guided by the Forests Act 2005 which was introduced under the assumption that it will lead to better forest management by engaging the communities accordingly will contribute for poverty alleviation by producing alternative livelihood sources for the communities (Nforti 2007) which implies that to reduce deforestation that emanating from local livelihood needs.

In Kenya, PFM refers to “ “a forest management approach that deliberately involves the forest adjacent communities and other stakeholders in forest management within a framework that contributes a community’s livelihoods” ” (Kenya Forest Service 2015 as cited in Duguma et al. 2018). Various studies were conducted on the impact of Participatory Forest Management on Local Community Livelihoods in the Arabuko-Sokoke Forest areas of Kenya that showed PFM has improved forest coverage and income of the people (Matiku, et al., 2013).

In South Africa, by the National Forests Act of 1998 PFM was implemented to realize the socio-economic benefits of forest conservation. The results of this research showed that the outcomes of the Participatory Forest Management intervention have not been achieved the intended result as desired (see Natasha 2007).

In Malawi, PFM was initiated following policy changes in 1996 to allow for people’s involvement in the conservation of trees, forests and protected forest areas (Kayambazinthu 2000; Ngulube 2000 as cited in Senganimalunje et al. 2015).

In Ethiopia, Participatory Forest Management is used as a strategy to engage local communities to achieve a sustainable forest management objective while also generating livelihood benefits (Tadesse and Teketay 2017 as cited in Duguma et al. 2018) meant that that Participatory Forest Management was introduced to reduce the extent of deforestation and to engage the community in

managing and protecting the forests. In Bonga region of Ethiopia where PFM has practiced for long time, study by Gobeze et al. (2009) showed that the system has enabled to diversify income sources, increase household income level, and build household assets of the forest dependent communities.

This has reduced the dependence of communities on forests for livelihoods that ultimately contributed for forest resource sustenance. Furthermore Gobeze et al. (2009) discussed that after the introduction of PFM in the Bonga region of Ethiopia, the mean annual household income of member households increased from 1589 to 2433 Ethiopian birr.

In nutshell, in Ethiopia the adoption of PFM decreased the pressure on forests for forest products extraction and conversion to other farming activities (see Duguma et al. 2018). Consistent with this, study by Gobeze et al. (2009) showed that the system has enabled to diversify income sources, increase household income level, and build household assets. This reduced dependence of communities on forests for livelihoods that ultimately contributed for forest resource sustenance.

Participatory Forest Management can take on different forms depending on the level at which local communities are engaged, for example, if the power over resources is almost equally shared between the state body and community, it can qualify as community forest management (in Ethiopia and Kenya) or JFM (in Tanzania). If the community is the one with the strong decision making power over the forest, it is more of a community forest (CF).

According to Duguma et al. (2018), community based forest management was introduced for different reasons. In Tanzania, because of failure of state management of forest resources and the successes recorded in community managed forests and to enhance the ownership of forests by communities. So in Tanzania Participatory Forest

Management was observed only when Participatory Forest Management was implemented in two forms as CBFM and JFM.

In Cameroon, PFM was launched to reduce deforestation and generate livelihood benefits for the local communities and engage communities in managing their own resources. In Uganda, failure of centralized forest management, to enhance community engagement in forest management, and to enhance forest contribution to community needs (See Oyono et al. 2012). Study by Oyono et al. (2012) showed that in Cameroon, Community Based Forest Management increased the income of people in the selected Community Forest areas. In Malawi study by Senganimalunje et al. (2016) conveyed PFM has contributed for poverty alleviation and enhanced rural livelihoods by promoting greater community involvement in forest management while providing access and associated benefits.

In most of the Sub-Saharan Africa the contribution of CBFM is positive except for Tanzania and Malawi where empirical evidences show that the poor household income is not changed (see Duguma et al. 2018). In Uganda, regarding the outcome forest decentralization, there is no clear results that convince that PFM has enabled to improve forest coverage and improvement in the income of the people (Turyahabwe et al. 2015).

In Tanzania, there is mixed report regarding CBFM impact in forest management. Duguma et al. (2018) citing the works of Kajembe et al. (2002), Blomley et al. (2008), and Persha and Meshack (2016) indicated that forest cover increased by 95% and increases in trees on private farms by 89.2%. In contrast, there were also places in Tanzania where forest degradation is worsened after adopting Community Based Forest Management (CBFM) as a result of market influences (Brockington 2007, Blomley et al. 2008 as cited in Duguma et al. 2018).

Similarly, as mentioned before Persha and Meshack (2016) showed that JFM has no significant impact on deforestation and forest degradation in Tanzania (as cited in Duguma et al. 2018). According to Duguma this is because of the upper wealthy classes of people are the major beneficiaries.

Regarding Cameroon, Bruggeman et al. (2015) found that there is no major difference in the rate of deforestation between community forest areas and other land-use zones (as cited in Duguma et al. 2018). Kellert et al. (2000) also found that in Kenya CBFM schemes increased the pressure to exploit natural resources by unduly fueling expectations and increasing access.

Even if there are disparities across the Sub Saharan African states, in general, compared to the state-controlled management approach, PFM approach has contributed to the improvement of the rights and ownership of resources and hence contributed to local resource governance by communities in the region (see T. Gobeze et al., 2009, Mustalanti et al., 2012, Persha and Meshack 2016). In sum, there is a strong consensus on the positive contributions of CBFMs to forest conservation relative to the state-controlled management models (see Duguma et al. 2018).

## Conclusion

Given the urgency and complexity of environmental governance and failure to conserve environmental resource would cause harm to human beings. The success of the participatory programs is determined by the active role of local communities in resource management. Empirical evidences shows that in most of the Sub-Saharan Africa the contribution of Community Based Forest Management is positive except for Tanzania and Malawi where empirical evidences show that the poor household income is not changed. In some instances, there is intra-state variation due to problem of implementation. Generally stating, compared to state controlled forest management, participatory forest management system is more useful for forest

sustenance. Also from income perspective, it helped to diversify income sources, increase household income level, and build household assets. Recent report in Ethiopia showed that forest coverage has increased from 3 to 4% to 17.2 % by the various bodies' effort in which PFM institution has a share as reported by the Head of the Federal Democratic Republic of Ethiopia Commission for wildlife and forest his excellence Commissioner, Professor Fekadu Beyene broadcasted on Walta tv at 1:40 pm news dated 5.10.2021.

In order to ensure better forest resource governance via Participatory Forest Management Approach all concerned stakeholders mainly the poor forest dependent communities should meaningfully participate in every aspect of the governance process. Moreover, the issue of sustainability meaning after the end of donor support needs attention. Government should also support the scheme on institutional basis by launching meaningful incentives to ensure their continued engagement and investment in the field. Also considering participatory policy revision that takes into account local reality and competing interests is important.

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