



**Oromia Forest and  
Wildlife Enterprise**



***BENEFIT SHARING ARRANGEMENT IN  
PARTICIPATORY FOREST MANAGEMENT  
IN OROMIA, ETHIOPIA***

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## EXECUTIVE SUMMARY

Undertaking successful Participatory Forest Management (PFM) requires a clear and transparent Benefit Sharing Arrangement (BSA) between communities and concerned government agencies. Benefit, whether in kind or in cash, is what usually motivates people to participate and/or share responsibilities in Natural Resources Management (NRM). Clearly stated and agreed upon BSA helps parties to assess whether their engagement is worthy or not. In this work a framework for objective BSA between communities and OFWE was proposed for PFM project undertaking across Oromia Regional State. The principle of the framework is that "a party that incurs more cost (in cash or kind) in forest management should reap more economic benefit". The benchmark is that involved parties differ in their roles and responsibilities that are reflected in differential labour/time and financial contributions to run successful PFM. Therefore, benefit received should be directly related to the inputs/costs borne to a party. This is the only objective reflection of roles and responsibilities borne to a party. Based on this proposition we suggested three options and assessed their feasibility in various aspects using data collected from three PFM project sites (Chilimo, Jimma and Adaba Dodolla).. The schemes were assessments based on labour input, cost equivalent of labour and presence or absence of a party in a given forest management operation. We found that the first two options were lengthy and cumbersome for accounting and tend to bias in favour of the community due merely their membership size. The third option appears simple, fair and justifies that joint effort worth success than a mere number. The selection of which option to adopt is left for the parties to negotiate. We also proposed guidelines for implementing the scheme. The guideline comprises five steps:

- Step 1. Revising the existing management plan and work plan
- Step 2. Negotiating on roles and responsibilities based on the work plan
- Step 3. Design monitoring and evaluation system
- Step 4. Arrange reflection forum for monitoring and evaluation results, and
- Step 5. Revision or termination of contracts

Furthermore, scheme within community benefit sharing was briefly presented. Accordingly the benefit received by Forest User Groups (FUGs) or Community Based Organization (CBOs) should be sub-divided into three fund categories: forest development fund, community development fund and individual member's compensation or disbursement fund. The proportion of fund allocation between the three is left for each FUG or CBO to negotiate among members and fix.

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## I. INTRODUCTION

Over the last two decades the introduction of Participatory Forest Management (PFM) approach in Ethiopia has changed the way forest resources are managed and utilized. The approach underscores the importance of partnership between local communities and government to manage forests to improve and achieve multiple benefits, improve forest conditions and maintain ecological balance, generate forest based revenues and boost local livelihoods. In Ethiopia, the decentralization of forest sector governance through PFM has started in the mid-1990s. It was introduced mainly as a result of civil society organizations who had been working on alternative approaches to reduce forest destruction. Since the inception, a number of PFM pilot programs and projects were completed and a number of them still underway, bringing a total of over 100,000 ha of high forest resources under PFM schemes at the present. In areas where the PFM scheme are implemented, modalities have been developed and agreed up-on between government and local communities through their respective Community based Organizations (CBOs) as to how to manage forest resources and share the benefits accrued from the forests. The pilots successfully demonstrated the potentials of the scheme in improved forest conservation outcomes (Gobeze *et al.*, 2009) and household income (Tesfaye *et al.*, 2010).

Establishing and maintaining PFM schemes incur high costs (in cash or in kind) both to communities and the government. Assessing whether the net benefits gained from PFM is sufficient to compensate for the cost incurred and encourage continued engagement of community and the government is a crucial strategic element in pursuing successful scheme. Sufficient economic benefits to participants is generally believed to drive successful and sustainable PFM (Carter and Gronow, 2005; Wood, 2007; Blomley and Iddi, 2009), because tangible benefits contribute to cohesiveness and sustainability of local forest management institutions (Ongugo *et al.*, 2005). There is strong disincentive for communities to incur costs in forest management, if their costs are not factored into benefits. Similarly, governments will not transfer forest management responsibility if such action does not yield effective forest management and generate benefit better than the alternative forest management scheme forsaken. Indeed, successes of PFM projects should be measured in terms both improved forest conditions and whether such forest improvements yield benefits that meet the needs of local community and the government.

Among a number of subjects that deserve attention for successful implementation of PFM is benefit-sharing arrangement, between communities and government, which should be made clear and transparent (Blomley and Iddi, 2009). For purposes of this study, benefit sharing refers to the remunerations (either in cash or non-cash) that PFM offers for participating parties for playing-a-part in forest management. Benefit-sharing includes a wide array of arrangements that aim to compensate communities for their participation in PFM and to change household behavior towards the forest resources. Consequently, it comprises such benefits like changes in ownership right, legal use of resources, dividend from revenue generated, environmental benefits and others. In general, it involves a balance between access to natural resources and the gaining of equitable dividend from revenues generated from utilization of the resources. PFM entails sustainable forest management through shared roles and responsibilities among involved parties. In this task and responsibility based partnership, the fundamental principle must be an 'equitable share' reflected in benefit disbursement proportional to a party's input to the cause of the sustainable flow of the benefits.

In the various PFM pilot projects being under implementation in Ethiopia (Oromia), there is diversity of benefit sharing arrangements at work. Like almost all PFM practices in various parts of the world, these arrangements have been constituted intuitively. Such discrepancy between PFM pilots within a region or a country is a defect by itself, and demands homogenizing across sites and communities. This report is a work done to develop an objective and harmonized benefit sharing scheme that is hoped to work across Oromia Regional State.

## **2. OBJECTIVES OF THE STUDY**

As part of exploring benefit sharing modalities for the Bale Eco-Region PFM a consultancy work was undertaken in 2009 that reflected on a refined work for appropriate scheme. Based on this earlier study and follow-up discussions held with FARM-Africa, suggestion was made to further develop a transparent, flexible and objective benefit-sharing scheme in the areas where government and communities are managing forest resources jointly. This consultancy work of which this document is the output is, therefore, aimed to develop framework document and a guideline for benefit sharing in PFM that support OFWE in the areas where they are managing natural resources in collaboration with local communities. Specifically the work had the following objectives:

- To review different benefit sharing modalities available to date in Ethiopia as well as experiences from other countries,

- To develop modality for benefit sharing among community and state (OFWE) and its implementation guideline, and
- To propose a fair benefit distribution system within community as well.

### **3. THE NEED FOR BENEFIT SHARING IN PFM**

Advocates of PFM stress that benefit sharing, with benefit being recognized in its broader sense (see section below), is the most important motivation or rationale for communities to agree to acceptance and practice PFM (e.g. Arnold, 2001; Murali *et al.*, 2003; Jumbe and Angelsen, 2007; Mahanty *et al.*, 2007). This is because PFM incurs costs (in cash or kind) including huge opportunity costs that local people anticipate enough benefits that offset the costs associated with their participation (Inmadar *et al.*, 1999; Bwalya, 2004; Mahanty *et al.*, 2007). It is further argued that local communities or user groups would reject gradually conservation programs whose transaction costs of managing and monitoring exceed perceived or realized benefits (Mahanty *et al.*, 2007). This interest may also hold true for government. The handing over of a forest area to local communities with the objective of better management outputs and contribution to poverty alleviation at reduced costs reflects this attitude. So the cost-benefit calculation is a mutual interest to both parties. A number of studies underlined the direct link between forest management outputs and the significance of community benefit share whereby better benefits are associated with forest degradation declines or rapid improvement in forest conditions and vice-versa (e.g. Arnold, 1990; Poffenberger *et al.*, 1990; Matose and Wily, 1996; Jones, 2004; Mahanty *et al.*, 2006; Beck and Fajber, 2006; Blomley and Iddi, 2009). According to these authors, it is not enough to 'share benefits', but the shared magnitude must be sufficient enough to contribute to improved rural livelihoods. Benefit sharing has wider role in triggering successful PFM as it insures equity, promote accountability, sustains participation; enhance mutual trust between local people and the State and promote social sustainability or cohesion of member of CBOs or FUGs (Woolcock, 1998; Balland and Platteau, 1999; Colfer, 2005; Pagdee *et al.*, 2006; Adhikari and Lovett, 2006). Consequently, clear, transparent and equitable benefit sharing arrangements is one of the fundamental requirements to make PFM sustainable and successful (Mahanty *et al.*, 2007, 2009; Blomley and Iddi, 2009), and need to be considered at an early stage of PFM (Nepal and Weber, 1995; Rich, 2007; Blomley and Iddi, 2009).

## 4. BENEFITS AND COSTS OF PFM

Implementing PFM require huge financial and human resources although sufficient benefits can also be generated from forest resources. Benefits generable from forest ecosystems are diverse and not limited to monetary revenues only. These benefits can be categorized as tangible (quantifiable) and intangible such as social and environmental benefits. Some of the tangible benefits are subsistence products consumed at household level and others are sold on market to generate cash income. Generally three categories of benefits can be recognized: economic, social and environmental.

Economic benefit refers to those products and services that are either directly consumed at household level or traded to generate cash income. Products like non-timber forest products (NTFPs) and timber for direct household use, products and services traded to generate cash income whether NTFPs, timber or environmental services) and employment in PFM activities are included under economic category. For the purpose of this study, the economic benefit items as obtained from field as well as forest management plans are listed below:

- Wood for construction, fuelwood, farm implement
- Fodder for livestock including forest grazing
- Timber or poles for sale
- NTFPs of high economic value for sale including tree seeds, coffee
- NTFPs of consumptive role (herbal medicine in most cases for household use)
- NTFPs of more of local consumptions or restricted economic values (e.g. Honey,)

Social benefits includes the enhancement of existing coordination and governance mechanisms and development of new mechanisms (collectively referred to as institutional enhancement); improved relationships and networks (social capital); political empowerment; strengthened tenure, capacities, welfare and security. Environmental benefits also comprise improved environmental health such as biodiversity conservation, soil health, agricultural productivity, carbon sequestration, air and water quality improvements. Therefore, financial benefits are not the only focus for communities to participate in PFM. Non-financial benefits, like environmental services, capacity building, and cultural and religious existence values, have also significant meaning to them. However, due to the widespread poverty and intrinsic dependence of local livelihoods including for cash income on the forest (E.g. Yemiru *et al.*, 2010); attention must be given to improve the financial benefit of PFM.

On the other hand, management of forest resources requires allocating sufficient resources, which is not necessarily cash, for forest protection, seedling production, managing the planted trees,

guarding them as they grow, and for the eventual processing and marketing of products. All these costs must be borne before benefits can accrue from management. At the same time enabling communities to benefit from the products will make community involvement in the management of forests more worthwhile. The cost items of PFM introduction and forest operations include:

- Direct costs for materials, wage labour, and others (e.g. seed purchase, soil transport, nursery equipment supplies, and wage for nursery workers, etc.),
- Time/labour invested in:
  - Negotiating property and use rights;
  - Gathering information for preparation of management plan including area for harvest;
  - Rehabilitating and managing forests, including seed collection, nursery management; site preparation, planting, tending and replanting of harvested sites;
  - Monitoring compliance of rules;
  - Regular surveillance for protection against intruders, control of farm expansion; settlement, illegal harvest, fire and against all other essential forest damaging acts;
  - Gathering and delivering NTFPs to market;
  - Participating in FUG committees and General Assembly regular meeting for forest governance;
  - Handling administration and finances issues;
  - Sale of timber, NTFPs, procurement of inputs;
  - Support to the establishment of other PFM and/or for on-going, which may vary amongst different Forest User Groups within a single programme of participatory forest management;
  - Handling membership fees to be paid to the Forest User Group;
  - Taxes, royalty fees, and on other issues negotiation;
  - Enforcement activities and committee running costs.
- Opportunity costs to the community (labour, land, forest extraction etc.);
- Law enforcement also involves costs, both to the responsible authority and to those expected to comply. These transaction costs increase with the complexity of legal processes and can consume into the commercial benefits generated through PFM.

Except for some such as the opportunity costs, most of the typical direct costs relevant to forest management can be inventoried from the forest management agreement and/or field observations. However, as forest management is dynamic, it is good always to track costs to community through field based assessment. Communities innovatively incur a lot additional costs than prescribed in management plans.

## **5. EXPERIENCES IN PFM BENEFIT-SHARING ARRANGEMENTS IN OTHER COUNTRIES**

Global experiences of PFM and its benefit sharing arrangements between local community and the government show great diversity between countries and within a country between projects and sites. PFM is implemented in a very different ways in different countries and even within the same country, which is also the case in Ethiopia. Apparently this and other factors affect the way benefit sharing arrangements are organized (Table 1). Although PFM is exercised in almost all continents and several countries, developed and developing, this review is limited to Africa and Asia only, due to their relative resemblance to the cases in Ethiopia. Further, this review is limited to the experiences of selected countries in these continents. From Africa we captured the experiences of Malawi, Nigeria, Tanzania and Zimbabwe, and from Asia we reviewed several countries (Table 1). One of the commonly discussed issues pertinent to the PFM practices across is the issue of benefit sharing. In the following paragraphs, we have made extensive reviews to capture the main features of the available benefit sharing experiences, and what these experiences are based on in the formulation of the share arrangement put in place.

In almost all reviewed cases, there is hardly a practice where benefit sharing arrangement is analytically or objectively established. Nearly all practices are set their benefit share arrangements intuitively. However, some of the arrangement, although subjective, attempted to reflect the degree of devolution of forest management responsibility (i.e., responsibility that reflects costs to the community for forest management) in their benefit sharing arrangement. For instance, in Malawi, the split of benefits between community and government was arranged depending on the division of labor between the state and the community. Where a co-management arrangement exist e.g., in the Chimaliro Forest Reserve, revenue share provides 30% to the community (due to their limited input) and 70% to the state, whereas the proportion is 80% to the community in the case of Mangweru Village Forest Area on customary lands where the role of the community is high (Kayambazinthu, 2000).

Tanzania is a country in Africa often mentioned as a good promoter and successful country in community based forest management (CBFM). However, benefit sharing scheme is only explicit in the case of CBFM, where the community has 100% right on the benefit from the forest they manage, whereas for Joint Forest Management -JFM (a management arrangement that involves joint

partnership of community and the state), it is still unclear (Akida and Blomley, 2007; Blomley and Iddi, 2009). According to Blomley and Iddi (2009) report, Tanzanian law remains silent on how the benefits of forest management under JFM can be equitably shared with participating communities. A proposal suggested by Blomley and Iddi (2009) is presented below:

- Revenues arising from forest management (in the form of levies, fees and royalties) will be shared 40% to the village government and 60% to either the District Council (if it is a Local Authority Forest Reserves (LAFR) or Central government if it is a National Forest Reserve (NFR);
- Fines imposed by village forest management committees implementing a signed (Joint Management Agreement, (JMA)) on individuals undertaking illegal activities inside NFR or LAFRs should be fully retained (100%) by the village government; and
- Forest products or equipment used to harvest that is confiscated by village governments undertaking routine patrols in all or part of a forest covered by a signed JMA shall be sold and 100% of the revenue retained by the village government.

In areas, where Forest Harvesting Concessionaires will be required to make two payments when obtaining a license to harvest timber from an area of forest covered by a signed JMA:

- One payment (Timber Royalty) will be made to national **F**orest and **B**eekeeping **D**ivision (FBD) or the District Council (depending on whether it is a NFR or LAFR) at 60% of the current Royalty rate); and
- A second payment (Local Management Fee) will be paid to a village account (the village responsible for the management of that forest, or part of forest where the trees are harvested) at 40% of the current Royalty rate.

In Botswana, which is primarily on wildlife resources; Community Based Natural Resource Management (CBNRM) program dictates that revenues and benefits go directly to the CBO, which can apply them to communal projects or distribute them to families. In practice, distributions to families have been very limited. Families can earn income directly under the Botswana system. Individuals are thus encouraged to develop independent enterprises using the local resource base, as well as to participate in communal activities.

**Table 1.** Summary of revenue distribution schemes from collaboratively managed forests in different African and Asian countries

Country*	Revenue flow from collaboratively managed forests
Nigeria	The benefit sharing formula is 50%:50% for forest products obtained from forest reserves; 20%:80% in favor of government for products obtained from the government owned plantation while the sharing formula for the products obtained from community forest was 70%:30% in favor of the communities.
Tanzania	For CBFM 100% for community and zero for the government. In the case of JFM, there is no clear benefit sharing scheme so far
Zimbabwe	The case of CAMPFIRE, which is wildlife based co-management between Rural District Councils (RDC) and communities. The revenue generated is shared between the two as: 50% disbursed towards (community associations), 35% for wildlife management and 15% for RDC.
Malawi	Benefits sharing between community and government depends on the division of labor, where a co-management arrangement in the Chimaliro Forest Reserve provides 30% of revenue to the community (due to their limited input), while the proportion is 80% in the Mangweru Village Forest Area (where their role is high) on customary lands;
Bhutan	No royalties for direct use of forest resources. All forest products sold are subject to market sales tax of 5%.
Cambodia	No royalties paid on NTFPs or timber for direct use. Commercial use of timber and NTFPs requires permits and royalty payment – royalty varies and is set by Ministry of Agriculture, Forestry and Fisheries but no clear criteria established for making this decision.
China	Revenue sharing depends on local management regimes – communal or household allocation – and varies across counties and provinces and according to type of forest product (typically around 50% to beneficiaries). Central government is trying to reduce taxes and fees
India	Royalties are set by states, with the general pattern that communities take 100% of NTFP revenues and other intermittent yield products (e.g., thinning); for commercial timber, 10-25% goes to state government.
Indonesia	In Java, forest managed by a parastatal Company (PERHUTANI) gives local partners a maximum of 25% of standard price of timber product and timber tax is paid by the company; 100% of the agroforestry (non-timber products) go to the local partner. In outer islands, various benefit sharing mechanisms have been implemented since the fall of Soeharto. In Kalimantan and Sumatra, for example, small logging concessions were introduced where communities could participate in logging and derive financial benefits. However, such schemes were recently revoked by central government.
Lao PDR	Log royalties from competitive timber sale are distributed as follows: 30% to national treasury, 20% to Forest Development Fund (national), 25% to District Forest Management Unit for operations and implementation costs, 25% to Village Development Funds. Revenue from NTFPs is unregulated.
Nepal	CFUGs retain 100% of takings from NTFPs and timber, except for the following species if sold for commercial purpose outside CFUGs, for which a

	15% royalty is paid to central government: <i>Shorea robusta</i> and <i>Acacia catechu</i> from the Terai region. No commercial use of forests allowed in buffer zone community forests.
Philippines	CFM beneficiaries retain 100% of income from planted forests, but for natural forests (timber and NTFPs) a 25% royalty is paid to government.
Viet Nam	Commercial use of NTFP: royalty of 5-25%, depending on species. Planted forest: Individual/community forest owners take 100% of timber revenue (corporate owners pay 2% tax). 'Poor' forest: timber revenue to individuals/communities calculated according to the number of years forest has been protected. Commercial timber attracts tax of 15-45%, depending on species. Natural forest: forest 'owners' can keep 2% of the incremental value of timber achieved since the forest was allocated.

\*(Sources:; Srivastava and Kaul, 1994; Kayambazinthu, 2000 ; Iversen *et al.*, 2006; Mahanty *et al.*, 2007; ; Frost and Bond, 2008; Blomley and Iddi, 2009; Babalola, 2009)

The case of Nigeria also shows that share of revenue from forests depend on the type of forest under management and the level of engagement of community and the state (Table 2).

**Table 2.** Benefit sharing arrangement between Government and community in JFM in Nigeria

Types of forest	Share	
	Community	Government
Forest reserve	50%	50%
Plantation	20%	80%
Community forest	70%	30%

(Source: Babalola, 2009)

Zimbabwe's Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) is a community-based natural resource (principally wildlife) management programme in which Rural District Councils (RDCs), on behalf of communities on communal land, are granted the full authority (100%) to market access to wildlife in their district to safari operators. The RDCs sell hunting and photographic safaris to sport hunters and eco-tourists, the revenue of which is partly paid to the communities as dividend according to an agreed formula. The agreed upon guideline for benefit sharing in CAMPFIRE is that 50% of the revenues to be paid to the communities (as Wards or association), 35% allocated to wildlife management (habitat management, fire control, monitoring, hiring of game scouts etc.), while 15% retained by the RDC as an administrative levy (Frost and Bond, 2008). For instance, during 1989–2001, CAMPFIRE generated over US\$20 million of transfers to the participating communities, 89% of which came from sport hunting. The scale of benefits varied greatly across districts, wards and households. Twelve of the 37 districts with authority to market wildlife produced 97% of all CAMPFIRE revenues, reflecting the variability in wildlife resources and local institutional arrangements.

In Zambia like the case in Zimbabwe CBNRM is implemented around wildlife resources. The producer communities are organized under the Administrative Management Design (ADMAD) for Game Management Areas (GMAs), and revenue arising from consumptive utilisation of wildlife in their respective areas are shared for hunting related revues at the

proportion of 45:40:10:05 between local community organization, ZAWA (Zambian Wildlife Authority), Central treasury and local chief (Patrons) respectively. From concession fees the share proportion is 80:15:05 for ZAWA, local community organization and Chiefs (Patrons) respectively. Local communities receiving the share are expected to utilise these public funds on local community agreed socio-economic development projects such as schools, health centres and feeder roads. The norm is to spend 45% of their revenues on wildlife protection, 35% on community projects and 20% on administration of the community organization.

From Asia a number case examples are also captured. In the case of Nepal, financial benefit generation from forest and sharing of the benefit has been flexible and changing over time in favor of community (Mahanty *et al.*, 2007). Particularly, following the extension of PFM implementation in the high value forest region, government legally intended to make communities the prime beneficiaries of forest products. Following an initial decision by the government to impose a 40% tax on any surplus timber sold outside the community forest user group, this has now been reduced to 15% specifically for two forests with two commercially important species *Shorea robusta* and *Acacia catechu*. In addition, community forest user groups are required to spend 25% of their annual revenue on forest management activities (Iversen *et al.*, 2006).

In Bangladesh, various projects have implemented different sharing arrangements. For example, in the Thana Bonayan and Nursery Development Project the local participants receive 40% of the final yield and all intermediate yields of products. The Railway Authority is entitled to 10% of the final benefit, 3% goes to the Local Union Council, 3% to the Local Council, 25% to the Thana Council, and 20% is government revenue. The final income from agroforestry plantations is shared equally between the Forest Department (as government revenue) and the participants. The sharing mechanism under the Afforestation and Rehabilitation of Jhumia Families in the Unclassified State Forest (USF) and Reserved Forest Lands of the Chittagong Hill Tracts is arranged as follows: Local participants receive 15% of the final yield, all agricultural and horticultural yields, 100% of the first thinning, and 50% of other thinnings; the headman receives 5%; the tribal king 5%, the local council 5%, and the Forest Department 70% of the final share.

In China, benefit-sharing arrangements vary from province to province. In principle income sharing from forestry is mainly based on the labour contribution, other inputs such as land, capital input, and technical investment are also taken into account. In Huahua Prefecture in

Hunnan Province, for example, 25% of the total income from marketing timber is collected as tax, the Forestry Development Funds receive 15%, the Township and Village Accumulation Funds 10%, and production costs account for 10% – leaving 40% as income for the forest farmers. Similarly, in Jinping County in Guizhou Province, of the income from marketing timber, 26% is taken as tax, 18% goes to the Forestry Development Fund, 10% to the Township and Village Accumulation Fund, and production costs account for 10%, leaving 25% as income for forest farmers. The benefits from forestry have also been shared among the local population in Tibet. For example, in 1993, the total income of the local population from forestry was increased to 43 million ‘yuan’ or 100 yuan per capita. In Yunnan, of the revenue generated, 5% is paid as tax, 10% has to be given to the Silviculture Fund, 20% is income tax, and 65% is paid to the producer as interest.

In India, in Madhya Pradesh, the Forest Protection Committee (FPC) are entitled to get 10% of the value of the forest products obtained from final felling of timber coupes (load), which is a type of royalty fee, and 20% from final felling of bamboo coupes, whereas Village Forest Committee (VFC) members are entitled to get 100% of the timber obtained from thinning and final felling of the planted areas as per Working Plan after deducting the extraction cost. At each thinning and final felling, the community could collect fuel wood, poles and small timber at a rate determined by the VFC (Srivastava and Kaul, 1994). In South West Bengal the coppiced forests are felled as per the micro plan and each member of FPC get some share, which varies from Rs. 300–4500 (US\$ 6–90) per family in Sal (*Shorea robusta*) forest areas almost every alternative year, sharing amount depends on forest area felled and quality of crops and market price in a particular year.

In Jammu and Kashmir, communities are entitled to collect grass, fodder, and dry and fallen wood free of royalty with the permission of the Department of Forests. The Joint Forest Management Committee, after consultation with all members, share a maximum of 25% of the proceeds from the sale of produce from the first major harvest from the plantation among members in cash or kind after deducting the costs incurred by the Forest Department. The remaining 75% of income is retained by the Department of Forests, although the Government Notification does not mention this explicitly. If a Village Plantation (Protection and Management) Committee is formed in a village, it can use all the funds for replanting an area, for establishing additional woodlots to those already managed, or for financing development work in the area such as construction of water supply systems and village roads.

In Uttaranchal, joint forest management committees may distribute 50% of the proceeds from the sale of products (after deducting the cost of investment) up to a maximum of Rs 50,000 per year among their members. Of the remaining 50%, half goes to the village community and half to community work. The income from Panchayat Forests is distributed as follows: 46% goes to the Forest Department, 10% for services such as valuation of trees and marking trees for felling, and 36% for the preparation and execution of development programmes for the Van Panchayat forest and for stationery, stamps, 'Sarpanch' expenditure, and other expenses, 18% is given to the 'Zila Parishad' (District Council) for development of the area. The final 36% is retained by the District Magistrate in the Van Panchayat account. The Van Panchayat Committee can spend this money, with the prior approval of the District Magistrate, to provide community services and amenities like village roads and schools.

In Himachal Pradesh, all the forest products – apart from timber (leaf litter, fuelwood, fodder, and other non-timber forest products) can be distributed to the villagers free of charge under the supervision of the Forest Guard. At least 25% of the proceeds of net sales from timber harvests from the plantations or coppices are given to the (Village Forest Development Committee (VFDC) for the Village Development Fund. This fund can be used for village development work with the approval of the General House of members and in consultation with the District Forest Officer concerned. As in Jammu and Kashmir, the Department of Forests retains the remaining 75% of the fund.

Review of these extensive sources reveals four important points regarding benefit sharing arrangements: First benefit sharing is a common denominator across all PFM. Second its discussion primarily is in connection with financial revenue, and so more or less equivalent to revenue sharing. Other benefits accrued to community from PFM are taken for granted as community privilege for participating. Third, which is probably also the most important is that benefit sharing arrangements almost in all the cases are set subjectively and there is no attempt for systematic and objective calculations of share arrangement. Fourth in most cases costs incurred by community (in cash or kind) is highlighted, and though subjective attempt is made to fix a share that relatively correspond with the costs.

## **6. PROPOSED FRAMEWORK FOR EQUITABLE BENEFIT SHARING IN OROMIA**

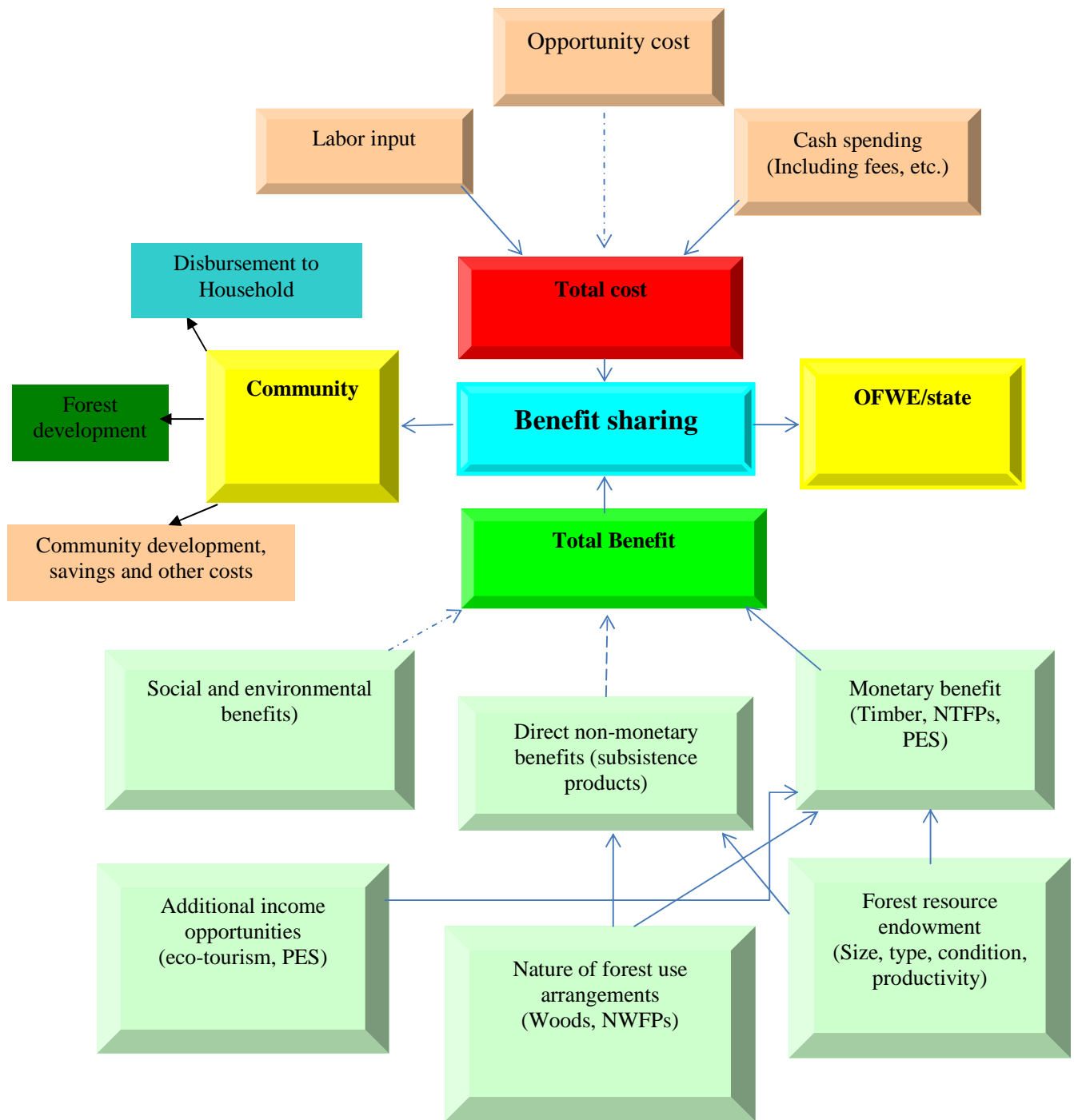
The main aim of this work is to devise a simple, fair and objective framework for benefit sharing arrangement between FUGs (CBOs) and the state in PFM scheme across Oromia. PFM as a joint forest management venture entails shared roles and responsibility between the parties, which is reflected in the costs contributed in sustaining and improving the forest resources (Figure 1). These costs ultimately generate benefits to be enjoyed by both parties. Benefit-sharing arrangement, therefore, aims to equitably compensate parties for their cost inputs to forest management. Put simply the proposition of the framework is "a party that contribute more costs should collect more of the economic benefits", because equitability is insured if cost-benefit are equated. Figure 1 provides a general framework connection between costs and benefits as constructed from our field based observations. The applicability of this framework requires answers to two key questions: First what costs are involved in PFM, and who contributes how much of it? Second, what benefits are generated and how are these distributed between parties contributing the costs? Hence, the design of equitable benefit sharing arrangement underscores the fundamental necessity of understanding and quantifying the costs incurred by the parties and the benefits generated (Figure 1).

As indicated in Figure 1, costs of and benefits from PFM is influenced by several factors. For instance, benefit generable from a particular PFM scheme depends not mainly on costs, but mostly on the contemporary forest conditions such as whether forest handed over has plantations, host NTFPs of commercial value, and size of the forests (Figure 1). Furthermore, benefit flow depends on use arrangement made which is to say whether wood harvest for sale from natural forest is allowed as the case in Dodolla or not allowed as is the case in most of the PFM pilots. Benefit sharing is also considered at two different levels: between the state and community and within community for various utilities of the benefit received (Figure 1).

Inventory of costs incurred by the parties into PFM practices is the first step to start with. The costs of PFM practices refer to all forms of investment undertaken by all parties to the forest operations whether in cash or in kind. Cost items can be inventoried from forest management agreement documents, management plans and/or from field survey, but combinations of document and field insures completeness. Second step is the standardization of the costs (see result section). The diversity of forms in which costs are incurred requires quantification in a

standard unit such as man-days/ha/yr or its monetary cost equivalent calculated based on available national norms. The two units of quantification have their own pros and cons. The 'time' based quantification, for instance, biases towards the community as per the existing PFM scheme, because for a particular operation several members of a FUG compete with one or two expert from the state counterpart. The monetary cost equivalent slightly improves the inherent bias in the time based accounting because a unit of expert time worth more monetary cost relative to a unit time of a member of FUG. Nonetheless the significant number imbalance between the two parties means still the monetary cost remains in favor of the community. This by itself is a challenge facing development of objective benefit sharing scheme. Another difficulty is probably the challenge of exhaustive recording or track keeping of the time based costs. For instance, for a FUG of 120 members, it is unfair to assume the presence of all members on regular general assembly as part of FUG's forest administration. To calculate the costs accurately attendance will become mandatory. Keeping attendance for each and every operation presents difficulty, and doing so is less justified and less likely to be complete. In other words, it may also open itself to a possible fraud of filling in attendances.

Despite the toughness of assessing the cost elements, however, this is the only objective option available to develop fair benefit sharing scheme that reflects roles and responsibilities of the parties. Yet, it is necessary to opt for a simpler technique, yet, without compromising objectivity. This option must be also a type that is simple for accounting and that community and government entities easily comprehend. Further, the technique should work across various PFM arrangements and at least get over the problem of differential FUG memberships. This technique is what we called 'presence and absence' technique. The technique acknowledges participation of parties, regardless of number, and also appreciates that joint effort is what leads to successful and sustainable forest management, than a mere number. In the technique a party receives a point when acting alone, but half point each when acting together on a specific forest operation. This will be accumulated over a year and at the end of the year, financial benefit generated from the forest related sources will be shared based on the proportion of points registered. Interesting feature of this technique is in its flexibility. Parties can easily negotiate and agree on different forest operations that require input or presence of the two and that can be done by community alone or OFWE alone.



**Figure 2.** Schematic presentation of cost and benefit components involved in PFM for developing fair benefit sharing arrangement

(Solid lines denote factors that contribute strongly in the benefit sharing deal, while broken lines denote those factors that will not contribute in the benefit sharing deal, at least in the short run).

The benefits to be shared here are revenues, and these must be net revenue not gross revenues. One can see a slight injustice to the community from this new alternative. However, we can also argue that the community benefits from the forests in many other ways that have not been incorporated into the benefit sharing arrangement under consideration. All subsistent forest products extracted from the forest such as fodder for forest grazing, fuelwood, wood for construction and environmental services such as reduced soil erosion as well as social benefits can compensate the apparent injustice. Accounting these subsistence products uses for incorporation in to benefit sharing is obviously daunting, and also unnecessary. There is no simple technique for capturing them as such. Furthermore, accounting for such products seriously marginalizes the expected benefit share of the community from financial revenues generable from the forests.

This framework proposed is demonstrated using data collected from the field. The demonstration captured the three alternatives which also shade some insight how the three accounting system, though objective they are, provide widely diverging results. These are simply demonstrational as they do not refer to proposal for share arrangement. The actual share is what will be established after negotiation of OFWE and the community following the suggested implementation guideline at the end of this document.

## **7. FIELD DATA COLLECTION**

### ***7.1 Methods***

Two data sources were employed to gather information needed for the present study. These were primary and secondary data. Primary data were collected in three ways—through interview of experts and community representatives, observation and Focus Group Discussions (FGDs). Three PFM sites were selected purposively for this study, namely Chilimo, Belete-Gera and Adaba-Dodola (Table 3). These sites were selected for their long years of PFM experience and representativeness of different models of PFM scheme with respect to nature of forest use permit and forest management institutional setups. At all study sites, 2-3 experts from the branch office of Oromia Forestry and Wildlife Enterprise (OFWE) were interviewed regarding the practices of PFM and the existing benefit sharing scheme. Additionally, representatives of 2 to 3 FUGs were interviewed on the issues. Observations were also made across the different parts of the forests under PFM scheme to see the practices of forest management.

Importantly, at each pilot site, two FGDs were held with members of FUGs. The discussion focused on what benefit sharing arrangement existed, what it was based on when originally set, what their opinion is about this previous arrangement, and whether they would like to suggest for a new arrangement, and if so what aspects to consider in the new arrangement envisaged to insure objectivity and fair benefit sharing arrangement in the future. We also introduced the suggestion from OFWE- the roles and responsibility based benefit sharing mechanism, and discussed on what that would mean to them. We also discussed with experts in Jimma both with JICA project office expert and OFWE branch, as well as at Adaba-Dodolla district of Arsi forest Enterprise. JICA head office in Addis Ababa was also visited and discussion held.

The information elicited through the survey and interviews forms the basis of the analysis. The information obtained from the interviews regarding the effectiveness of the benefit sharing or PFM arrangement was triangulated, where possible, by obtaining the perspective of a non-governmental organization that worked in the same area or the same project.

Additionally, two data collection approaches were used to inventory cost items involved in the various PFM schemes practiced in Oromia. The methods were (i) review of documents, principally forest management agreements and forest management plans, and (ii) interview of FUGs (committee and members) as well as experts. From these sources we carefully assessed the major forest activities done by the two parties since the inception of the project/program and the quantity of inputs. As discussed above, quantification of the costs involving in PFM is the central aspect in developing fair benefit distribution arrangements. From each site we also collected, wherever available, documents including forest management agreement and forest management plans. Secondary data was reviewed from reports, published studies, unpublished documents, and materials shared by the interviewees.

**Table 3.** Major features of PFM pilot sites in Ethiopia and the study selected sites for the current study.

Program initiator	Region	Forest site	Major forest type	Product targets for benefit generation	Benefit sharing Arrangement (State: community)	Justification/remarks
FARM/SOS Sahel	Oromia	Chilimo*	Natural forests and plantations	Wood from plantations	30:70/10:70	The share is only for production on wood from planted forests. No production is allowed from natural forest
		Liben	Natural forest	NTFPs	-	No extraction, but forest grazing
		Arero and Yabelo	Natural forest	NTFPs	-	No extraction, but forest grazing
		Bale Eco-region	Natural forest	NTFPs	Not fixed	-
GTZ	Oromia	Mojo	Plantation		30:70	70:30 (community: State)
		Adaba-Dodola*	Natural Forests mainly	Wood from natural forests	Exclusive right (rent paid)	Extraction of limited wood from natural forests, but income is wholly for the forest user household.
JICA	Oromia	Belete* Gera	Natural Forest	NTFPs from Natural forests (principally coffee)	30: 70	Production of NTFPs, principally coffee, but income belongs to the individual producer household. But after sell to OFWE, the premium price OFWE generates is shared (70: 30)
NTFP-South-West	SNNPRS	Masha	Natural forest	NTFPs	None	Full right to extract NTFPs
FARM Africa / SOS Sahel	SNNPRS	Bonga forest	Natural forest	NTFPs	None	Extraction of NTFPs, the income is of individual, with small share to the FUA.

\* These are sites selected for the present study

## 7.2 Data analysis

After collecting the data from the three pilot sites we put together the information obtained and assessed the various forest operations taking place and the costs these have been incurring

to both the community and the state (Table 4). For each forest operation we estimated the cost as man-days/ha/yr. For similar operations, we computed mean values of the data obtained from the three sample sites. For the purpose of demonstrating the suggested framework we also converted the man-days/ha/yr data into cost equivalent using the daily wage norm of the country for the farmers, and salary and per-diem rate of experts (MSc equivalent) for the State. Calculation of the suggested alternative benefit sharing schemes follows the procedures outline below:

**Option 1: Time (man-days/ha/yr) cost based accounting:**

Since most information are available at FUG level, and some of the information also one-time event annually while others are daily activities, we suggest time based cost accounting to be quantified as man-days/ha/yr. This requires accounting and conversion of all cost contributions of each party to a hectare and annual terms (see table 4). For daily based inputs, we projected the time spent in an activity to an annual base by multiplying with 365 days of a year. The time we considered per day in most cases is 8 hours of official working time, although we are sure that both community and experts spend most of the time more than 8 hours in the field. After completing the inventory of time spent on the forest management operations by each party, we summed up to a total time for each party. The ratio of each party’s contribution to the total sum of both parties time sets the proportion of benefit sharing (BS) the party assumes:

$$BS\% = \text{time share of a party} / \text{total time spend on the forest management by both party} \dots\dots\dots(1)$$

**Option 2: Time equivalent financial cost based accounting**

It is obvious that an hour of community time and an hour of expert time are not equivalent in financial terms. The expert time is more expensive, and it is unfair to compare the contribution of both parties on time accounting only. Indeed, to overcome the short comings in the time based accounting, we converted the time of the two parties into financial cost equivalent using national norms. For community time we used the minimum wage rate (150 Birr/month = 5 Birr/day). For expert time we used the salary scale of OFWE and the per-diem rate used. We also considered MSc holder rate in the case of expert (3500 Birr/month = 150 Birr/day per-diem). Accordingly, the benefit sharing proportion is calculated as:

$$BS\% = \text{cost of a party} / \text{total cost incurred by both party} \dots\dots\dots(2)$$

### **Option 3: Presence and absence based calculation**

We further observed that both the time and cost related calculations are unfair since in most of the PFM practices FUGs tend to own very large members, which despite the presence of OFWE in an activity, bias the share of time and labor cost in favor of the FUGs merely because of the members' number. To avoid the unfairness in the above two options, we suggest a third option, called presence-absence option. This option assumes that presence of the two parties together achieves equal weight regardless of the amount of labor force involved. In the cases where both parties operate together we gave them 0.5 point each, and in the case only one party does the job and the other is absent we gave 1 point for the party engaged and zero point for the party unengaged.

## **8. FINDINGS**

### **8.1 Forest based operations**

A number of forest based operations are observed both in the field as well as embedded into the forest management agreements and plans (Table 4). These operations can be categorized into

- 1) Technical forest management
- 2) Forest administration operations
- 3) Additional income generating operations

It can also be observed that communities are very much engaged in forest management operations including governance to maintain their management institutions. In fact, while community is proactive in accomplishing responsibilities and roles vested on them through the forest agreement, the state counterpart is much passive. This is witnessed by the greater role the community is playing and the higher costs they are bearing as observed during our field based accounting (Table 4). The majority of roles communities are playing are community forest administration, forest protection and insurance of regulated access by members for subsistence harvest. The participation is in meetings (of general assembly, committee regular meeting), in forest watching against illegal timber harvesters, and insuring harvest of forest product harvest only when needed, and monitoring for the replacement of the harvests as per the agreed principle. In general, the amount of time spent by the community on forest management is extremely huge. Whether the benefit generated from the forests handed over

to the community is able to reward the costs incurred is a serious question. Unfortunately, in the cases where only natural forests of low NTFPs resource, no plantations as part of the forest handed over and where wood products extraction is not permitted (e.g. some of the FUGs in Chilimo) community generate hardly no financial benefit. The only benefits they enjoy are non-financial benefits such as subsistence products, social and environmental benefits.

## **8.2 Cost-benefit accounting**

### **Costs**

The major costs that community and the state counterpart incur in the forest management operations are labor and time. Community incur direct financial costs by hiring wage labor for nursery management, while, without counting the facilitative investment paid by NGOs the state's main direct cost will be per diem as well as logistic costs during field visit and work by experts.

### **Benefits**

Both financial and non-financial benefits are extracted from the forests handed over to community. The nature of benefits generated vary according to the nature of forest handed over and nature of forest use arrangements (permit system, right of use) permitted. FUGs that own plantations in their blocks (e.g., Chilimo FUGs) or those that owned agreement for wood harvest for sale (e.g., Adaba-Dodolla WAJIB) are generating financial benefits as well as products for household consumption (subsistence benefits). Similarly, FUGs that own forests with commercial NTFPs-mainly coffee (e.g., Belete-Gera Wabub) also generating financial benefits, while extracting forest products for household's subsistence. However, FUGs that hold forests that neither have plantation nor NTFPs of commercial value are restricted only to benefits of subsistence value such as fuelwood, construction wood, fodder, medicinal herbs and farm implement. The most important subsistence products are fuelwood, construction wood and fodder. Overall, except for the Adaba-Dodolla case, all PFM practices in Oromia primarily allows forest use for subsistence products for household consumption, and if present NTFPs utilization which is the main cash earning. Wood harvest from natural forest for sale is not common and of course not allowed.

## **8.3. Summary of the benefit share proportion based on current costs**

Putting together the three sample PFM sites we computed the total costs in terms of time, labor force and presence-absence (the three alternatives shown above) (Table 4). Based on

these three variables, we computed the possible benefit share proportion as shown in table 5. However, these calculations are simply to demonstrate how the sharing scheme can be worked out. The final setup is established after negotiation between the two parties. In the implementation guideline presented in the section below we presented a tentative suggestion of where the two parties can jointly accomplish and where only one party is needed. These can also be refined ultimately after negotiation between the two parties.

**Table 4.** Activities done by FUG and the State in PFM pilot sites and amount of time cost estimates incurred on per ha and year base.

Major activity category	forest	Activities accomplished by community and State	Time input per ha/yr		Presence or Absence	
			Community	State	Community	State
Management plan preparation		Forest condition assessment-demarcation of boundary, inventory of stock, etc.	0.01075	0.003	0.5	0.5
		Preparation of the Forest Management Plan (FMP) document	0	0.001	0	1
		Debriefing and discussion	0.011	0.003	0.5	0.5
		Monitoring of forest conditions and implementation of FMP	0.01525	0.0075	0.5	0.5
Forest Management & operations A. Natural forest		A.1.1 Timber production	0	0	0	0
		A.1.2. Fuelwood production	0.003	0.00275	0.5	0.5
		A.1.3. Construction wood harvesting: i) Application securitization	0.0215	0.0005	0.5	0.5
		ii) Field verification of application by checking of members	0.29175	0	1	0
		iii) Selecting and marking of trees to be felled by the applicant	0.6775	0.03025	0.5	0.5
		iv) Replanting of clear cut stands	0.045	0	1	0
		v) Monitoring of survival of planted seedlings	0.11175	0.00025	0.5	0.5
		A.4. NTFPs production: i) Demarcation of areas for NTFPs harvesting	0.0195	0.0195	0.5	0.5
		ii) Estimation of quantity of harvest	0	0	0	0
		iii) Harvesting and transporting from forest	0	0	1	0
		iv) drying and cleaning	0.025	0	1	0
		v) forest management for improving NTFPs yield (e.g. weeding)	0.025	0	1	0
		iv) Transporting and Marketing in Addis*				
		B. Plantation harvest		Assessment and demarcation for harvest	0	0
Silvicultural operations (plantations and natural forests)		Replanting (for non-coppice): hole digging	0.05825	0.01675	0.5	0.5
		- planting	0.4175	0	1	0
		-coppice management	0	0	0	0
		Seed collection for natural forest enrichment planting:	0.4175	0	1	0
		Mother tree selection and marking	1.75	0	1	0
		Nursery seedling production for enrichment planting and replanting of cut plantation area	0.4625	0	1	0

	Enrichment planting for forest restoration (hole digging, planting and hoeing, water diversion to nursery) – campaign	0.16825	0.0025	0.5	0.5
Forest protection	Regular surveillance	1.35175	0	0	0
	Fire break clearance and maintenance	0	0	1	0
	Special protection demand (night surveillance)	0.2275	0	0	0
Forest administration	FUG/FU committee regular meeting (half a day)	2.26075	0	1	0
	FUG general assembly for forest based discussions	7.3535	0.0229	1	0
	Urgent meetings	0.33425	0.0003	0.5	0.5
	Expert in put (for consultation in case of problems)	0	0.0025	0.5	0.5

\* We left out this assuming that OFWE will be responsible for the transporting and marketing and reduce all costs involving in this process from the total revenue; \*\* equivalent money cost = for community 150 Birr/month (wage labor); for experts (3500Brii/month + 150 Birr per diem)

**Table 5.** Benefit share proportion based on the current level of engagement of community and OFWE using the three alternatives.

Options	Percentage of benefit share		Remarks
	among the parties (% of BS)		
	Community	State/OFWE	
Option 1- Time cost based calculation	99.30%	0.70%	
Option 2. Monetary based calculation	85.4%	14.6%	
Option 3. Presence-absence based calculation	62.00%	38.00%	

## 9. IMPLEMENTATION GUIDELINE

The benefit share proportion shown in table 5 above is not a recommendation for future use, but demonstration of how the scheme will be applied. For practical use of the scheme in the future both community (FUGs) and OFWE need to negotiate and select the options they assume is more realistic, fair and equitable. Furthermore, the following implementation guideline can be used as start-up of real partnerships and full operationalization of the scheme in PFM.

### Step1. Revising the existing Forest Management Plan

As witnessed during fieldworks, existing forest management plans for the different pilot sites are already old and need revision. Furthermore, forest management objectives and development goals are not explicitly indicated in the plans. Therefore, it is essential and first step activity to revise the forest management plan for each site to successfully practice the benefits sharing scheme proposed in this document. The revision process need to harmonize the objectives of both parties, and should not focus on conservation as initially stipulated when PFM was established. It should attempt to address forest development in view of ecological, social and economic benefits. Following clear definition of objectives, inventory of resources, existing forests and areas to be developed need to be assessed. Inventory data will then be analyzed to determine what is present, what the forest site is capable of producing, what silvicultural operations need to be implemented, where, when and how. Then, convert the management plan to annual work plan by indicating detailed forest operations stand by stand.

### Step2. Negotiate roles and responsibilities

At this stage, the parties should negotiate on roles and responsibilities that stem-out from both work plan and management to implement properly. Negotiation can be done step by step and may not be a gross work assumption. Any kind of negotiation should be carefully recorded, reflected on for

consensus and agreement being signed. Tentative suggestion of roles and responsibilities to be borne by the parties is suggested in Table 6. It is up to the parties to approve or revise these suggestions.

### **Step3. Design systems for monitoring and evaluation of performances**

Monitoring is the periodic assessment of activities of parties to understand and follow up their performances as per the agreed roles and responsibilities as well as the work plan outlined. Monitoring is an essential process to also appraise challenges encountered and the needs for redesigning the roles and responsibilities or for additional collaboration of the two parties. It also helps to timely take actions for any adjustment needed so that forest development activities should not be delayed. We suggest a bi-annual monitoring. For monitoring, a joint committee of the two parties should be established with additional member(s) from independent bodies (e.g. NGOs or GO). A simple monitoring framework or criteria can be developed against which performance of parties can be assessed. Such monitoring norms need to be developed jointly and agreed upon. The monitoring norm can look like table 7.

A party that under performed will be warned and if such under performance is repeatedly observed in subsequent monitoring legal action need to be sought. What is under performance can be negotiated between the two parties. Example can be less than 50% performance in overall weighted roles and responsibilities assumed by a party. Actions may look like the following (but the ultimate should be negotiated between the parties)

1. First round under performance: oral warning by the joint monitoring committee
2. Second round (although not consecutive) under performance: written warning
3. Third round but both consecutive under performance: 50% loss of benefit share
4. A party that under performs in three successive monitoring cycle should loss legal claim or access to the forest.

Monitoring works should also assess both records (office records of performances) as well as field operations. It is essential that both parties should keep neatly records of activities as stipulated in the management plan and work plan for their contributions on a wallpaper posted in the offices of FUGs that list down activities inscribed in the forest management plan.

In addition to the biannual monitoring, evaluation of the joint venture (PFM) as a whole may be necessary. Evaluation can help in assessing the overall achievement of the joint venture over relatively longer time span say five years from the perspective of both parties. It will help to assess broader issues such as institutional, social, economic and ecological or silvicultural performances as well as challenges and constraints. It will clarify the appropriateness and effectiveness of the shared responsibilities, management plans and benefit sharing arrangements. In this case the following aspects need to be focused:

1. **Forest management:** is there a major trend change in the state of the forest? Are the set objectives and plan for the forest management being met? What successes and failures can be recognized? What are the causes for success and failure? Is there a need or changing the way things should be done?
2. **Institutional:** what strengths and weakness can be recognized in the institutional arena? How is the internal dynamics of the FUG? Is it stable? How is the satisfaction of members on their committee? How is the transparency, accountability? Are the efforts of FUG sustainable? If not why not? How was the communication and interaction between OFWE-FUG? Is there transparency?
3. **Economic issues:** are the benefits generated satisfactory and encouraging? Are costs and benefits changing over time and what is the trend? How is forest access and what modifications have been done and why? What is the economic incentive in general look like?
4. **Review of functioning and roles:** Were the roles and responsibilities shared between OFWE and FUG appropriate? Was the BS scheme established appropriate? Based on the findings from the above, is it necessary to adjust roles and responsibilities as well as benefit sharing scheme?
5. **Other stakeholders' views:** assess as necessary the views of broader stakeholders and attempt to reflect the needs of them in the next step forest management and development processes.

#### **Step 4. Joint reflection on monitoring and evaluation results**

The information collected through continuous monitoring and evaluation should be jointly assessed and reflected upon. At this reflection stage, both parties will assess whether they both are "on course" to achieve the long aims of PFM, and if necessary to change courses. This stage is also where the parties learn from their successes, failures and challenges. It will help them re-adjust some of the fundamentals such as benefit sharing scheme as well as roles and responsibility assumptions. Reflection should be made immediately after five years evaluation, if evaluation is fixed on five year terms. The advantage of reflection is that it provides a forum for exchanging and evaluating course of action and identify in participatory way failures as well as challenges. At the reflection platform, results of the five years' monitoring and evaluation result should be presented and compared against targets sets. Based on these decisions the way forward can be foreseen.

#### **Step 5. Revise or terminate contracts**

Based on the outcome of the reflection stage, the next step is decision-making on whether the two parties to continue the joint venture or terminate it. The analyses of the findings from the reflection stage will be aimed at achieving unequivocal results here. At this stage the basic direction to take will be decided. If the contract is to continue, it also provides a framework for how to proceed. What level of underperformance will lead of termination of contract can be negotiated between the two parties. But a

party that failed on aggregate to fulfill at least 50% of its roles and responsibilities over the evaluation period should be penalized (e.g. lose of 50% of its benefit share for two consecutive years). A party that extremely under performed (less than 25%) on aggregate during the evaluation period should be penalized severely, for instance, loss of right over the resource.

**Table 6.** Tentative proposal for roles and responsibilities for the community and state, which are still open for negotiation.

Major forest activity category	Activities accomplished by community and State	Share of time		Presence or Absence	
		Community	OFWE	Community	State
Management plan preparation	Forest condition assessment	Joint	Joint	0.5	0.5
	- demarcation of boundary, inventory of stock, etc.				
	Preparation of the FMP document		OFWE	0	1
	Debriefing and discussion	Joint	Joint	0.5	0.5
	Monitoring of forest conditions and implementation of FMP	Joint	Joint	0.5	0.5
Forest Management & silvicultural operations	A.1.1 Timber production	Joint	Joint	0.5	0.5
	A.1.2. Fuelwood production	Community		1.0	-
A. Natural forest	A.1.3. Construction wood harvesting: i) Application securitization	Community		1.0	0
	ii) Field verification of application by checking of members	Joint	Joint	0.5	0.5
	iii) Selecting and marking of trees to be felled by the applicant	Joint	Joint	0.5	0.5
	iv) Replanting instead of cut trees	Community		1.0	0
	v) Monitoring of survival of planted seedlings	Joint	Joint	0.5	0.5
	A.4. NTFPs production:	Joint	Joint	0.5	0.5
	i) Demarcation of areas for NTFPs harvesting				
	ii) Estimation of quantity of harvest	Joint	Joint	0.5	0.5
	iii) Harvesting, transporting	Community		1.0	0.0
	iv) drying and cleaning	Community		1.0	0.0
	v) forest management for improving NTFPs yield (e.g. weeding)	Joint	Joint	0.5	0.5
	iv) Marketing		OFEW		1.0
v) transporting to Addis and processing		OFWE	0.0	1.0	
B. Plantation harvest	Assessment and demarcation for harvest	Joint	Joint	0.5	0.5

Silvicultural operations (plantations and natural forests)	Replanting (for non-coppice)	Joint	Joint		
	-hole digging			0.5	0.5
	- planting	Joint	Joint	0.5	0.5
	-coppice management	Community		1	0
	Seed collection for natural forest enrichment planting	Joint	Joint	0.5	0.5
	Mother tree selection and marking	Joint	Joint	0.5	0.5
	Nursery management, seedling production for enrichment planting and replanting of cut plantation area	Joint	Joint	0.5	0.5
	Enrichment planting for forest restoration (hole digging, planting and hoeing, water diversion to nursery) – campaign	Joint	Joint	0.5	0.5
Forest protection	Regular surveillance	Community		1	0.0
	Fire break clearance and maintenance	Joint	Joint	0.5	0.5
	Special protection demand (night surveillance)	Community		1	0.0
Forest administration	FUG/FU committee regular meeting (half a day)	Community		1	0.0
	FUG general assembly for forest based discussions	Community		1	0.0
	Urgent meetings	Community		1	0.0
	Expert in put (for consultation in case of problems)		OFWE	0	1

**Table 7.** Performance indicator for use during monitoring

Activities (example)	Performance indicator					
	Planned	Accomplished	Remark			
			Excellent (>75%)	Good (50- 75%)	Satisfactory (25-50%)	Work undone (< 25%)
1. planting	1 ha	0.75	1	0.75	0.5	0
2. thinning	2 ha	0	Up to 1.75	1.25- 1.75	0.75-1.25	< 0.75
3						
4						
5						
6						
7						

**Note:** calculated weighted average to arrive at overall performance

## **10. WITH IN COMMUNITY BENEFIT SHARING ARRANGEMENT**

Equitable share between community and the state is one thing and redistributing the share community receives in the way that interests all members of the FUG is another. Experiences from the extensive reviews we have made show that utilization and distribution of benefits from PFM among members of FUG or spending on issues of interest to members is a serious problem affecting progress and successes of PFM. The problem is more serious with respect to revenue sharing than subsistence product distribution.

As outlined in the previous sections, benefits from PFM are numerous, and these can be grouped into two broad categories: benefits that accrue to the group as a whole, and those benefit that accrue to individual members. The former type of benefits is the social, environmental, and community development benefits. The latter group of benefits concern financial revenue to be disbursed to individuals and subsistence forest based access by individuals/households. In table 5, we tried to provide a generalized framework of the nature of benefits generated, the costs borne by a member and how equitable these benefits and costs to be arranged. For the revenue and subsistence forest product benefit, inter-household and intra-household equity (between husband and wife) is essential to insure that PFM is for all members and not for elites or special groups only. FUGs operate as one institution does not make them immune against inequitable outcomes in the distribution of benefits to individual households. Therefore, a system that insures objectivity and transparency in sharing benefit among members of FUGs is as crucial as sharing benefit between state and FUGs. Different options can be suggested:

Following the same procedure for the objective share of benefit between state and FUG displayed above, the benefit share within FUG should be organized equitably. This assumes benefit distribution on the basis of one's contribution in terms of time/labor. In some FUGs some resources assumed abundant are let freely collected, e.g. fuelwood, grazing access. This free accessing of subsistence products obviously is one cause of inter-household disparity as poor and wealthy households do not use equally the chances, marginalizing the poor that still contribute the same amount of cost. In other words although the relative opportunity costs of forest management is high for the poor, they still are marginalized. Indeed, even the subsistence products from FUG managed area should be shared equitably and not freely. Households that

do not consume their entire share should be allowed to sale within the FUGs or on market part of their share. Thus disbursement of subsistence forest products need to be regularized such as for instance once or twice per week.

Revenue related benefits received at FUGs level can be apportioned further into various fund groups utilized for different purposes. Part of it should be used for community development so a communal development fund need to be preserved, another part of the revenue should be used for forest management (Forest Administrative Fund), and the remaining revenue for disbursement to individual members. It is important to note that community development fund also means that benefits are not strictly limited to members, but also help non-members as well as reduce government expenditure to the community and beyond. This is essential ingredient of PFM, and need to be given special attention but without compromising also the advantage of the members who spend their cost to enjoy the benefit. The share between the three should be decided at FUGs level rather than imposing them by external body. So OFWE need to pursue an open and transparent discussion at FUGs general assembly for the choices. There should also be no standards across Oromia with this respect. It should be flexible from FUG to FUG based on their priority need.

**Table 8.** A general framework for benefit and cost share between members of a Forest User Groups

Type of Impacts	Benefits	Costs	Equity
Economic (financial)	<p>Economic benefits are subsistence or cash income, and may accrue to the Forest User Group as a whole or be distributed amongst individual members. These include:</p> <ul style="list-style-type: none"> <li>• Subsistence products obtained from the forest for household or agricultural use, and consumed at household level;</li> <li>• Cash income from revenue disbursement;</li> <li>• Credit schemes and benefits thereof from FUGs account or revolving funds;</li> <li>• Income generated by the Forest User Group through the sale of forest related products that are outside the state domain. E.g., seedling, seed, etc. sales,</li> <li>• Income from privately produced NTFPs (e.g., Honey)</li> <li>• Cash incomes from membership fees, fines, bank interests, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Time/labour cost (its opportunity costs) incurred on forest management</li> <li>• Financial costs incurred in implementing forest management, e.g., membership fees paid to the Forest User Group;</li> <li>• Wages paid to nursery operations, etc.</li> </ul>	<p>Fair costs and benefit sharing amongst Forest User Group members may include:</p> <ul style="list-style-type: none"> <li>• the opportunity cost of Forest Users' time and labour used in forest management activities need to equally deployed;</li> <li>• use of forest products for subsistence purpose need to equally allowed based on weekly basis. This minimizes disparity between poor and rich households. The poor can sale his/her share if needed; - from equal cost there must be equal benefit;</li> <li>• Financial disbursement need to be arranged on the basis of one's contribution (role) reflected in attendance on duty, and responsibility assumed (committee works etc.);</li> <li>• But special role assignments must be free and fair in election. This need to be monitored by OFWE.</li> </ul>
Community development	<p>Part of Forest User Group revenue can be used to community prioritized development projects within the community such as roads, clinics, schools, water facilities.</p>	<p>Additional labour/time in participation to the development work by non FUGs (opportunity cost of this); Any negative outcome of the development.</p>	<p>Assumed to fairly benefit all, although exact effect may differ based on the capacity of households/individuals to utilize the opportunity offered</p>
Environmental benefits	<p>Improved quality of forest resource providing additional environmental benefits and services, e.g., decreased run off, improved water quality, reduced flooding, increased pollination.</p>	<ul style="list-style-type: none"> <li>• (Temporary) exclusion from forest during regeneration phase;</li> <li>• Loss of crop etc due to wildlife population increment;</li> </ul>	<ul style="list-style-type: none"> <li>• Most are public good that benefit all equally, but some like irrigation water should be shared equally among user. In case some do not have irrigable land, their share should be traded to those who will to buy, and the revenue channelled to the individuals;</li> <li>• PES to the FUGs like other major benefits</li> </ul>

Human capacity and social benefits	Individual members of Forest User Groups may acquire new skills and knowledge or receive training. Skills and training may be in any field including knowledge of the forest industry, skills in business and finance, community development planning and community facilitation.	Opportunity cost of time	<ul style="list-style-type: none"> <li>• Insure chance of access to all fairly. Avoid, unless and otherwise specific to a special group (e.g. committee members), avoid repeat going by some and total absence of others. New skills and knowledge benefits all Forest User Group members, and thus should be shared with all.</li> </ul>
Social	Relationships of trust, and membership of groups and networks. These may include the formation or strengthening of community based organizations	Development of relationships of trust may disadvantage individuals who are excluded from them.	<ul style="list-style-type: none"> <li>• Avoid the chances of relationships of trust developing among few leaving others, and try to develop an aggregated trust and friendly environment among all members</li> </ul>

## II. CONCLUSIONS AND RECOMMENDATIONS

In this work we attempted to develop an objective modality for benefit sharing between community and OFWE that can be used across various PFM sites in Oromia. In the absence of experiences on similar endeavor, we opted for innovative approach that can establish a base model, but which can further be refined until a methodology and benefit share scheme acceptable to all parties will emerge. The demonstration of the framework with field based data shows that the presence and absence technique is fairer and rationale than the time or financial cost approach. We recommend to OFWE to transparently discuss these options with community and create a common approval of the alternative to employ in the future.

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## Appendices

**Annex 1.** Some examples of data collected from the field for demonstration of cost inventory as well as calculation of benefit share (Chillimo).

Major forest activity category	Activities accomplished by community and State	Total input	Unit	Share of contribution		Remarks	Time input per ha/yr		Presence or Absence	
				Community	State		Comm.	State	Comm	State
Management plan preparation	Forest condition assessment - demarcation of boundary, inventory of stock, etc.	18	persons	12	6	790 ha in 4 days ( 1 ha = 0.12 hrs/6 persons) We assumed that this is worked out every five years				
	Preparation of the FMP document	1	week	0	1 - 2 experts	Expert work (same once every five years)				
	Debriefing and discussion	1	day	133	2	Joint (Comm & OFWE) (once every five years) All FUG members participate				
	Monitoring of forest conditions and implementation of FMP	18	persons	12	6	Joint (one day every three month)				
Forest Management & silvicultural operations B. Natural forest	A.1.1 Timber production	-	-	-	-	-				
	A.1.2. Fuelwood production	-	-	-	-	-				
	A.1.3. Construction wood harvesting: i) Application securitization	1	hr	22	-	Committee (1/2 week)				
	ii) Field verification of application by checking of members	5	hr	6	-	Selected committee members (1/2 week)				
	iii) Selecting and marking of	1.5	days	15 (persons)	1 expert					

	trees to be felled by the applicant									
	iv) Replanting instead of cut trees	4	days	6	-	Summer season				
	v) Monitoring of survival of planted seedlings	4	days	6	-	Dry season				
	A.4. NTFPs production:	-	-	-	-					
	i) Demarcation of areas for NTFPs harvesting									
	ii) Estimation of quantity of harvest	-	-	-	-					
	iii) Harvesting, transporting	3	days	3	-					
	iv) drying and cleaning	3	days	3	-					
	v) forest management for improving NTFPs yield (e.g. weeding)	12	days	11	1					
	iv) Marketing	1	days	1	-					
	v) transporting to Addis and processing									
B. Plantation harvest	Assessment and demarcation for harvest	9	persons	7 community	2 expert	0.5 day/ha				
Silvicultural operations (plantations and natural forests)	Replanting (for non-coppice) -hole digging	25 (2500 holes/100 holes/person)	personnel	25 community	0	1 ha				
	- planting	25	personnel	25	0	1 ha				

			el							
	-coppice management						Only protection (so part of forest protection)			
	Seed collection for natural forest enrichment planting (6-7 kg seed is needed for enrichment planting)	15 persons/h a/yr	Persons	15	-		Assuming five mother trees/ha			
	Mother tree selection and marking	0	0	0						
	Nursery seedling production for enrichment planting and replanting of cut plantation area	2 hired labor/yr		-	-		Salary (250/person/month)			
		4 members/day to assist extra nursery activities	persons	4	-					
		Nursery facilitates (poly tube and the like)					(material input could be gained from OFWE: soil supply poly tube))			
	Enrichment planting for forest restoration (hole digging, planting and hoeing, water diversion to nursery) – campaign	Whole FUG (133 members) + 2 experts/da	133*4	2*4			4 days a year  (30 seedlings planting/member/yr)  (for per ha we divided by 790			

		y and 4 days a year)								
Forest protection	Regular surveillance	12/day	persons	12	-	Whole by comm.. (per ha 12/790 ha)				
	Fire break clearance and maintenance	None								
	Special protection demand (night surveillance)	20-25 persons 3 days/month	persons	22	-	Comm.. work (for per ha divide by 790)				
Forest administration	FUG/FU committee regular meeting (half a day)	Once/2 weeks	22 members	22	-					
	FUG general assembly for forest based discussions	1/month (half of a day, half participant)	133 members	133	-					
	Urgent meetings	2 days/month (3 hrs/day)	Persons	22	-					
	Expert in put (for consultation in case of problems)	2 days/3 month	Expert	-	2					

**Annex 2.** Some examples of data collected from the field for demonstration of cost inventory as well as calculation of benefit share (Changiti-Adaba-Dodola).

Major forest activity category	Activities accomplished by community and State	Total input	Unit	Share of contribution		Remarks	Time input per ha/yr		Presence or Absence	
				Com.	State		Com.	State	Comm	State
Management plan preparation	Forest condition assessment									
	- demarcation of boundary between blocks	15	Person	8	7	1 day/554ha				
	- pegging (putting permanent marks between blocks	5	person	2	3	1 day/554ha				
	- Boundary demarcation between WAJIB and Non-WAJIB	30		23	7	1 day/554ha				
	inventory, etc.	12		6	6	7 days/554ha				
	Preparation of the FMP document									
	Debriefing and discussion					There was no briefing				
	Monitoring of forest conditions and implementation of FMP	12		6	6	7 days/554 ha				
Forest Management & silvicultural operations C. Natural forest	A.1.1 Timber production	30		30	-	Takes one day. They are not using standing trees. The procedure for allowing the wood that has fallen is similar to A.1.3				
	A.1.2. Fuelwood production					No need for own consumption				

	A.1.3. Construction wood harvesting: i) Application securitization					Takes one day. Any request to utilize wood products is decided on general meeting				
	ii) Field verification of application by checking of members	2 - 5		2 - 5		1 day. Requires the presence of all (5) committee members but mostly done with 2 members of the committee				
	iii) Selecting and marking of trees to be felled by the applicant					No felling				
	iv) Replanting instead of cut trees					Not practiced				
	v) Monitoring of survival of planted seedlings					NA				
	A.4. NTFPs production:									
	i) Demarcation of areas for NTFPs harvesting									
	ii) Estimation of quantity of harvest									
	iii) Harvesting, transporting									
	iv) Sorting, grading (if existing)									
	iv) Marketing									
B. Plantation harvest	Assessment and demarcation for harvest					NA				
Silvicultural	Replanting (for non-coppice)									

operations (plantations and natural forests)	-hole digging								
	- planting								
	-coppice management								
	Seed collection for natural forest enrichment planting (6-7 kg seed is needed for enrichment planting)					Use wilding.			
	Mother tree selection and marking								
	Nursery seedling production for enrichment planting and replanting of cut plantation area								
	Enrichment planting for forest restoration (hole digging, planting and hoeing, water diversion to nursery) – campaign	30		30		3 days Wilding, pitting, planting			
Forest protection	Regular surveillance	3		3		12 hrs/day			
	Fire break clearance and maintenance								
	Special protection demand (night surveillance)	30		30		4 days/year During summer when there is high pressure on the forest			
Forest administration	FUG/FU committee regular meeting (half a day)	5		5		9 months – twice/week 3 months – four/week			
	FUG general assembly for forest based discussions	30		30		9 months – twice/week 3 months – four/week			

						(do we have general assembly every week?)				
	Urgent meetings									
	Expert in put (for consultation in case of problems)					GTZ - Frequent				
Time spent per year										
Equivalent mandays per year										
Equivalent monetary cost										

- Request for means of livelihood diversification than depending on forest

**Annex 3.** Some examples of data collected from the field for demonstration of cost inventory as well as calculation of benefit share (Bulchana-Artu fite - Adaba-Dodola).

Major forest activity category	Activities accomplished by community and State	Total input	Unit	Share of contribution		Remarks	Time input per ha/yr		Presence or Absence	
				Com.	State		Com.	State	Comm	State
Management plan preparation	Forest condition assessment									
	- demarcation of boundary between blocks	13	person	12	1	3 days/ 360ha	0.02	0.0017		
	- inventory, etc.	12	person	6	6	2.5 days (depends on the type of terrain)	0.01	0.01		
	Preparation of the FMP document									
	Debriefing and discussion									
	Monitoring of forest conditions and implementation of FMP									
Forest Management & silvicultural operations D. Natural forest	A.1.1 Timber production	30		30	-	Takes one day. They are not using standing trees. The procedure for allowing the wood that has fallen is similar to A.1.3				
	A.1.2. Fuelwood production					No need for own consumption				
	A.1.3. Construction wood harvesting: i) Application securitization	30		30		Takes one day. Any request to utilize wood products is decided on general meeting (3 time a year)	0.25			
	ii) Field verification of	5		5		1 day.				

	application by checking of members					Requires the presence of all (5) committee members (how many times/yr???)				
	iii) Selecting and marking of trees to be felled by the applicant					No felling				
	iv) Replanting instead of cut trees					Not practiced				
	v) Monitoring of survival of planted seedlings					NA				
	A.4. NTFPs production:									
	i) Demarcation of areas for NTFPs harvesting									
	ii) Estimation of quantity of harvest									
	iii) Harvesting, transporting									
	iv) Sorting, grading (if existing)									
	iv) Marketing									
B. Plantation harvest	Assessment and demarcation for harvest					Use of plantation not there				
Silvicultural operations (plantations and natural forests)	Replanting (for non-coppice)									
	-hole digging									
	- planting									
	-coppice management									
	Seed collection for natural forest enrichment planting (6-7 kg seed is needed for					Use wilding.				

	enrichment planting)									
	Mother tree selection and marking									
	Nursery seedling production for enrichment planting and replanting of cut plantation area									
	Enrichment planting for forest restoration (hole digging, planting and hoeing, water diversion to nursery) – campaign	30		30	1	10 days Wilding, pitting, planting and fencing for ~ 360ha (more time for fencing) Note: Expert only for one day	0.833	0.028		
Forest protection	Regular surveillance	4		4		12 hrs/day	6.083			
	Fire break clearance and maintenance									
	Special protection demand (night surveillance)	30		30		4 days/year During summer when there is high pressure on the forest	0.33			
Forest administration	FUG/FU committee regular meeting (half a day)	5		5		9 months – twice/week 3 months – four/week	33.3			
	FUG general assembly for forest based discussions	30		30		9 months – twice/week 3 months – four/week	1080			
	Urgent meetings									
	Expert in put (for consultation in case of problems)									
Time spent per year										
Equivalent mandays per year										
Equivalent monetary cost										

Notes:

- Cooperative (waldaa) – The committee has 13 members. 7 of them meet weekly (4/month). There is a general assembly three times a year (302 members)
- Union – 10 committee members. 7 of them meet twice a month.
- Roles and responsibility based benefit sharing- ok.

**Annex 4.** Some examples of data collected from the field for demonstration of cost inventory as well as calculation of benefit share (OFWE-Adaba-Dodola).

Major forest activity category	Activities accomplished by community and State	Total input	Unit	Share of contribution		Remarks	Time input per ha/yr		Presence or Absence	
				Com.	State		Com.	State	Comm	State
Management plan preparation	Forest condition assessment	12	Person	10	2	1.5 days/360 ha	0.008	0.0017		
	- demarcation of boundary between blocks									
	- pegging (putting permanent marks between blocks)									
	- Boundary demarcation between WAJIB and Non-WAJIB	7	person	2	5	3 days/360ha	0.0033	0.0083		
	- inventory, etc.									
Preparation of the FMP document					No mgmt plan – The idea was to use indigenous klge					
Debriefing and discussion	31			30	1		0.017	0.0006		
Monitoring of forest conditions and implementation of FMP	1			1		2days/month (Block warden)	0.0667	0.0667		
Forest Management & silvicultural operations E. Natural forest	A.1.1 Timber production									
	A.1.2. Fuelwood production									
	A.1.3. Construction wood harvesting: i) Application securitization									
	ii) Field verification of application by checking of									

	members									
	iii) Selecting and marking of trees to be felled by the applicant									
	iv) Replanting instead of cut trees									
	v) Monitoring of survival of planted seedlings									
	A.4. NTFPs production:									
	i) Demarcation of areas for NTFPs harvesting									
	ii) Estimation of quantity of harvest									
	iii) Harvesting, transporting									
	iv) Sorting, grading (if existing)									
	iv) Marketing									
B. Plantation harvest	Assessment and demarcation for harvest									
Silvicultural operations (plantations and natural forests)	Replanting (for non-coppice)									
	-hole digging									
	- planting									
	-coppice management									
	Seed collection for natural forest enrichment planting (6-7 kg seed is needed for enrichment planting)									
	Mother tree selection and									

	marking									
	Nursery seedling production for enrichment planting and replanting of cut plantation area									
	Enrichment planting for forest restoration (hole digging, planting and hoeing, water diversion to nursery) – campaign									
Forest protection	Regular surveillance									
	Fire break clearance and maintenance									
	Special protection demand (night surveillance)									
Forest administration	FUG/FU committee regular meeting (half a day)	32		30	2	1/month	1	0.0667		
	FUG general assembly for forest based discussions (why this all???)	1841		1830	11	Three time/year (assump. 50% of the WAJIB members present) (how many times/yr??)	1.27	0.0014		
	Urgent meetings									
	Expert in put (for consultation in case of problems)									
Time spent per year										
Equivalent mandays per year										
Equivalent monetary cost										

Notes:

- Revision of carrying capacity
- Income from tourism
- Monthly salary of the workers working on Adaba Dodola = 18,080
- Focus on WAJIB managed forests (65,000ha) = 25%