



Fostering joint forest and water conservation at the local level

A 'how to' note

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Introduction

Forests supply clean water. They filter water from streams that come from agricultural land and recharge the ground water table. Deforestation and conversion of forests to other land uses, charcoal burning and encroachment for settlement undermines the ability of forested landscapes to provide these ecosystem services. Local-level community participation in the management of these resources is key to reducing degradation and ensuring continued provision of livelihood benefits. To sustainably manage these resources, policy reforms have decentralized management authority to communities, for instance, through Participatory Forest Management (PFM) approaches for Community Forest Associations

(CFAs) and sub-catchment management with Water Resource User Associations (WRUA). In these approaches, communities adjacent to forest areas form forest-user associations and enter into a management agreement with the forest authorities to undertake conservation activities and to access forest resources. WRUAs develop Sub-Catchment Management Plans (SCMPs). The forest associations manage the forest and adjacent areas, as there is also a need for the catchment area outside the forest to be conserved. Water-user associations have been formed to undertake management activities at a sub-catchment level in the mid and lower catchment. Enhanced coordination between these two associations is key to fostering joint planning and a landscape approach



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to resource management that links upstream and downstream. This is an opportunity for upstream and downstream resource users to identify the incentives for conservation, positive and negative effects, and develop joint conservation efforts to enhance benefits.

Examples of community associations involved in resource management include CFAs and WRUAs in Kenya, and Collaborative Forest Management groups in Uganda. These community associations are supported by the forest and water regulatory authorities at national level to undertake various management interventions through development of forest and water management plans, forest management agreements and, in some cases, Memoranda of Understanding. For instance, CFAs in Kenya are usually involved in developing Participatory Forest Management Plans (PFMPs) to manage forest blocks, whereas the WRUAs develop SCMPs to undertake management activities at the corresponding sub-catchment level. In Uganda, Catchment Management Plans are developed at the catchment level. The plans are supposed to be implemented at the local level through development of micro-catchment plans and micro-catchment committees equivalent to WRUAs.

Degradation of forests and water resources is still occurring, for instance through deforestation, unsustainable extraction of forest products and increased soil erosion, among other pressures. As beneficiaries of water provisioning services, water resource users are affected by these changes. They need to be involved in the conservation efforts. However, CFAs and WRUAs are highly fragmented in

their operation and are formed by the respective government agencies. There is no coordination, although everything is on the same landscape. There are no joint activities, and there is a lack of overlapping membership and leadership. More coordination in the governance of these linked resources at the community level is needed.

The puzzle, therefore, is this: How can we foster forest and water conservation at the local community level as joint resources rather than as separate entities?

Objective of this 'how to' note: The purpose of this note is to provide guidance on the key steps required to enhance joint governance in the management of the forest and water resources at the community level. It is intended to support local-level governance of forests and water as one way of supporting landscape conservation efforts. The target audience is field practitioners working on conservation projects at the local level. Depending on the local context, this can involve forest users at the sub-catchment or forest zone level.

Why it matters

Addressing forest and landscape degradation calls for a coordinated approach in managing key resources. Forests and water are key resources in the landscape and are closely linked, hence enhanced coordination in both presents an opportunity to address other landscape challenges. Despite decentralization of forest and water-resource management through

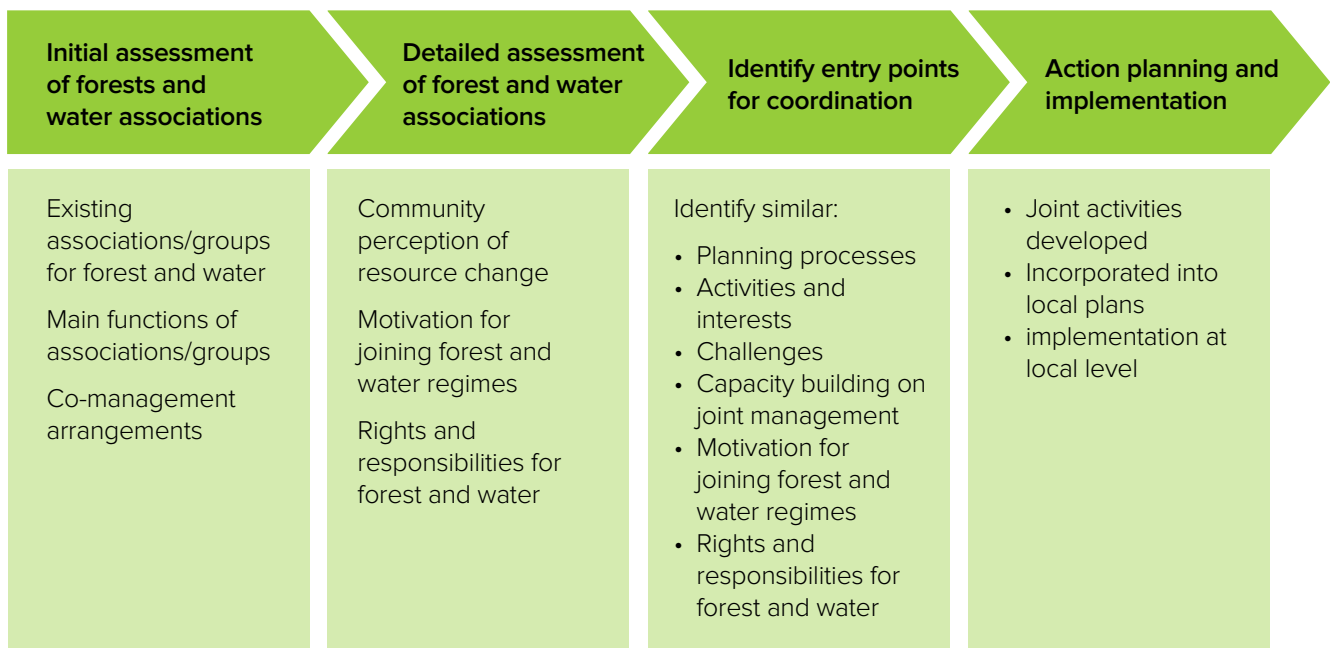


Figure 1. Steps for fostering joint forest and water management

community associations, there has been a disconnect in the way the two resources are managed. There is a more sectoral approach to addressing degradation challenges. The forest and water associations work independently of each other in undertaking forest and water management activities, resulting in landscape level fragmentation. Research shows a link between forests and water quality and quantity. There is a correlation between tree cover and the physical characteristics of water. Reduced tree cover in the landscape leads to reduced water quality through increased sedimentation in the water bodies (Jacobs et al., 2017).¹ Although there is biophysical linkage, there is a gap in the linked governance of forests and water. Filling the gap will contribute to greater collective action, and more efficient use of resources and effort, and thus enhance resource governance at the landscape level.

Fostering joint forest and water management: Process overview

Joint forest and water management and enhanced coordination are important in addressing forest and water degradation. They enhance understanding among forest and water communities. They promote incentives for the community to identify resource challenges and develop interventions that can be undertaken upstream in the forest areas and downstream along the riparian zones. Therefore, water users can undertake forest conservation activities, such as afforestation of degraded areas, sustainable harvesting and utilization of forest products. Also, communities have a platform to address some of conflicts related to resource use.

Figure 1 shows suggested steps toward achieving joint governance. The details in each step may be adapted to the local context.

Step 1: Initial assessment of water and forest management associations

Objective: This step helps to provide an overview of the existing forest and water management associations and groups, their formation and whether there is any co-management arrangement with forest and water management authorities.

This step is necessary because there are different ways in which communities are involved in co-managing forests and water. Given the diverse forms of participatory management and decentralized structures in different countries, it is important to carry out an assessment. Consultations with relevant stakeholders and community members will provide information for this initial scoping. Information required at this step includes:

- What are the existing forest and water associations and groups, and how are they governed? What are the gender roles?
- What is their main function? For instance, do they undertake forest and water conservation or just technical maintenance of water systems?
- How are they working with forest and water management authorities at district/national levels?
- Are the forest and water associations involved in PFM arrangements or catchment management? Do they require management plans? At what level (local/catchment/sub-catchment), how are they developed and for what period?

¹ Jacobs S, Breuer L, Butterbach-Bahl K, Pelster D and Rufino MC. 2017. Land use affects total dissolved nitrogen and nitrate concentrations in tropical montane streams in Kenya. *Science of the Total Environment* 603–4, 519–532.

Step 2: Detailed assessment of forest and water management associations

Objective: This step gives more in-depth information on how the forest and water-user associations function, whether they interact with each other and the effect of this interaction or lack of it, on forest and water condition. Information required at this stage includes the following.

1. Community perceptions on resource condition and change, in particular, the interaction between forest condition and water condition
2. Motivations for members to join the local forest and water associations
3. Rights and responsibilities for forest and water use
4. Forest and water management activities undertaken by the associations
5. Interactions between forest and water associations.

The main questions to be included under each theme are highlighted below.

1. Community perceptions on resource condition and change

The community perceptions on forest and water change and the causes of the change will indicate whether the community understands the linkage between forest and water. An understanding of the drivers of change may enable them to develop interventions to mitigate the negative effects. Questions to consider here include:

- How do members of the forest associations perceive changes in the condition of the forest over a given period, for instance in the past 5–10 years? What caused these changes?
- How do members of water associations perceive changes in water quality and quantity over the past 5–10 years? What caused these changes?

- Are any of the changes in water quality or quantity related to changes in forest condition?

2. Motivations for members to join the local forest and water associations

It is important to know the reasons and incentives for members to join these associations. They are more likely to participate in forest and water management activities if they are motivated by conservation objectives. A key question here is: What motivated the members to join the forest and water association?

3. Rights and responsibilities for forest and water use

Engagement in forest and water activities will depend on whether communities have rights to the resources or not. Community participation in forest and water management is enhanced where communities have rights to access, use and manage resources. It is therefore critical to determine what rights the community has.

The rights conferred vary in different countries. For instance, in Kenya, community rights to forests are conferred through a forest management agreement with Kenya Forest Service (KFS). Community members are allowed to undertake conservation activities through developing a PFMP. Also, water-resource user associations participate in water management activities by developing a SCMP. Key questions here include:

- What are you permitted to do in the forest? What are you forbidden from doing in the forest? By whom?
- What are you permitted to do with regards to your sources of water? What are you forbidden from doing with water? By whom?



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4. Conservation activities undertaken

The objective is to bring together joint forest and water management activities. Therefore, it is important to identify the forest and water management activities members undertake and the aim of these activities. Contexts vary, in some areas, the associations may have limited involvement in conservation activities. Key questions to ask here include:

- What forest management activities is the forest group involved in? Are there any activities that are aimed at conserving water?
- What water management activities is the water association involved in? What is the purpose of these activities in the forest and riparian areas? Are there any activities specifically aimed at conserving or rehabilitating riparian areas?

5. Interactions between forest and water associations

The aim is to understand whether there are joint activities and what opportunities exist for joint activities in a situation where there are none. This also helps to understand membership in both forest and water association, since joint membership and leadership presents an opportunity for integration. Key questions to ask members include:

- Are there members of both forest and water associations? What prevents, and what motivates joint membership?
- Are there any activities that are conducted together between the forest and water associations? Why do members conduct activities jointly?
- If there are no joint activities, what are the reasons?
- Do members see a value in working jointly? And in which areas can they work jointly?

Box 1 below provides tips on how to obtain information necessary for analysis.

Box 1. How to conduct the analysis

Qualitative research methods are used to find answers to the questions during the assessment. Focus group discussions are appropriate because they give in-depth information through probing. It is recommended that separate discussions be held with members of forest and water association groups; with men and women separately, and also disaggregated by age (younger and older). This enables participants to speak freely and brings out varying perceptions on resource conditions and use. Each focus group should have about 8–12 participants. Depending on the structure of the associations, the discussions can be held separately by various forest-user groups (for example tree planting, firewood collectors, water users, grazers). Also, key informant interviews can be held with the leaders.

Step 3: Identification of entry points for coordination

Objective: This step identifies areas of joint actions between the forest- and water-user association members.

Entry points are opportunities that can be leveraged to bring together community members to implement joint activities. There are several entry points that exist depending on the context of the area. Step 2 (above) will provide additional entry points that can be used to foster the linkage. The entry points include:

- Similar planning processes for water and forest management
- Similar activities and interests
- Similar resource challenges
- Capacity building.

These are briefly described below.

Similar planning processes for water and forest management:

The processes may include involvement of communities in participatory planning of forest and water management. Box 2 provides a successful case of linkage through forest and water management planning process in Kenya.

Box 2. Fostering linkage through forest and water management planning in Kenya

Local-level forest and water users in Kenya have been involved in managing forest and water through development of forest and water management plans. Community Forest Associations (CFAs) participate in developing a Participatory Forest Management Plans (PFMP), whereas Water Resource Users Associations (WRUAs) participate in developing Sub-Catchment Management Plans (SCMPs). Four forest and four water management plans had expired and needed to be reviewed. In reviewing the forest plans, not only were CFAs involved, as would typically be the case, but members of water associations were also involved. Similarly, members of forest associations were involved in reviewing and developing the water management plans. By bringing these two community associations together, activities for managing forests could be included in the water plans. Likewise, activities for managing water were now considered in the forest plans. Forest and water resource users developed joint workplans, which included tree planting activities, and developed an understanding of the importance of the linkages between forests and water as well as their different roles.

Similar activities and interests: Both forest and water-user members may have an interest in environmental conservation and restoration and therefore conduct activities aimed at conserving degraded forest and riparian areas.

Similar resource challenges: The challenges may include forest degradation, which affects the flow of water and also has potential conflicts. If forest and water users in the same catchment area perceive these challenges and the need for action, they can work together to develop solutions.

Capacity building: Capacity building is necessary to strengthen coordination among forest and water users. It is intended to raise awareness among communities on the interactions between forest and water health. A key area where capacity is needed is in practices that foster joint forest and water management. Box 3 shows a case where capacity building was used to link forest and water-user associations, which resulted in a joint action plan to rehabilitate degraded areas.

Capacity building is undertaken to enhance the capacity of communities to undertake joint activities for forests and water. The outcome is a joint workplan

Box 3. Fostering coordination through capacity building

Community forest associations and water user associations in Mau forest in Kenya were working independently of each other. The members undertook training sessions on practices that enhance joint forest and water management. This was the first activity that brought the two associations together. Topics covered included linkages between the forest and water, and conservation initiatives such as tree nursery establishment and management, and river bank protection. A joint work plan was developed between the forest and water association members to rehabilitate degraded forest areas. They started with 15,000 indigenous trees as an initial step. Also, 11 tree nurseries were established. Some of the seedlings would be used to rehabilitate degraded forest and riparian areas. Following this initial training, the members of the two associations have held several meetings on resource conservation. Also, WRUA and CFA members started a communication forum through a WhatsApp group from a capacity-building session on developing a SCMP. This enabled them to share information, such as challenges in conservation of water and forests, training opportunities, and linking with other partners.

for implementing interventions aimed at restoring degraded catchment areas, increasing forest areas and conserving riparian areas. The plan should have realistic targets to be achieved within a specified time. The outcome is enhanced understanding among the members of the link between forests and water, the need and benefit of coordination in managing the resources, challenges and joint activities to manage the activities.

An initial assessment of the existing capacity in forest and water management may be required. Information collected under step 2 can provide an insight into what capacity gaps exist within the area. Initial discussions with the community members provide an insight into the existing practices for managing forests and water resources, and feasible conservation practices that may be undertaken in the local context.

Factors to consider in capacity building include:

- Target participants are members of forest and water management associations
- Conduct at the community level and make use of participatory approaches
- Selected participants will serve as Trainer of Trainers to disseminate the knowledge and skills to other members
- In selecting participants, consider equal representation from members from the forest and water associations, women and youth, and both leaders and ordinary members
- Integrate local knowledge.

Step 4: Action planning and implementation

The objective of the proceeding steps is to enhance coordination, where forest and water users have activities that are implemented together. Whichever entry point is used, it is important to have communities set priorities on forest and water conservation. The outcome is the development of a set of activities that the forest and water association members will implement together. As the examples in Boxes 1 and 2 show, communities develop activities that can be included in the existing plans for forests and water. Management plans (such as the SCMPs and PFMPs) indicate the nature of activities for forest and water management, and are legally negotiated documents that provide opportunities for linked forest and water governance. In other cases, there are no existing forest and water plans, hence communities will need to develop local-level plans for forest and water rehabilitation and restoration activities. Support from stakeholders will be required implement the activities.



Photo by Patrick Sheperd/CIFOR

Monitoring progress

As the community implements joint activities, it is important to monitor the progress. At first, communities may start implementing small initiatives, which need to be scaled up progressively. Therefore, it is important to have participatory learning and involvement of community members in monitoring their progress.

Conclusion

This note provides broad steps required to bring together joint governance of forests and water at the local level. Communities, through their user groups, are central in undertaking activities for restoring degraded forest and catchment areas. The forest and water-user groups are common resource user associations, though their structures

may be different. They work separately on forest and water management activities. In most cases, these associations and groups are often aligned to their respective forest and water regulatory authorities in their respective countries. This 'how to' note has presented steps that can be adapted to the local context to enhance coordination in the management of forests and water as linked resources. In so doing, resource governance is enhanced.

Acronyms and abbreviations

CFA	Community Forest Association
KFS	Kenya Forest Service
PFM	Participatory Forest Management
PFMP	Participatory Forest Management Plan
SCMP	Sub-Catchment Management Plan
WRUA	Water Resource Users Association

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