Objectives: To establish whether and how community forest associations and water resource user associations work to jointly govern forest and water resources.

Overview of Londiani forest
Londiani, located in the western part of Mau forest, covers 905.50 hectares. The Londiani Community Forest Association (CFA), which has about 3000 members, has the following user groups: livestock grazing, fuelwood collection, tree pruners, beekeeping, water management, tree nurseries, grass cutters, fish farming, culture and herb collectors. Kipchorian Water Resource User Association (WRUA) is within Kipchorian sub-catchment, which covers 162.5 km², and has about 200 members. Three men from Kipchorian and Londiani user groups were in both the CFA and WRUA.

Research process
Two CBGs under the CFA were selected (Bongo and Tulwap). We selected the following user groups: grazing, water management, tree nursery, beekeeping and firewood collection. We held 38 focus group discussions with members and non-members of CFA and 8 key informant interviews with leaders of user groups and the WRUA. We talked to 371 men and women and differentiated by age as indicated in Figure 1.

Figure 1: Percentage of men and women respondents in focus group discussions.

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Grazing Tree nursery Beekeeping Firewood Non-members Water users User group leaders WRUA

Figure 2: Number of focus group discussions in Londiani per user group.

Community perception of forest and water condition and change
There were varying perceptions on forest conditions between men and women over the last 5-10 years. Both younger and older men perceived a reduction in the indigenous forest due to forest fires, fellings of trees without replacement, and the creation of space for the Plantation Establishment and Livelihoods Improvement Scheme (PELIS). Women perceived that forest conditions had improved because PELIS has enabled them to take care of trees planted while they cultivate their crops. They also mentioned strict law enforcement to protect the forest as contributing to improved conditions. Younger men mentioned charcoal burning (due to unemployment) contributed to forest degradation. Water levels have reduced, with some streams drying and there is increased siltation over the past 5-10 years. Causes of water-level changes include deforestation, forest fires that left the soil bare, planting of eucalyptus along riverbanks, increased water demand and use of fertilizers on farmlands and near rivers. Conversely, other CFA members perceived an improvement in water quality, noting that forest cover had improved. WRUA members perceived a reduction in water levels and siltation caused by cultivating in the river banks.

Link between forest and water: Community members understand the linkage between forest and water resources. Focus group participants mentioned reduced levels of water linked to a change in forest cover. Also, those who perceived improvement in water color and levels linked the change to afforestation activities.

Leadership
The CFA leadership consists of men (chairperson and secretary) and a treasurer who is a woman. At the user group level, there is a gender balance in the leadership. In the 10 user groups involved in focus group discussions, 10 women and 8 men were in leadership positions. Men are elected because they are believed to be better managers, active and courageous when making decisions. Women are elected because they are forest, transparent with money, trustworthy, good listeners and knowledgeable about the PELIS system, and because they share information easily. Women participants did not see a difference between men and women leadership. According to them, both men and women are capable of taking leadership positions.

Joint activities between CFA and WRUA
Londiani CFA and Kipchorian WRUA did not have joint activities. The CFA members were not aware of WRUA activities. Both CFA and WRUA members felt the physical location and membership restrict the possibility of joint activities. CFA members mentioned that WRUA members must reside along the riparian area. WRUA members mentioned that CFA members must reside in the upper zone near the forest. Though this was the case, both CFA members and WRUA members agreed that there was need for the two associations to work jointly. CFA and WRUA were aware of the need to cooperatively undertake joint activities.

Suggested areas for collaboration
Both members of Londiani CFA and Kipchorian WRUA agreed they could work together on the following activities:

- rehabilitating the water catchment area by planting Indigenous trees (such as lamuyet, nobi and embi) in the forestlands and farms.
- discouraging cultivation along the riverbanks and communal engagement in cutting down eucalyptus trees along the riverbanks.
- educating the community on alternative investments in water sources at homes e.g. rainwater harvesting and sinking boreholes.
- during the research project, the WRUA and CFA had developed a work plan to plant 10,000 trees in two sites (Mt. Blanket and Cheboror). This plan was finalized after building capacity for practices that enhance joint forest and water conservation.

Participation in CFA and WRUA
Most CFA members feel they don’t participate in the user group because they are not usually invited. The members suggested that clear communication is needed from the leaders. CFA leaders usually consult user group leaders on issues such as forest fires, tree planting and PELIS. Members are invited to attend monthly WRUA meetings to learn about activities. Invitations include an agenda, dates and information on the venue. After their meetings, CFA user group leaders update other members. Joint meetings between the WRUA and CFA have never been held.

Conclusion
CFA and WRUA members in Londiani are aware that activities affecting forest cover also affect water quality and quantity. There were variations in perceptions in the type of change. Whereas men perceived a reduction in the forest cover, women in CFA user groups perceived the PELIS system helped improve forest conditions. WRUA members mentioned that reduction in water levels and water pollution was due to erosion from cultivation of riverbanks, planting of eucalyptus along the riparian areas and use of fertilizers in farms. WRUA members were aware of meetings and felt they participate more compared to CFA meetings, where there was a communication gap between leaders and members.

There was no coordination between the CFA and WRUA. One reason was the perceived geographical coverage that limited interaction. Despite this, both members agree it is important to implement some joint activities and provided suggestions on ways to collaborate.

Recommendations
- Enhance capacity of both CFA and WRUA members to broaden their scope of activities. This will enable the Kipchorian WRUA to focus on water management activities and riparian conservation, and also to see the need to conserve the forest as a catchment area.
- Enhance understanding of interactions in the catchment so that the two associations are not confined by their geographical ‘boundaries’. These aspects would ultimately help bring the two associations together and coordinate in conservation of the forest and water.
- Build capacity for leaders on skills such as communication to enhance the functioning of these associations.
- Hold joint planning meetings between Londiani CFA and Kipchorian WRUA to enhance coordination.

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