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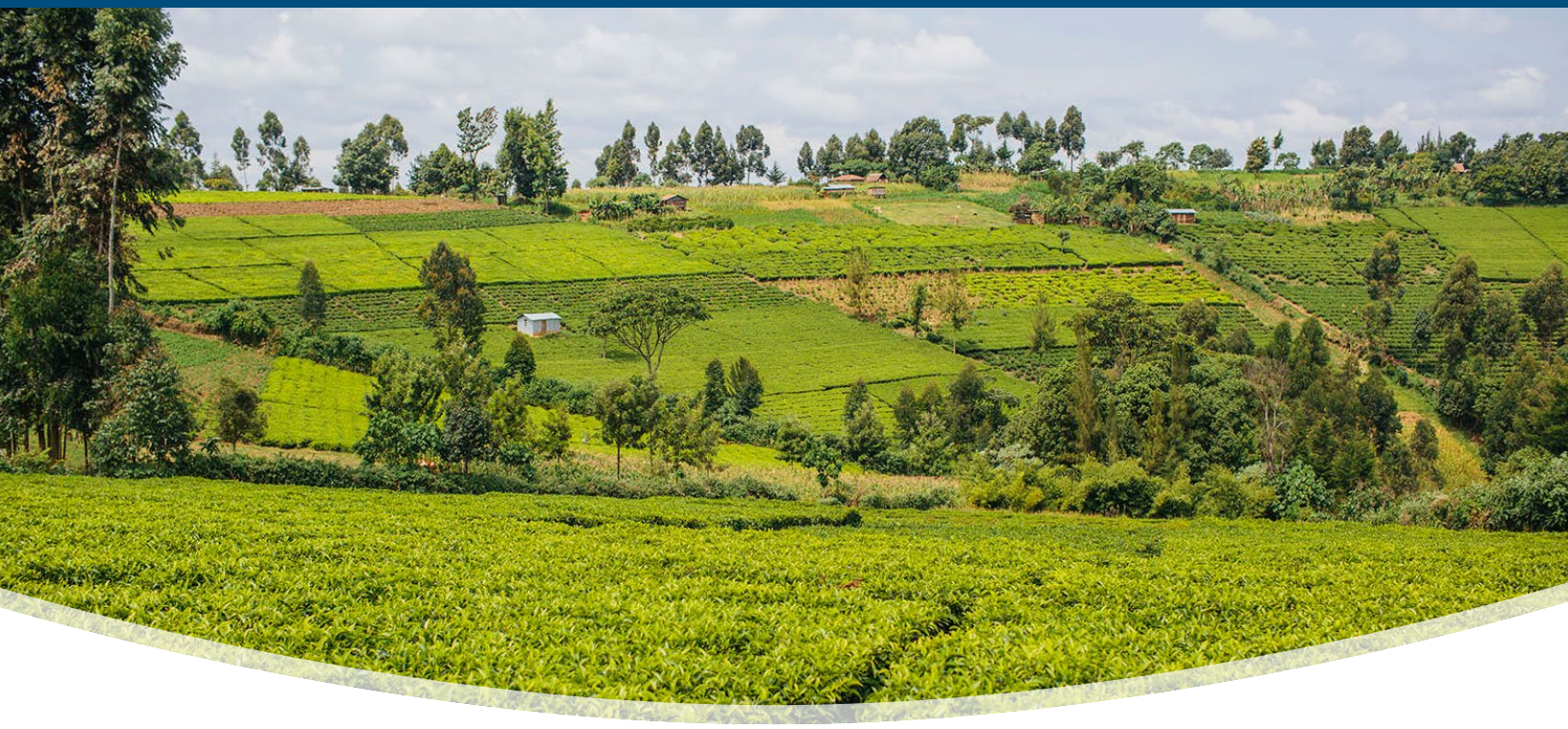
SWP
SUSTAINABLE WATER PARTNERSHIP

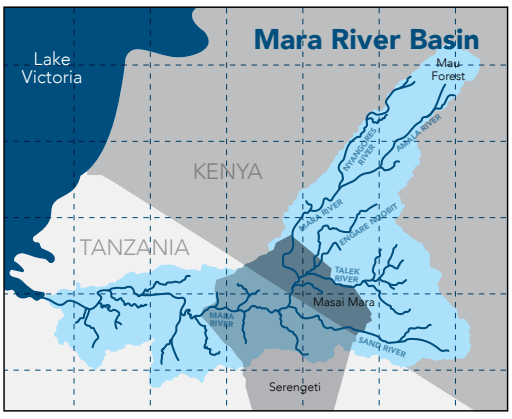
Promoting Self-Reliance among Water User Associations to Improve Water Security in the Mara River Basin

A WATER SECURITY CASE STUDY



Challenge: Water user associations lack funds to fulfill their mandates

The Mara River Basin (MRB), which straddles Kenya and Tanzania, is ecologically important to the Maasai Mara National Reserve and Serengeti National Park as well as the more than 1 million residents who depend on the basin for their agricultural livelihoods and domestic needs. The MRB is experiencing water security challenges attributed to increasing demand for water, deforestation, climate change impacts, and economic activities such as mining, agriculture, animal husbandry. A 2019 USAID-funded climate vulnerability assessment of the MRB found that deforestation, caused by forest clearing for agriculture, livestock, and human settlements, is a major threat to the Mara River and its tributaries. Deforestation contributes to soil erosion and high sediment loads, impacting the availability and quality of water in the Mara River.



WINROCK INTERNATIONAL

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MEMBERS OF THE MARA NORTH AND MARA SOUTH WUAS IN TANZANIA PARTICIPATE IN THE ARTISANAL BEEHIVE TRAINING

Water user associations (WUAs) in Tanzania and water resource user associations (WRUAs) in Kenya play important roles in the stewardship of water resources in the MRB. Working in close collaboration with water management institutions, the WUAs and WRUAs raise awareness of water security risks, mitigate conflict between water users, and facilitate catchment conservation initiatives to protect and improve water resources. WRUAs and WUAs are well positioned to help address deforestation impacts on the Mara River, but funding for their operations, such as user or permit fees, is not always sufficient or reliable.

Intervention: Support water user associations to diversify funding streams

In 2018, the USAID-funded Sustainable Water Partnership (SWP) initiated a three-year activity in the MRB, called Sustainable Water for the Mara, to support local stakeholders with planning, evidence-based decision-making, and community-based interventions to improve water security. SWP engaged stakeholders in a Water Security Improvement (WSI) process (Figure 1) to identify and implement interventions in the Nyangores and Talek sub-catchments in Kenya and the Mara Wetlands in Tanzania. SWP worked with the Nyangores and Talek WRUAs and the Mara North and Mara South WUAs to improve their understanding of water risks in the MRB and enhance their ability to implement water security interventions.

Defining and validating priority water security risks

In February 2018, SWP launched the WSI process with a strategic action planning workshop in Arusha, Tanzania attended by more than 50 representatives from transboundary, national, and local water management entities, research and conservation organizations, and donors including USAID. Participants reviewed existing transboundary and country-specific assessments, such as the *Mara River Basin Transboundary Integrated Management Plan*, and collaboratively defined a number of water risk factors, including deforestation and erosion, as well as potential actions for water and soil conservation. Following the Arusha workshop, SWP validated and prioritized the water risks and actions with stakeholders from the Nyangores and Talek sub-catchments in Kenya and the Mara Wetlands in Tanzania. SWP conducted *transect walks*, walking tours to observe sub-catchment characteristics and degraded areas, with the Nyangores and Talek WRUAs and visited approximately 20 communities around the Mara Wetlands with the Mara North and Mara South WUAs. Deforestation and land degradation from agriculture, overgrazing, and charcoal production activities were confirmed to be key risks to environmental sustainability of the Mara Wetlands. The WUAs and WRUAs also identified reforestation along riverbanks and around the wetlands as critical for water and soil conservation. However, they did not have access to indigenous, water-sensitive tree seedlings or funds to support catchment conservation efforts.

Strengthening WUA and WRUA capabilities to address water security risks

SWP supported the WUAs and WRUAs to establish beekeeping operations and indigenous tree nurseries to fund conservation efforts. The intention was to enable the WUAs and WRUAs to achieve self-reliance through four sources of revenue:

1. Fee-based trainings in beekeeping for interested community members;
2. Manufacture and sale of beehives in local markets;
3. Sale of honey produced by the WUAs and WRUAs; and
4. Sale of indigenous tree seedlings.

Beekeeping, which can deliver secondary environmental benefits like pollination, was a historic practice and current livelihood in these communities, and was a recurring theme discussed during the Arusha workshop as well as with stakeholders in the Nyangores and Talek sub-catchments and Mara Wetlands. Community members in the Nyangores sub-catchment explained that in the past, beekeepers would hang their beehives from indigenous trees to protect trees from being cut down. Beekeeping has also been traditionally practiced by Maasai communities, especially by women in Talek, and is widespread in the Mara Wetlands.

FIGURE 1: SWP'S WATER SECURITY IMPROVEMENT PROCESS

SWP partnered with the Maasai Bee Keeping Initiative (MBI) in Kenya and the Small Industries Development Organization (SIDO) in Tanzania to support beekeeping efforts. Each organization confirmed that there was high demand for honey and honey-related products in both countries. In coordination with these organizations, SWP provided training-of-trainers on apiary management, business planning, financial management, and artisanal manufacturing of beehives to the WRUAs and WUAs. SWP helped the WUAs and WRUAs to establish beehive demonstration sites to be used for community trainings as well as to produce honey for sale in local markets. SWP provided grant funds to set up artisanal beehive manufacturing operations to produce modern Langstroth beehives for sale to interested community members at affordable prices. The WUAs and WRUAs also prepared comprehensive business plans that outlined costs and projected revenues over time.

SWP partnered with the Forest Service in both countries to support the WUAs and WRUAs to generate a sustainable supply of indigenous tree seedlings. Using SWP grant funds, the WUAs and WRUAs set up tree nurseries while the Forest Services provided technical assistance to propagate indigenous tree seedlings and trained the WUAs and WRUAs in seedling and tree nursery management. The WUAs and WRUAs contributed land and facilities for the tree nurseries and beekeeping operations.

MEMBERS OF THE NYANGORES AND TALEK WRUAS IN KENYA PARTICIPATE IN A BEEKEEPING TRAINING AT THE DEMONSTRATION SITES

Results

Within the first three months of these activities, the WUAs and WRUAs achieved the following results in manufacturing beehives, producing honey, and propagating seedlings:

WUA/WRUA	Beehives	Honey	Seedlings
Nyangores	70	23kg	7,300
Talek	45	32kg	1,000
Mara North	100	10kg	30,000
Mara South	151	16kg	1,000

To ensure the sustainability of these efforts, SWP facilitated honey purchasing agreements between the WUAs and WRUAs with the Maasai Beekeeping Initiative in Kenya and with Tanzania Forest Service, guaranteeing the associations a market for their honey and honey products. SWP organized sustainability planning meetings between the WRUAs and WUAs and the Water Resources Authority (WRA) in Kenya and Lake Victoria Basin Water Board (LVBWB) in Tanzania to define and confirm continued technical support to the WUAs and WRUAs. SWP facilitated formal commitments by the WUAs and WRUAs to the LVBWB and the WRA to expand investments in catchment conservation using funds generated from beekeeping and the sale of indigenous trees.

Lessons Learned

A key lesson learned under SWP is that supporting catchment conservation efforts requires local champions and a clear understanding of the water security issues and opportunities. The WSI process helped validate the water security risks in the MRB and the need for water and soil conservation activities to safeguard water resources and livelihoods. The WUAs and WRUAs were critical local champions committed to improving water security in the MRB. Lessons learned from SWP's work with the WUAs and WRUAs include:

- Stakeholder validation processes are essential for understanding water security risks and identifying opportunities for clear and sustainable interventions. SWP's stakeholder-led workshops and close collaboration with the WUAs and WRUAs confirmed the need for establishing tree nurseries and supporting beekeeping as viable revenue-generating activities for the associations.

- Local buy-in and ownership is critical for the WSI process to achieve sustainable interventions. The WUAs and WRUAs demonstrated their commitment to beekeeping and tree nurseries by contributing land, buildings, and labor.

- The WSI process is strengthened when stakeholders are able to foster goal-oriented partnerships. For example, purchasing agreements with MBI and SIDO and conservation commitments to WRA and LVBWB reinforced WUA and WRUA capacities and commitments to sub-catchment stewardship.

- Efforts to achieve self-reliance require an understanding of local value chains. While beekeeping is popular in the MRB, supporting the WUAs and WRUAs to leverage trainings, honey production, and sale of beehives to fund conservation efforts only made sense because there was strong local demand for honey. The business plans will enable the WUAs and WRUAs to plan and scale up their beekeeping operations and tree nurseries.

- Self-reliance is strengthened when funding streams are diversified. WUA and WRUA funds from water user fees and permits are critical to their operations and viability in the MRB. The sale of honey and indigenous trees will supplement these funding streams, allowing the WUAs and WRUAs to expand their reforestation and catchment conservation efforts.

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ABOUT THIS SERIES

This case study is part of a series of products of approaches under the Water Security Improvement (WSI) process. This series is produced by USAID's Sustainable Water Partnership (SWP) activity and can be found here: www.swpwater.org.

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