

# The Partnerships for Sustainable Water Management, Tanzania

A case study on natural resources stewardship





## Risks facing Tanzania's Pangani Basin

The Pangani Basin in Northern Tanzania is one of the country's bread baskets. The Usa River and Weruweru sub-catchments are the most significant water contributors to the Pangani Basin. Located on the slopes of the Kilimanjaro and Meru mountains, they host diverse wildlife and three million inhabitants. The livelihood of people living in the basin depends on the fertile soil and accessible clean water. However, manifold challenges affect the area. Climate projections indicate more frequent droughts and floods in the region, where increasingly erratic rainfall already leads to flooding and erosion. Additionally, population and economic growth are increasing the pressure on the available natural resources, be it through land clearings for agricultural purposes or the pollution and overuse of water. The changing climate patterns and unsustainable use of natural resources have resulted in water scarcity, pollution of water resources, public health deterioration, increased conflict between water users, and environmental degradation<sup>1</sup>.



*Livestock raising and farming are significant sources of income in the Pangani basin. However, overgrazing and unsustainable farming also result in environmental degradation.*



*The quantity and quality of drinking water in the catchment is increasingly at risk.*

### Uniting for Sustainable Water Management

Insufficient monitoring and enforcement of regulations to protect water sources and forests, as well as a lack of communication and coordination between sectors represent hurdles to effectively tackling challenges in the basin.



It became clear that a forum was needed to develop solutions for the manifold and intertwined environmental challenges. Realizing that collective action is necessary to improve the situation in the basin, public, private, and civil society representatives organized first discussion rounds with support from GIZ's Natural Resources Stewardship Programme (NatuReS). They decided to unite their capabilities and contribute, each according to their capacities, to address their shared challenges.

Based on this idea, the Partnership for Sustainable Water Management (SUWAMA) in the Usa River was established in 2017. Its establishment and implementation was initiated in close coordination with the Pangani Basin Water Board. Stakeholders from all sectors are actively involved from the beginning, down to the village level.

The Partnership for Sustainable Water Management is supported by NatuReS, which accompanies partners by facilitating negotiations and joint decision-making processes, serving as an impartial mediator between the parties.

Natural resources stewardship means that all users of natural resources take responsibility for the shared resources nobody owns but everybody relies on. By forming partnerships, public sector, private companies and civil society work together on eye-level to ensure the sustainable management of natural resources.

<sup>1</sup> This case study is based on following research: Richards, N., Mkenda, A., & Bjornlund, H. (2022). Addressing water security through catchment water stewardship partnerships: experiences from the Pangani Basin, Tanzania. *Water International*, 47(4), 540-564. <https://doi.org/10.1080/02508060.2022.2036442>

## Collaborative Problem-Solving

Through joint discussions across sectors, partners identified shared risks stemming from environmental degradation in the basin. Civil society suffers most from water shortages and the lacking access to safe drinking water. Their representatives expressed the need for education on good water practices, such as pollution prevention and responsible water use. Communities' limited awareness of water governance structures in the basin also resulted in them being underrepresented and excluded from decision-making processes on water management. This, in turn, led to reputational risks for the Pangani Basin Water Board and Water Users Associations, as they were accused of not allocating water resources fairly among recipients. Furthermore, some businesses were in conflict with parts of the community, which vandalized furrows and water infrastructure, claiming their right to water. This threatened companies' continuity of production and put investments and job security for their employees at risk. Businesses felt left alone with the responsibility of maintaining the water infrastructure in the basin.



Assess



SUWAMA partners discussing joint risks in the catchment.

## Joining forces and leveraging resources

Having assessed risks and agreed to tackle them jointly, partners started to draw out their solutions. At this stage, the partnership governance structure and respective responsibilities were anchored in the jointly developed 'Partnership Action Plan' (PAP). This document represents the partnership's guiding thread, building mutual trust through a clear outlining of shared plans and contributions, while enhancing transparency about water management in the basin.



Commit

The three goals of the partnership, as outlined in the PAP, are:

- Increase sustainable economic development
- Protect natural resources, particularly soil and water
- Increase inclusive participation and reduce conflict around natural resources

Based on these goals, partners divided tasks under four working areas:

1. Water Resources for Planning and Governance
2. Water for Agriculture
3. Water for Human Consumption
4. Water for the Environment

## Sustainable Water Management Partnership in Usa River



### Objective

Improve water security in the Usa River sub-catchment through enhanced cooperation of stakeholders



### Partners

#### Public Sector:

- Pangani Basin Water Board (PBWB)
- Tanzania Plant Health and Pesticides Authority (TPHPA)

#### Private Sector:

- Rijkzwaan Afrisem
- Tanzania Horticultural Association (TAHA)
- Kilimanjaro Golf and Wildlife Estate (Kiligolf)

#### Civil Society:

- Usa River Malihai Club (UMAC)
- Upper Kikuletwa Water Users' Association (WUA)
- Rikolto
- Agro Tanzania



### Partner contributions

- PBWB: \$10.000 cash and \$50.000 in-kind
- UMAC: \$3.000 in-kind
- Rijkzwaan Afrisem: \$17.500 cash
- TAHA: \$1.500 cash and \$2.500 in-kind
- Upper Kikuletwa WUA: \$10.000 in-kind
- TPHPA: \$1.000 in-kind
- Rikolto: \$2.000 in-kind
- Agro Tanzania: \$1.000 in-kind



*"Prior to joining the partnership, Water Users Associations and the Pangani Basin Water Office would constantly be accused of not equitably distributing water among beneficiaries. Through improved coordination, stakeholders now understand their roles and responsibilities in taking care of this precious natural resource."*

*Tito Kitomari, Leader  
Upper Kikuletwa Water  
Users Association*



Partners during the signature ceremony of the Partnership Action Plan.

## Committing to a common goal

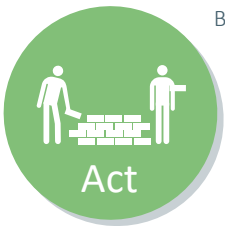
All partners committed financial and in-kind contributions to fulfill partnership goals. By contributing time, money, workforce, technical expertise or other resources to the partnership, each member can be assured that the interest in progressing on activities for the better management of the catchment is shared and taken seriously by all involved parties.

*“Before joining the partnership, several attempts were made to be transparent with the neighbouring villagers, but were not very successful. The major issue was the lack of an effective coordination and communication mechanism that brought together the right stakeholders for in-depth discussions regarding water issues. The partnership has significantly subsided water-related conflicts on our business.”*

*Justin Kessy, Human Relations Manager  
Kilimanjaro Golf and Wildlife Resort  
(Kiligolf)*



## Cross-sectoral collaboration



By dividing jointly agreed actions into working areas, partners aim at simultaneously making progress on different areas necessary for the long-term sustainable management of water resources in the catchment. Quarterly, partners meet during steering committee meetings, and every six months in larger sub-catchment foras, to update each other on the achieved progress.

## WORKING AREA 1: WATER RESOURCES FOR PLANNING AND GOVERNANCE

### Enhancing Inclusive Participation in Water Management

The lacking communication and coordination between government actors, businesses and communities, as well as the insufficient capacity of the water user associations in equitably using and managing the available water resources led to water misuse upstream, scarcity during dry seasons, and inadequate supply downstream. This, in turn, resulted in conflicts and uncoordinated conservation practices among water users.

Through the partnership, regular ‘good governance’ meetings were initiated to raise water users’ awareness of water resources management practices within the sub-catchment. These meetings promote equitable access of water to all by creating a platform which enable community representatives and furrow leaders to voice their concerns and contribute their suggestions on water resources conservation.

Additionally, water user associations (WUA) as most direct and locally active implementers of water resource management were supported. By enhancing their capacities through trainings on leadership, catchment management and financial management, they are now better able to fulfill their mandate. Moreover, improved water governance practices were institutionalized by revising the ‘WUA Formation and Operation Guidelines’.

Improving communication and collaboration has significantly reduced conflicts around water and water misuse. The participatory planning process in conserving finite water resources has increased water use efficiency within the sub-catchment. And the WUA guidelines acknowledged by the Ministry of Water have since been tested in 10 WUAs across the country. This resulted in the establishment of a water user inventory - doubling water use fee collection between 2018 and 2020.



Regular ‘good governance’ meetings and catchment fora improve collaboration, enhance water use efficiency and reduce conflicts.

## WORKING AREA 2: WATER RESOURCES FOR AGRICULTURE

### Joint efforts to restore furrow infrastructure

Small scale farmers in the catchment heavily rely on traditional farming practices such as furrow irrigation, a method in which the fields are interspersed with small, parallel channels carrying water to irrigate the crop. However, large amounts of water are lost from the abstraction points. Also, bigger farming businesses tend to take larger allocations from upstream where the furrow first takes water from the river. Reconstructed distribution gates funded by the partnership with the support of local businesses help to ensure downstream flows, and thereby reduce abuse from upstream off-takes unilaterally exceeding their allocations.



*Irrigation furrow system in the catchment.*



*Partners visiting a reconstructed furrow distribution gate.*

Moreover, partners now share the responsibility for furrow rehabilitation and management equally among each other. Businesses' water allocation within the area has improved, and conflicts over water use have been reduced. With the time and cost savings, some companies in the partnership were able to increase agricultural production and stated that they were more comfortable maintaining their operations in the area because of the assured water supply, which in turn safeguards investments and jobs in the area.

***"Among the benefits we are seeing through the partnership are the additional resources to implement activities. Stakeholders on their own agree to contribute in-cash and in-kind to address their shared challenges, rather than seeing it exclusively as a government responsibility."***

*Segule Segule, Pangani Basin Director*



## WORKING AREA 3: WATER FOR HUMAN CONSUMPTION

### Afforestation and water source protection

Farmers in the Usa River sub-catchment extensively use pesticides, considering preventive spraying necessary to protect crops and obtain good yields. Harmful quantities of pesticide residue leak into the water channels, contaminating village water supplies. Additionally, fruits and vegetables available in the local markets contain high amounts of pesticide residues, which make them unsuitable for consumption. Therefore, enhancing water quality is an essential part of partnership activities.

As part of the partnership, the Tanzania Plant Health and Pesticides Authority (TPHPA) and the NGO Rikolto have conducted trainings on the safe use of pesticides for local farmers. In addition to the training sessions, collection centres were set up for farmers to dispose of empty or expired pesticide containers safely. These will be collected by TPHPA for safe disposal. This cost-effective, innovative solution is the first of its kind in Tanzania.



*Farmers during a training on the safe use of pesticides under the partnership.*

## WORKING AREA 4: WATER FOR THE ENVIRONMENT

### Afforestation and water source protection

Environmental degradation within the Usa River catchment is largely caused by anthropogenic activities like land clearings or sand mining, as well as governance challenges. This lessens the catchment's capacity to deliver ecosystem services like the provision of fresh water or flood regulation.

Therefore, partners continuously collaborate in the re-forestation of degraded riparian hotspots. Pangani Basin Water Board and the Water Users Association conducted an analysis to identify degraded riparian hotspots in the area. The private sector provided nursery sites, water and logistics to raise and transport seedlings to the hotspots. Communities participated in digging planting pits and planting the tree seedlings with guidance from the Pangani Basin Water Board, Local Government Authorities and local NGOs. They also planted vetiver grass close to the riverbank to protect the area from soil erosion. In total, 71.500 trees were planted and are maintained by the local communities.



PBWB official guiding community members on the plantation of tree seedlings.



Community members during afforestation activities.

### Scaling up the partnership to the Weruweru sub-catchment



Following the success of the SUWAMA partnership in the Usa River area and the similarities of the water conflict challenges in the Weruweru sub-catchment, interested stakeholders sought to up-scale the stewardship approach in 2019. With support from Pangani Basin Water Board, activities for improved water security are since implemented in the Weruweru sub-catchment.

*"Before joining the partnership, the company used to solve all irrigation water related problems on its own. There was no collaboration with other water users and sometimes when water was not reaching the fields, those who abstract water before were blamed. We were seeing each other as enemies. After joining the partnership, it was discussed and a furrow committee for managing water was formed. Water allocation has now improved and no conflict over water use has been reported ever since."*  
Jeremiah Mazengo,  
Assistant Manager Dekker Chrysanten



### Sustainable Water Management Partnership in Weruweru



#### Objective

Improve water security in the Weruweru River sub-catchment through enhanced cooperation of stakeholders



#### Partners

##### Public Sector:

- Pangani Basin Water Board (PBWB)
- Hai District Council

##### Private Sector:

- African Plantation Kilimanjaro (APK)
- Dekker Chrysanten
- Lyamungo Umbwe Water Supply Trust
- Lyamungo Eco Cultural Tourism

##### Civil Society:

- Weruweru Water Users Association (WUA)
- Kijani Pamoja
- Bio-Plan Initiative



#### Partner contributions

- PBWB: \$3.500 cash, \$10.000 in-kind
- APK: \$2.000 cash, \$10.000 in-kind
- Dekker Chrysanten: \$3.000 cash, \$10.000 in-kind
- WUA: \$1.000 cash, \$3.000 in-kind
- Kijani Pamoja: \$45.000 cash/in-kind
- Lyamungo Eco Cultural Tourism: \$1.000 cash, \$3.000 in-kind
- Bio-Plan Initiative: \$2.500 cash/in-kind

## Looking ahead

Enhanced coordination, stakeholder participation and representation have been the main successes of the SUWAMA partnerships in Usa River and Weruweru in Northern Tanzania. Bottom-up decision-making has improved relations between stakeholders and significantly reduced water conflicts. The partnerships have shown that to achieve water security, meaningful stakeholder participation in planning and implementation is of utmost importance. This participation needs to be supported by effective coordination and with every actor's interest considered. In line with the notion of stewardship, meaningful participation allows to move the responsibilities to manage resources from the public sector towards the collective.



Partners are committed to continuing and upscaling activities initiated under the partnerships.

## The Natural Resources Risk and Action Framework

NatuReS supported the Sustainable Water Management Partnerships in Tanzania throughout the whole process from their initiation to the joint implementation of activities, facilitating a participatory approach to natural resources governance. This is essential, as no single sector actor has the mandate nor the capacity to address natural resources risks by itself. If the root causes of natural resource risks are to be addressed, collaboration among different sectors is needed.

However, multi-stakeholder stewardship partnerships are not easy to realise. Often, stakeholder groups are used to working in silos, gaps in capacity impair joint decision-making and implementation, intentions and objectives are not always easy to align, and power imbalances between partners pose integrity risks.

Therefore, NatuReS has developed a framework, guiding the set-up of stewardship partnerships from their preparation to scaling, until partnerships are self-sustaining: the Natural Resources Risk and Action Framework (NRAF). The NRAF framework follows five phases, consists of 27 tools, and stands strong from implementation experience in more than 45 natural resources stewardship partnerships across the world. The lessons, experiences, and best practices documented make the NRAF a powerful framework.

*“Water use management has improved substantially because different partners from different sectors are now able to come together to discuss and plan on issues related to water. In the SUWAMA Weruweru partnership, no partner is leading over others; we all plan and agree who will be implementing what. There is a fair ground for all partners to air out their voices, and the ideas from all partners are valued equally.”*

Jacob Mallya, Chairman  
Weruweru Water Users  
Association



### PARTNERSHIP CREATION

### PARTNERSHIP EXECUTION

#### Prepare

- Identify stakeholders and markets
- Share problems and recognise interests
- Prepare road map

#### Assess

- Assess risks and opportunities
- Determine costs and benefits
- Shape partnership
- Socio-economic analysis

#### Commit

- Develop business cases
- Develop modes of delivery
- Secure commitment of actors
- Business case support

#### Act

- Empower and advise actors
- Coordinate and manage implementation
- Monitor progress

#### Scale & Exit

- Evaluate impact and lessons
- Leverage impact at scale
- Phase out

## About NatuReS

The partnership is supported by the Natural Resources Stewardship Programme (NatuReS) in Uganda. NatuReS is a multi-donor programme commissioned by the German Ministry for Economic Cooperation and Development (BMZ), co-financed by the European Union (EU) and the Foreign, Commonwealth, and Development Office (FCDO), and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). It is currently active in Ethiopia, South Africa, Tanzania, Uganda, and Zambia.

In Tanzania, the NatuReS programme aims to reduce water and environmental threats that pose significant social and economic risks to sustainable economic growth.

NatuReS has so far contributed to creating or safeguarding more than 72.000 jobs and investments worth more than EUR 232 million through 14 currently active partnerships across the five countries of implementation.

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Dag-Hammarskjöld-Weg 1-5  
65760 Eschborn, Germany

### Contact:

Ralf Senzel  
NatuReS Country Coordinator in Tanzania  
[ralf.senzel@giz.de](mailto:ralf.senzel@giz.de)  
[www.giz.de](http://www.giz.de)  
<https://nature-stewardship.org/>

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