



OUR MISSION

The mission of The Nature Conservancy is to conserve the lands and waters on which all life depends.

TNC FAST FACTS

- Established in 1951
- Impact in 79 countries
- 1 million members
- Nearly 50 million hectares conserved
- 3,700 staff, including 400 scientists



TNC'S AFRICA PROGRAM

TNC works in partnership with government and local NGOs, sharing technical tools, skills, and resources to increase the scale of their impact and implement solutions that preserve nature while improving people's lives.

TNC established the Africa Program in 2007, and today we operate in nine countries across the continent.

WATER FUNDS

- 41 around the world
- Investing US\$1 million in the Upper Tana watershed each year
- Building a US\$7.5 million endowment for sustainability of the UTNWF

UPPER TANA-NAIROBI WATER FUND TRUST

INNOVATION AT THE NEXUS OF CONSERVATION, WATER, FOOD, ENERGY, AND BUSINESS

A groundbreaking public-private partnership is mobilizing investments and collaboration to secure a lifeline for Kenya.

Water is an essential ingredient for healthy lives and healthy economies. As Kenya pursues the ambitions of Vision 2030, securing the Tana River must be a priority. It provides 95 percent of the water supply for Nairobi and generates 50 percent of the energy that powers the nation. Flanking the river on its path to the capital are 300,000 smallholder farms all depending on — and having an impact on — the river.

Unsustainable farming practices are sending sediment into the river, resulting in higher costs for water treatment, lower water levels, and lower hydropower output. Water security will only become more challenging as climate change brings increasingly unpredictable rainfall and the city's population continues to climb.

That's why The Nature Conservancy has brought diverse partners together to address these challenges with a water fund, a proven model that is founded on the principle that it is less expensive to prevent water problems at the source than it is to address them farther downstream. Urban water users invest in upstream watershed conservation strategies, creating benefits for themselves as well as rural populations.

Scientists have shown that for every one dollar invested in conservation strategies in the Tana River watershed, we will avoid two dollars in costs of correcting impacts on water supply and energy production.

Such funds provide a secure and transparent tool for corporate and public investors to direct resources to conservation strategies that will yield the greatest returns for the common good and the economy.

The primary goal of the Upper Tana-Nairobi Water Fund (UTNWF) is to improve farming practices in the watershed. While this water fund was the first of its kind in Africa, it built on the expertise TNC scientists have gained from designing more than 40 water funds around the world. As a result, Kenya inspired the government of Cape Town, where the Greater Cape Town Water Fund was launched in November 2018.

KEEPING SOIL OUT OF THE RIVER

For decades, forests on steep hillsides along the Tana River have been slowly converted to farming for tea, coffee, and other produce. Reduced soil productivity from erosion and competition for space have forced farmers onto steeper and steeper slopes. Now, during the rainy season, soil is washed into the river, reducing the productivity of farmland and clogging water distribution and power generation facilities with sediment.

The water fund partners are working with 26,474 farmers, and are on course to reach 50,000 farmers by 2022. We are providing the skills, training and resources they need to conserve water, reduce soil runoff, and improve productivity.



A STRONG BUSINESS CASE

Conservative results of a science-based business case demonstrate a viable return on investment for the creation of a water fund:

- Over 50% reduction in sediment concentration in rivers (varying by watershed and time of year); an 18% decrease in annual sedimentation in Masinga reservoir
- Up to a 15% increase in annual water yields across the priority watersheds during the dry season
- Up to US\$3 million per year in increased agricultural yields for smallholders and agricultural producers
- Over US\$600,000 increased annual revenue for KenGen as a result of increased power generation and avoided shutdowns and spillages
- Approximately US\$250,000 in cost savings a year for Nairobi City Water and Sewerage Company stemming from avoided filtration, lowered energy consumption, reduced sludge disposal costs, and fewer shutdown days
- Improved water quality, with a potential decrease in waterborne pathogens, for more than half a million people

BOARD OF TRUSTEES

Annual Stakeholders Assembly

BOT Members

Eddy Njoroge, Nairobi Water Fund: President

Emmanuel Rurema: Chairman

Eng. Nahashon Muguna, Ag. Managing Director, Nairobi City Water and Sewerage Company: Member

Munira Bashir, Kenya Program Director, TNC: Secretary

Hon. Joshua Irungu, Chairman, Water Services Regulatory Board: Member

Agnes Yobterik, Director of Programmes, Projects and Strategic Initiatives, Min. of Environment and Forestry: Member

Eng. Michael Thuita, CEO, Athi Water Services Board: Member

Karim Dostmohamed, Managing Director, Frigoken Ltd.: Member

BOARD OF MANAGEMENT

Board Committees

- Finance and Investments
- Monitoring and Evaluation
- Resource Mobilization

BOM Members

Eng. Boniface Mwaniki, Technical Manager, Water Resources Authority: Chair

Anne Mubia, Associate Director, Viva Africa Group LLP: Vice Chair

Fred Kihara, Water Funds Director, TNC: Secretary

Jean Kiarie-Ngumo, Regional Executive — Sustainability, Policy and Strategic Communication

Philip Githinji, Production Manager, Nairobi City Water and Sewerage Company

Prof. Bancy Mati, Director Water Research and Resource Centre, JKUAT

Maryanne Nderu, Sustainability Manager, Kenya Breweries Ltd.

Hon. Albert Mwaniki, County Executive, Livestock and Cooperative Development, Murang'a County

CPA, Patrick Nyaga, Financial Management Consultant

MANAGEMENT UNIT

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SIMPLE SOLUTIONS TO BIG CHALLENGES

The water fund partners are focusing on the most at-risk areas of the watershed to help farmers take simple steps to increase water security as well as food security.

Strategies include:

- Vegetation buffer zones along riverbanks and grass buffer strips in farmlands
- Terracing of steep slopes and farmlands
- Agroforestry
- Reforestation of degraded lands at forest edges
- Mitigation of soil erosion from dirt roads
- Water harvesting for rainfall and surface runoff and use of drip irrigation technology

IMPROVING LIVES

Irene Wanjiru Mumiria and her husband, James, own a farm that is their only source of livelihood. They depended on rain-fed subsistence agriculture. This was a challenge because of unpredictable and poorly distributed rains, as well as low market prices for their produce, as every farmer in the market sold the same crop. In 2017, the UTNWF trained her on rainwater harvesting, agroforestry, and drip irrigation. Irene and James repaired existing soil conservation structures in their farm and planted high-value fruit trees along the contours. She excavated a 100,000-litre water pan and, by irrigating her crops, was able to grow high-value vegetables for the local market and for their household needs. In 2018, Irene bought two dairy goats worth Ksh 20,000, and in 2019 she installed a biogas unit from her farming income that now meets all her cooking and heating needs. Irene and James can now fully pay for their two sons' secondary school education. Irene invests in shares worth Ksh 2,000 monthly from her banking group as part of a saving strategy for her family's future.

Gladys Wangeci Migwi owns a 4-acre farm and is one of the 8,500 farmers who are now Rainforest Alliance certified and selling their coffee at a premium. Using UTNWF's technical advice, she built terraces and planted napier grass to stabilize the soil on her farm — the napier grass was used to feed her cows better, and resulted in an increase in milk production from 10 to 14 litres a cow per day. She also planted more coffee trees, increasing them from 250 to 450, and the harvest grew from 3kg to 8kg per tree. She established a tree nursery from which she sells seedlings to her fellow farmers. She excavated a 100,000-litre water pan that enabled her to start an organic vegetable garden, which has improved her family's nutrition and whose excess produce fetches her Ksh 800 every week at the market. Gladys runs a poultry farm and sells the eggs, while the droppings are used for fish farming in a pond and as fertilizer for her vegetable garden. The dung from her two cows and 17 pigs feeds her biogas unit, while the bio slurry is used as manure for her coffee trees. She runs a fully integrated farm enterprise, and her conservation efforts earned her an award for Best Overall Woman in Agriculture at a national competition held in 2017 by the Ministry of Agriculture.

Peter Marubu was born deaf and mute and had nobody to help till the 6-acre piece of land he inherited. He planted bananas, maize, and beans; reared two cows for subsistence on half an acre; and leased the remaining five acres to other farmers. In 2018, the UTNWF staff taught him to build terraces on his farm and harvest water for irrigation, and his nephew helped him install a water pan to harvest rainwater from his roof. He took back his land and planted tomatoes, capsicum, watermelon, maize, and spinach. The sales from his capsicum and tomato harvest made him a total of Ksh 27,200. He installed a 10-horsepower pump to complement his new drip irrigation system, and in 2019, harvests from vegetables, tomatoes, and bananas made him Ksh 110,000. Peter has invested Ksh 10,000 to construct a zero-grazing unit for his dairy cows and is building a two-room stone house to replace his mud-walled house.



Irene Wanjiru Mumiria



Gladys Wangeci Migwi



Peter Marubu





MEASURABLE PROGRESS

In six years, the Upper Tana-Nairobi Water Fund has generated a vast array of benefits for people living in the watershed, for the residents of Nairobi, and for all Kenyans:

- 26,474 farmers are applying soil conservation and water-saving methods.
- 8,500 coffee farmers have achieved Rainforest Alliance certification.
- 1.4 million trees have been planted so far in the watershed.
- 15,000 hectares of land are under sustainable management.
- 28 river gauging stations are now automated, and six have been fitted with telemetric equipment.
- 37,464 farmers are enrolled in a mobile data monitoring platform.
- 2,200 people and 8,000 livestock have year-round access to a reliable and accessible water supply from two communal water pans completed in the Sasumua subcatchment.
- 800 million litres of water are harvested annually in the watershed using water pans — enough to irrigate 532 hectares of land under French beans for 60 days.
- 100 biogas digesters were installed as rewards for farmers who achieved high conservation and ecosystem services targets.
- Extensive knowledge sharing has resulted in the scaling up of two new water funds — Eldoret is at the design phase; Mombasa is at the feasibility phase.
- Partnerships with three local NGOs cover the three priority subwatersheds of Thika-Chania, Maragua, and Sagana-Gura.
- Partnerships with expert institutions (ICRAF, National Museums of Kenya, and Jomo Kenyatta University of Agriculture and Technology) have been established to support scientific baseline studies and impact monitoring.
- The UTNWF is registered as a charitable trust in Kenya, with dedicated volunteer leaders and a growing partnership base.

"We have grown the UTNWF to an organisation that delivers tangible results for people and nature. This water fund is well on its way to becoming the first financially sustainable water conservation initiative in Africa. Continued investment by stakeholders in the endowment fund to grow it from the current US\$2 million to the targeted US\$7.5 million will further increase the impacts, safeguard our water source, and ensure its sustainability for the benefit of all." — EDDY NJORGE, President, International Organization for Standardization, and President and Trustee, Upper Tana-Nairobi Water Fund Trust

Join the UTNWF in building a US\$7.5 million endowment to generate a stable source of funding for conservation. The annual earnings will be directed to sustaining and scaling up activities in the watershed. Contact Anthony Kariuki, Water Fund General Manager, at anthony.kariuki@tnc.org.

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WATER FUND STAKEHOLDERS AND FUNDERS



Professional Partners:
Bowmans, Coulson Harney LLP,
Viva Africa Consulting LLP,
Gen Africa Asset Managers

Photos: Page 1 (clockwise from top left): Roshni Lodhia (1 & 3), Nick Hall (2). Page 2: Bobby Neptune. Page 3 (top to bottom): Bobby Neptune (1 & 4), Roshni Lodhia (2 & 3). Page 4: Roshni Lodhia.