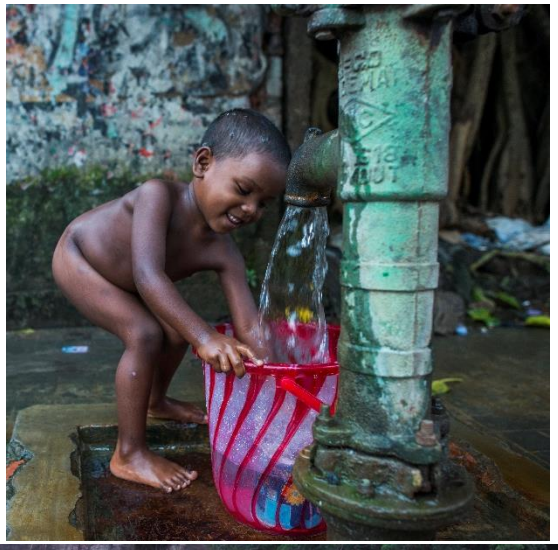
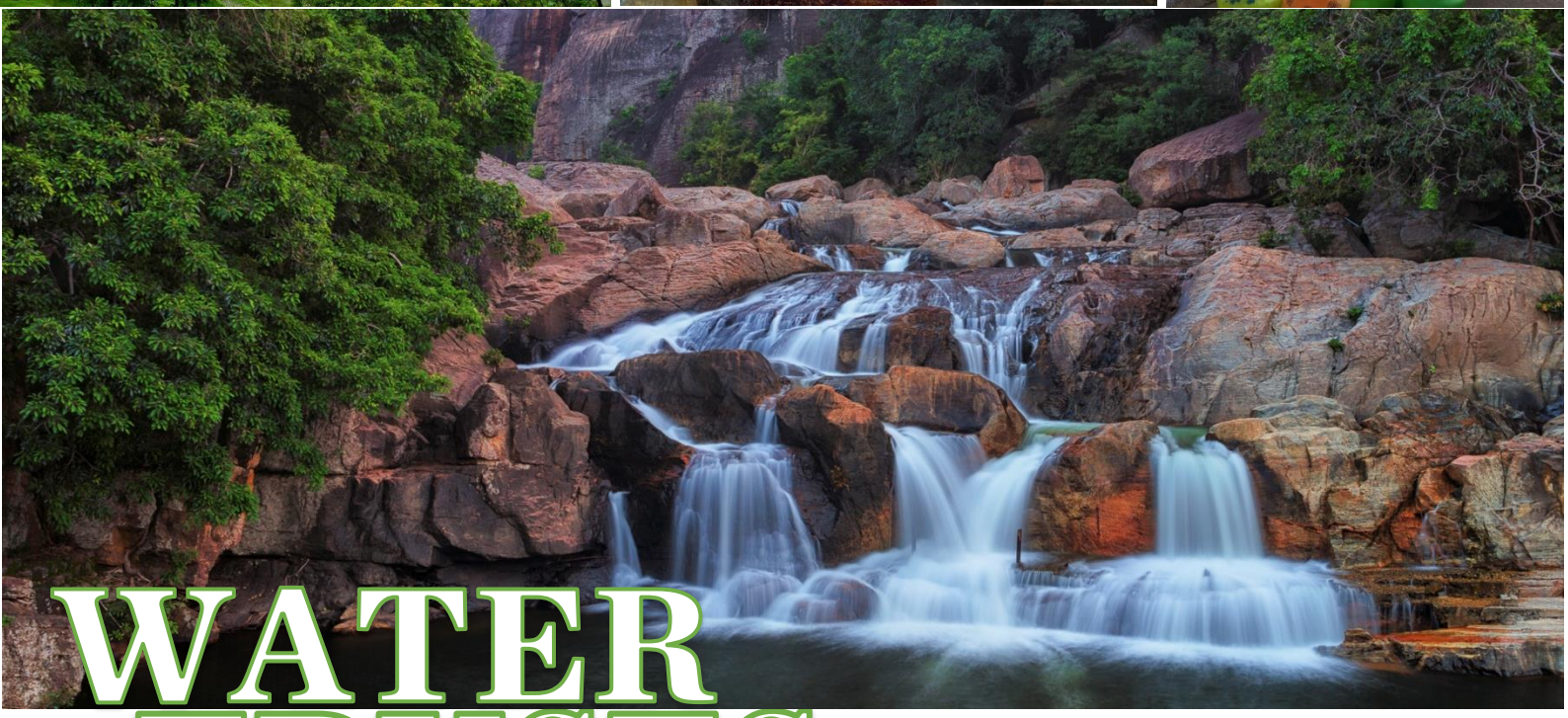




WATER TRUSTS

Using the power of nature to ensure water security for India

WATERSHED CONSERVATION | AN OPPORTUNITY AND URGENT NEED

Our water comes from nature. Many Indian cities rely on surface water such as lakes, rivers and reservoirs to meet their water requirements for domestic and economic activities. Today, the quality and quantity of these freshwater resources are significantly compromised due to degradation of their watersheds, resulting from unplanned development, unsustainable agricultural practices and deforestation. As our waters get contaminated by nutrient and sediment run-off and dumping of waste, citizens and governments are forced to pay higher costs for its treatment. Municipalities in India spend about INR 330 per capita annually for treating water. And yet, a third of urban households do not have access to water from treated sources. Over-extraction from watersheds for economic activities also impacts water supply. At the same time, farmers in the watersheds face low productivity due to loss of soil and nutrients and poor water retention in their fields.

This need not be the case. The Nature Conservancy (TNC) has demonstrated globally that implementing nature based solutions in watersheds can cost effectively ensure long term water security for many cities, while also improving agriculture productivity in the watersheds. Therefore, we have defined a financial and governance tool called the Water Trust to enable long-term watershed conservation which ensures water security for rural and urban sectors and provides additional livelihood and biodiversity benefits.

What is a watershed?

A watershed is the land adjoining a water body which soaks any water that falls on it and allows it to drain into the water body. Watershed conservation are land management strategies that improve the watersheds ability to hold and allow water to flow into rivers, lakes and ponds, thereby contributing to higher quality and quantity of water.

WATER TRUST | Bringing people together to protect water

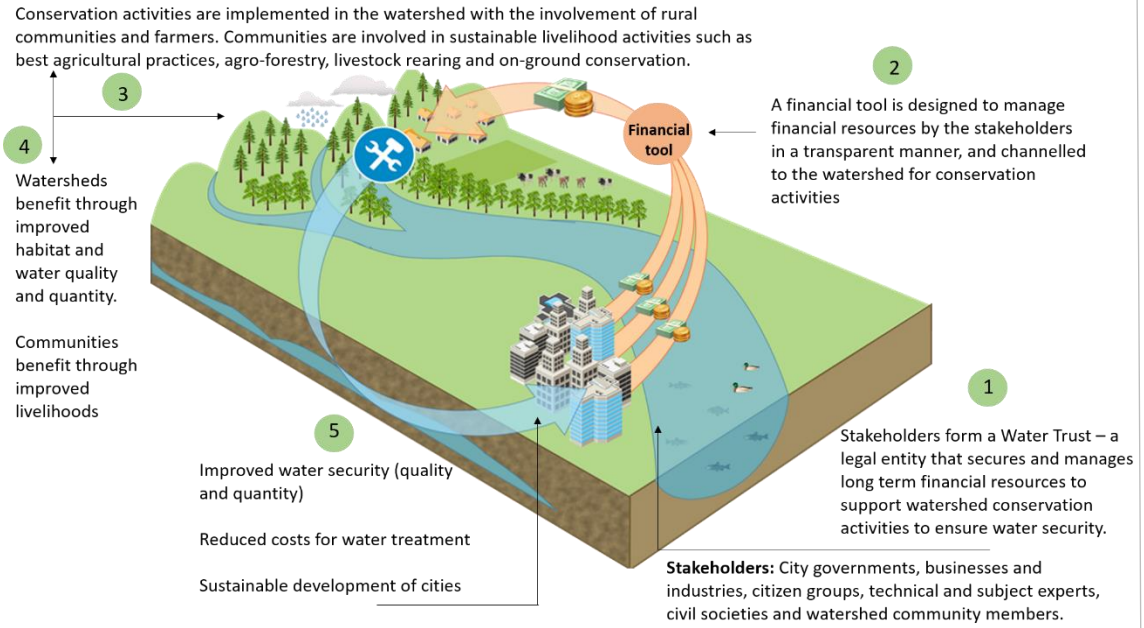
A Water Trust is a financial and governance mechanism designed by The Nature Conservancy to bring together all stakeholders, who either impact or are impacted by a watershed, to collectively secure funds and implement watershed conservation activities. This is a proven model founded on the principle that it is less expensive to prevent water problems at the source than it is to address them downstream.

Stakeholders are primarily governments, municipalities, corporate organizations and businesses who form a legal entity and are tasked with identifying interventions required for watershed conservation while also managing long term funding opportunities in a transparent way. Investors view a Water Trust as a smart way to minimise treatment costs and reduce their future water risks.

A Water Trust has three components:

- A funding mechanism to collect and provide financial resources for watershed conservation.
- A governance mechanism for joint planning of conservation activities and decision making.
- A watershed management mechanism to carry out funded conservation and management activities such as forest protection and restoration, riparian restoration, agricultural and livestock best management practices and more.

The Nature Conservancy launched its first Water Trust in Ecuador in 2000 with a small funding of $21,000. Today, it has reached $10 million in capital, reforested over 5,000 acres of land and engaged communities in development projects. In total, it has positively impacted nearly 1.2 million acres of watershed areas in Ecuador. Globally, over 30 Water Trusts have been launched to date across four continents - proving the economic and ecological benefits of watershed conservation.



THE FUTURE OF WATER IN INDIA

CHALLENGE

India is experiencing the most rapid urbanization in human history. By 2030, more than 600 million people will be living in urban cities, which will contribute nearly 70 – 75% of India's economic growth. Demand for domestic and industrial water will increase by two and a half times. In parallel, our agriculture sector will need to increase food production by as much as 70% to provide for a future population of 1.5 billion. As urban centres grow and agriculture intensifies, India will need to address water issues related to quantity, quality and governance.

OPPORTUNITY

Natural ecosystems such as forests, grasslands, wetlands, lakes and ponds can contribute to water management, particularly quality and quantity, in the same way as engineered infrastructure such as dams, canals and treatment plants. The Nature Conservancy conducted an analysis to better understand the potential for watershed conservation to improve urban water security in India. The analysis shows that at least 15 cities can fully offset the cost of watershed conservation by the savings seen from decreased water treatment costs, highlighting a positive return on investment and a unique opportunity.

Cover page photo credits (Clockwise from top left)

Siddharth Edake, Peter McBride, Seema Paul/TNC-India

BENEFITS OF A WATER TRUST

In the long run, protecting watersheds is a win-win for cities, communities and nature. It leads to an improvement in quantity and quality of water, habitat and biodiversity protection, improved livelihood and human health and reduced costs of water treatment. Water Trust is a tool to make this happen, and has multiple benefits for city dwellers, businesses, governments and communities.

WATER IS EVERYONES BUSINESS!

That's why we aim to form public-private partnerships to conserve water at its major source.

For every $1 invested in conservation, we can avoid facing $2 in future costs.

URBAN DWELLERS

-Improved supply and quality of water

-Reduced cost of treating water in homes

-Awareness about the water source of their city

CITY GOVERNMENTS

-Reduced costs of treating water through built infrastructure like treatment plants

-Showcasing land and water management stewardship

-Contributing towards key National schemes such as National Mission for Green India, Swachh Bharat Urban Mission, Smart Cities Initiative and Sustainable Development Goals

-Enhanced flood control

BUSINESSES

-Reduced risk to business due to improved water supply

-Science based investment of their CSR funds

-Showcasing land and water stewardship

-Positive interaction with local communities

FARMERS AND LOCAL COMMUNITIES

-Improved crop productivity due to conservation of soil, nutrient and water retention in watersheds

-Funding to help implement improved agricultural practices

-Sustainable livelihood opportunities through involvement in conservation projects

-Inclusion in long-term decision making and becoming stewards of conservation

NATURE

-Increase in flows and quality of water in rivers, wetlands, lakes, ponds

-Increased forest cover and improved land use

-Biodiversity and habitat conservation

-Climate change mitigation

-Carbon sequestration

-Reduction in pollution and soil erosion/sedimentation

A WATER TRUST PROJECT CYCLE

The development and implementation of a Water Trust is a long-term commitment which slowly but surely reaps positive returns. The development of a Water trust goes through the following stages:

Pre-feasibility

Understand the conditions that would affect the development and operation of a Water Trust in a city.

→

Design and creation

Engage stakeholders and develop a steering committee responsible for securing and managing funds and identifying conservation activities.

Develop the design of the Water Trust – legal structure and interventions.

Set up the Water Trust as a legal entity.

→

Operation

Initiate the implementation of conservation strategies and monitor progress.

WATER TRUSTS AROUND THE WORLD

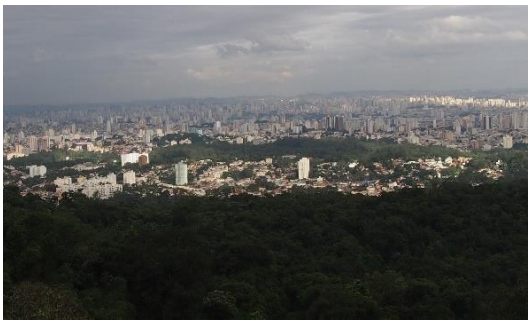
Upper Tana-Nairobi Water Fund*

The Tana river provides 95% of the water supply for Nairobi and generates 50% of the energy that powers this country. Flanking the river on its path 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 of water treatment, lower water levels and lower hydropower output. The Nature Conservancy has brought together diverse partners to create a Tana-Nairobi Water Fund which focuses on improving farming practices in the watershed. Through this Water Fund, more than 15,000 farmers are practicing soil conservation and water saving methods in agriculture and more than 7,000 coffee farmers are working towards Rainforest Alliance certification. Close to 1,20,000 acres of watershed is under sustainable management and 1,75,000 trees are planted annually in the watershed. These activities have increased water flow into Nairobi by 27 million litres per day!

© Aditya Sood/TNC-India

Brazil Water Funds*: Providing Incentive to Landowners

In the Atlantic Forest of Brazil, deforestation and agriculture have led to significant erosion of land that feeds into primary water sources for São Paulo and Rio de Janeiro. The Nature Conservancy is working with local partners to secure funding to restore and protect streams and patches of forest that lie within privately owned ranches. Watershed committees gather investments from companies, water-dependent industries and government agencies, and the funds are disbursed directly to support conservation activities, such as hiring local people to plant trees and to compensate ranchers who agree to take conservation steps, such as fencing off streams from livestock.



© Ana Guzman/TNC

Santa Fe Water Fund*: Protecting Water through Controlled Burns

Much of the water for Santa Fe, New Mexico, flows down from forested mountains surrounding the arid Southwest city. In the event of a large wildfire, debris and ash from the forest – carried by rainfall – would pollute the city's water supply and cost millions to clean up. To guard against that, the Nature Conservancy worked with partners to establish a Water Fund whereby water users can make small investments that will ultimately help keep their water clean. Funds are used for controlled burns and restoration work to improve forest health and reduce the chance of large wildfires.

San Antonio Water Fund*: Voters Make Forward-Thinking Choices

In San Antonio, Texas, voters have elected to set aside a percentage of public revenue into a central fund to proactively protect lands that determine the quantity and quality of water available to them. Using revenue from the public fund, the city has purchased land-preservation agreements from willing landowners whose properties sit above the Edwards Aquifer – the primary source of water for the city. These voluntary agreements limit development that would interrupt the movement of rainwater down through the soil into the underground aquifer.

*Globally, this financial and governance mechanism is called Water Funds.

THE NATURE CONSERVANCY

We are the largest conservation non-profit in the world that works to conserve ecologically important lands and waters for nature and people. The Nature Conservancy's India program works closely with the Indian Government, NGOs, research institutions and citizens to create science-based solutions that support India's efforts to develop while conserving the lands and rivers on which people depend. We envision a vibrant and healthy India that is guided by sound science to manage its natural resources.

INDIA ADVISORY

For more information on Water Trust, please contact:

Aditya Sood, *Lead Freshwater Scientist, TNC-India* - aditya.sood@tnc.org