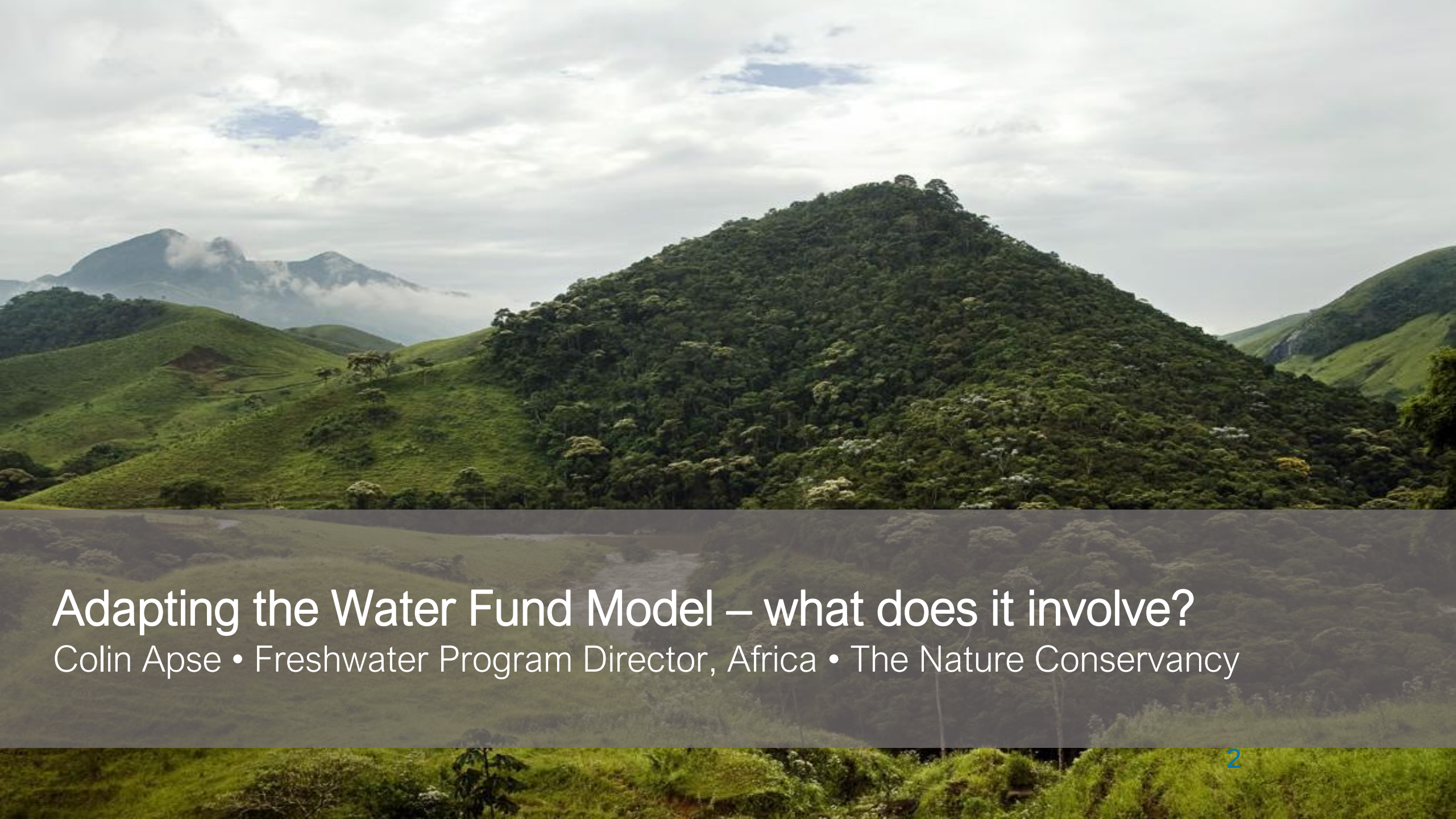
IW LEARN TRAINING WORKSHOP

Water Funds

Led by The Nature Conservancy

Gaborone, May 31, 2019



Adapting the Water Fund Model – what does it involve?

Colin Apse • Freshwater Program Director, Africa • The Nature Conservancy

SESSION OVERVIEW

- The Water Fund model was developed in a specific context, what are key questions on adapting the model?
- Key opportunities and challenges in adapting the model to large river basins and trans-boundary contexts
- What are the relevant elements of existing Water Fund models?

Adapting the Water Fund Model

Source Water Protection can and should also happen where:

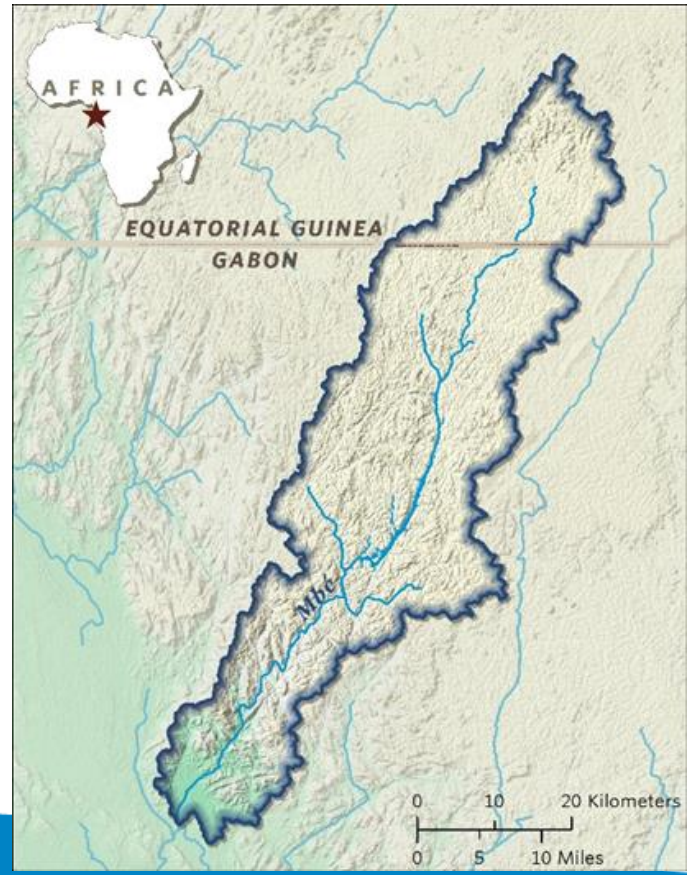
- Urban water utility is *not* entry point, but private sector can engage
- A transboundary basin has clear ecosystem service values

- Okavango Basin as initial transboundary case, others not far behind

Palmiet (Overberg), South Africa

Sebou Basin, Morocco

Mbe/Komo, Gabon



4th Targeted Regional Workshop for GEF IW Projects in Africa:

Water Funds for Water Security and Ecosystem Health in Africa

Question 1: What gaps do you see to reaching scale in your source water protection work?

- Difficultly mapping and engaging stakeholders in the transboundary context
- Limited funding availability to match the scale of source water protection need
- Knowledge gaps among both funders and implementers on replicable models linked to ecosystem services

4th Targeted Regional Workshop for GEF IW Projects in Africa:

Water Funds for Water Security and Ecosystem Health in Africa

Question 2: What challenges do you see securing adequate financing?

- Low capacity and experience to engage the (overtaxed) private sector
- Quantifying benefits – it is difficult to provide the needed financial information to convince a donor to support
- Mismatch between donor funding scale and the needs for source water protection funding

4th Targeted Regional Workshop for GEF IW Projects in Africa:

Water Funds for Water Security and Ecosystem Health in Africa

Question 3: What sorts of institutional models might support better source water protection outcomes?

- The water fund model could be adapted, but needs to be proven out in the transboundary context
- Multi-stakeholder projects should make stakeholders aware of the risks to stakeholders of continuing with “business-as-usual”. Mapping of stakeholder benefits necessary.
- Transboundary organizations should work with NGOs to build their capacity to implement source water protection

4th Targeted Regional Workshop for GEF IW Projects in Africa:

Water Funds for Water Security and Ecosystem Health in Africa

General questions from participants:

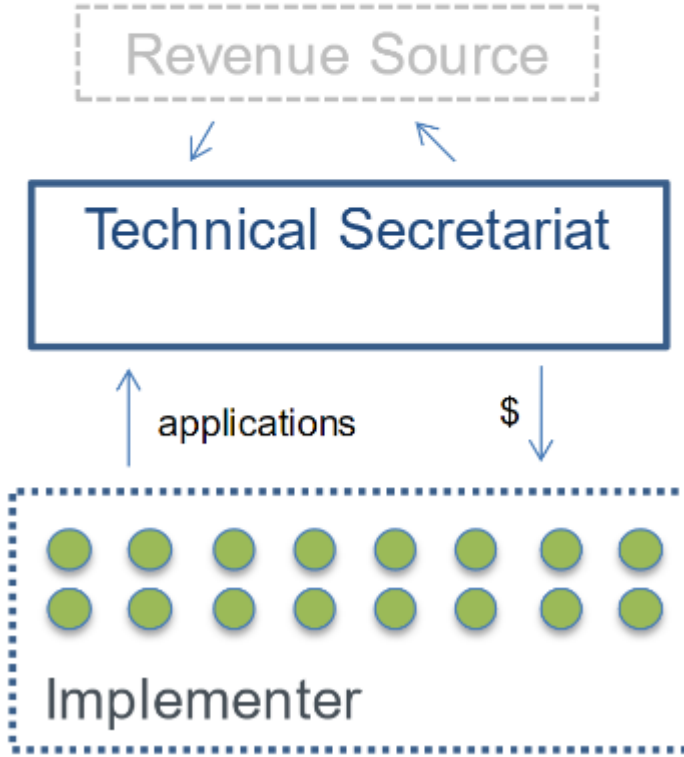
- How do you convince downstream stakeholders to invest upstream?
- What is the institutional set up of Water Funds? How does the money flow?
- How exactly do you work with farmers (or others) to improve water quantity and quality?

IMPLEMENTATION

Source Water Protection Mobilization

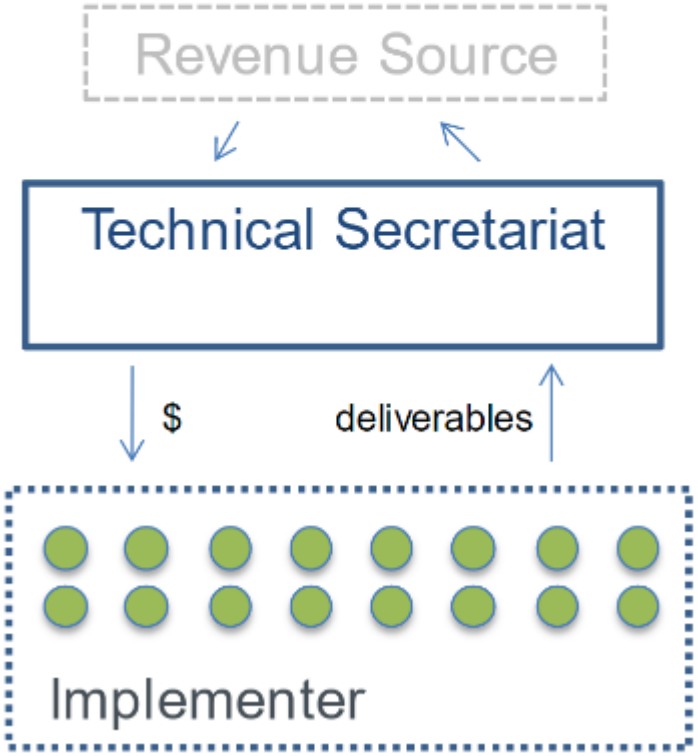
Grant Model

Where the design and implementation of conservation is carried out by a third party



Outsource Model

Where the design of conservation is done by the Water Fund staff but implementation is carried out by a third party



Agency Model

Where the design and implementation of conservation is done by Water Fund staff

The Nature Conservancy

gef

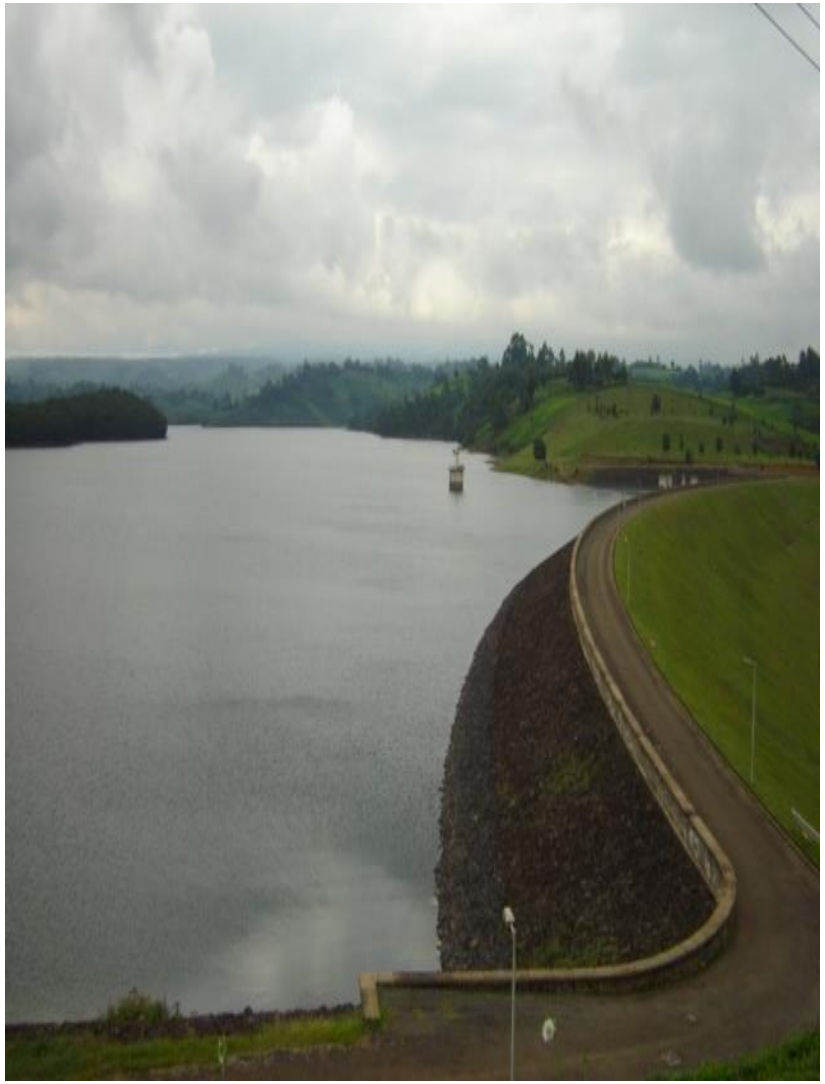
IFAD
Investing in rural people

UPPER TANA-NAIROBI WATER FUND

NICK HALL

SESSION OVERVIEW

- Giving a practical example of an established Water Fund in Africa
- How different benefits interlock to produce a winning formula
- Shed light on how key elements could be adapted to the transboundary basin context

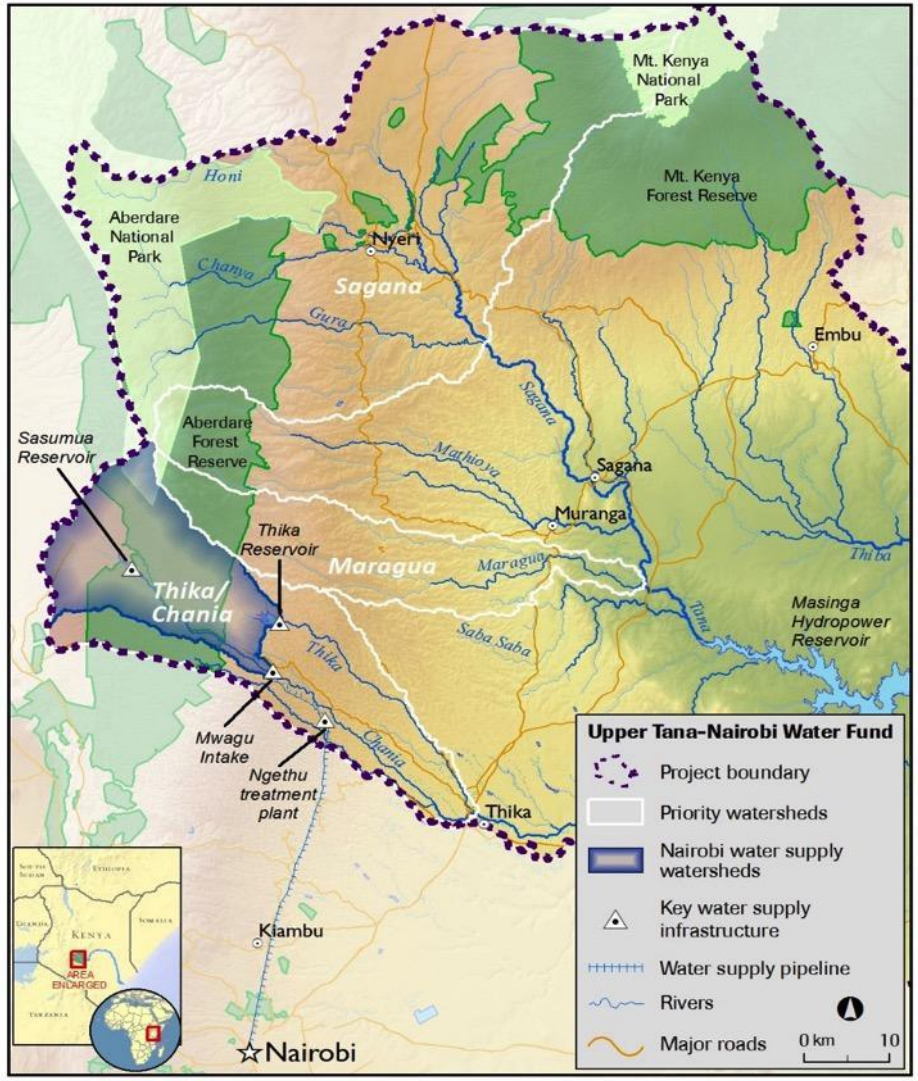


THE TANA

WATER
95% of supply to Nairobi

POWER
65% of Kenya's Hydropower

COMMUNITY
4 million people in Nairobi
5 million in watershed

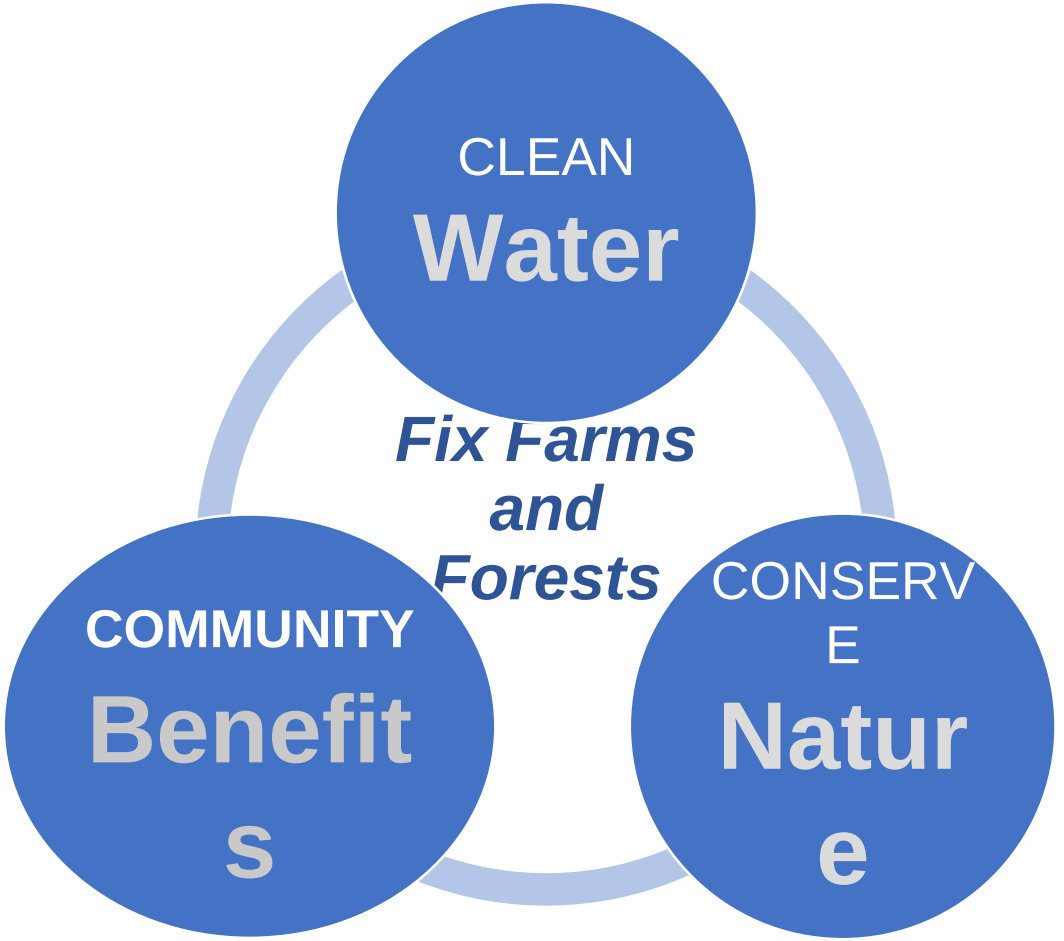


Challenge & Goal

CHALLENGE: Soil from 300,000 small-scale farms is washing into the Tana River and its tributaries while riparian irrigation expands- disrupting water supply, reducing farm productivity, and harming ecosystem health

GOALS: 3Cs

- ***C****lean Water: Improve quality and increase quantity of water*
- ***C****ommunity Benefits: Increase income and other livelihood benefits for farming families.*
- ***C****onserve Nature: Reforest and improve the health of freshwater ecosystems.*



IMPACTS | business

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 & Sewerage Company** stemming from avoided filtration, lowered energy consumption, reduced sludge disposal costs and fewer shutdown days

IMPACTS | farmers

More than 21,000 farmers are applying **soil conservation and water-saving methods**

Up to **US$3 million per year in increased agricultural yields** for smallholders and agricultural producers

8,500 coffee farmers jointly certified for **Rainforest Alliance**

More than 18,000 farmers are enrolled in a **mobile data monitoring platform.**

IMPACTS | land & water

27 million more liters of water flowing into Nairobi each day

Over **50% reduction in sediment** concentration in rivers

2,000,000 trees planted in the watershed

120,000 acres are under **sustainable management**

PROJECT FUNDING, WHILE CAPITALIZING ENDOWMENT

Public Sector

- Government of Kenya- GEF/ IFAD Resources
- 4 County governments support
- Kenya Water Resource Authority support
- Kenya Forest Service Support

- And growing….

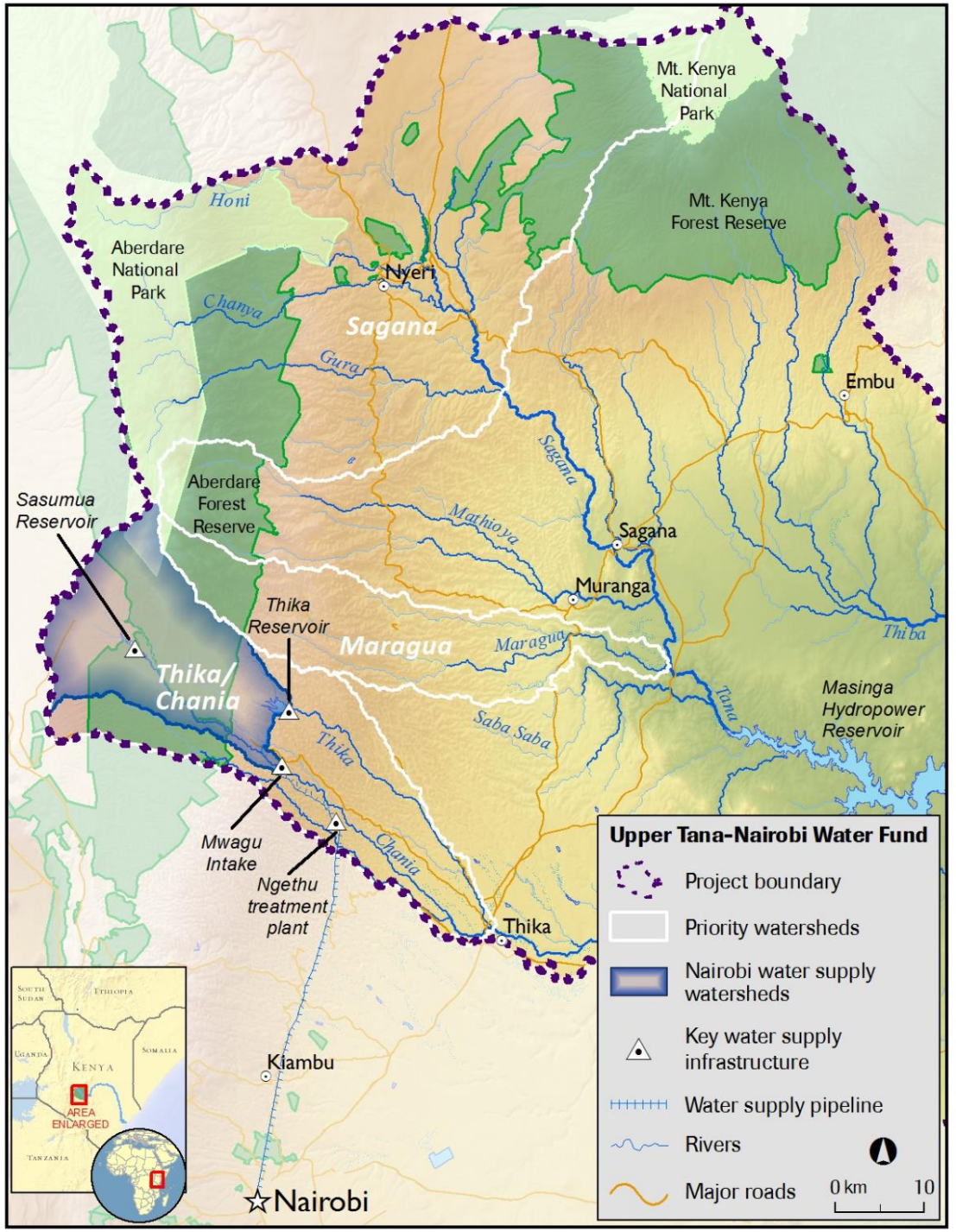
Private Sector

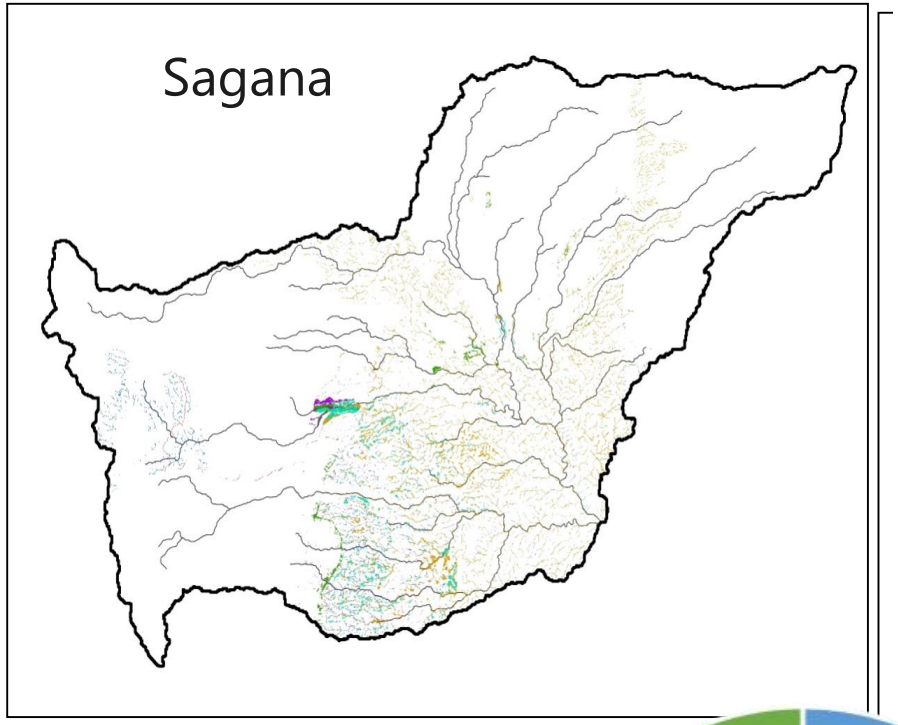
- Nairobi City Water & Sewerage Company
- Pentair Limited
- Frigoken Kenya Limited (IPS/ The Aga Khan)
- Coca-Cola
- Caterpillar Foundation
- UPS Foundation
- East Africa Breweries Ltd
- KenGen Corporate and Foundation
- Anonymous giver

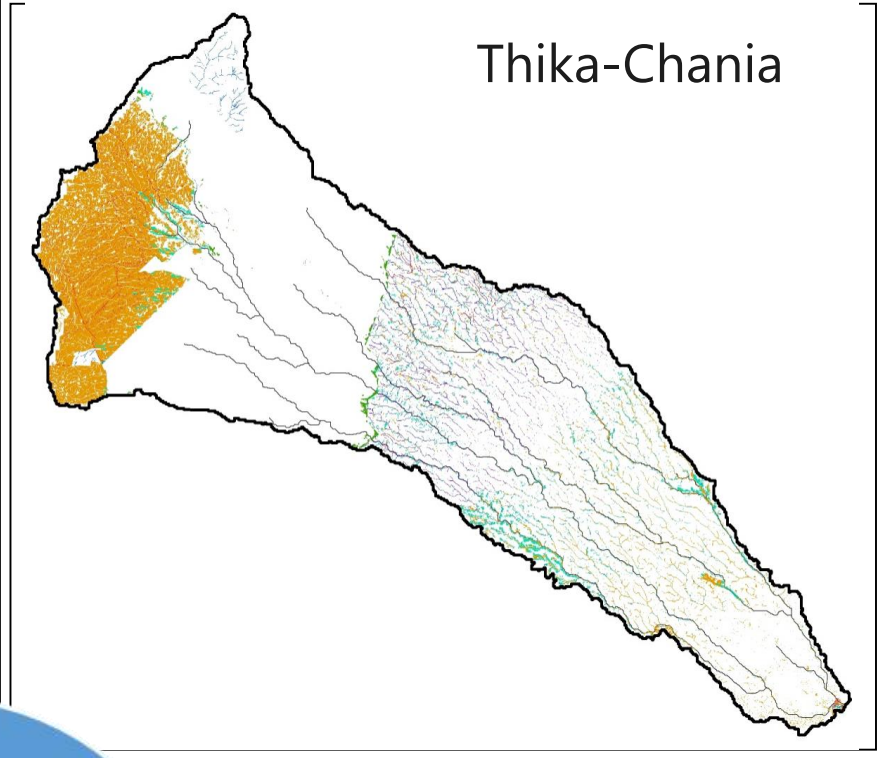
And growing….

UPPER TANA: Situation in 2013

- ISRIC: 10 year project to prove value of “Green Water” payments (one of many)
- KenGen (and other corporates) convinced of need for PES, but frustrated by lack of implementation
- Source water protection not targeted, transparent or monitored – led by government and corporates
- Counties not consulted, leads to further resentment
- Farmers with little extension support

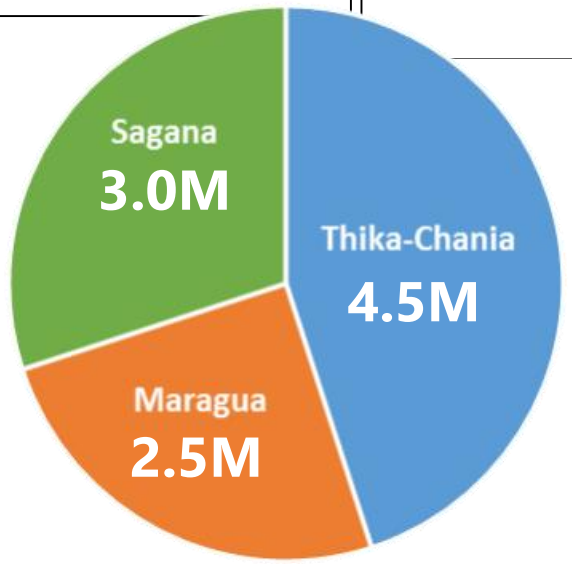




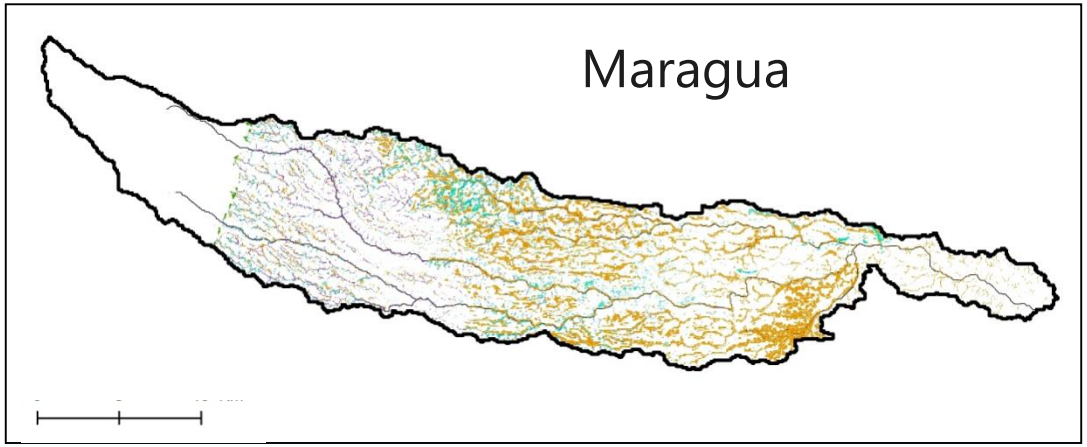


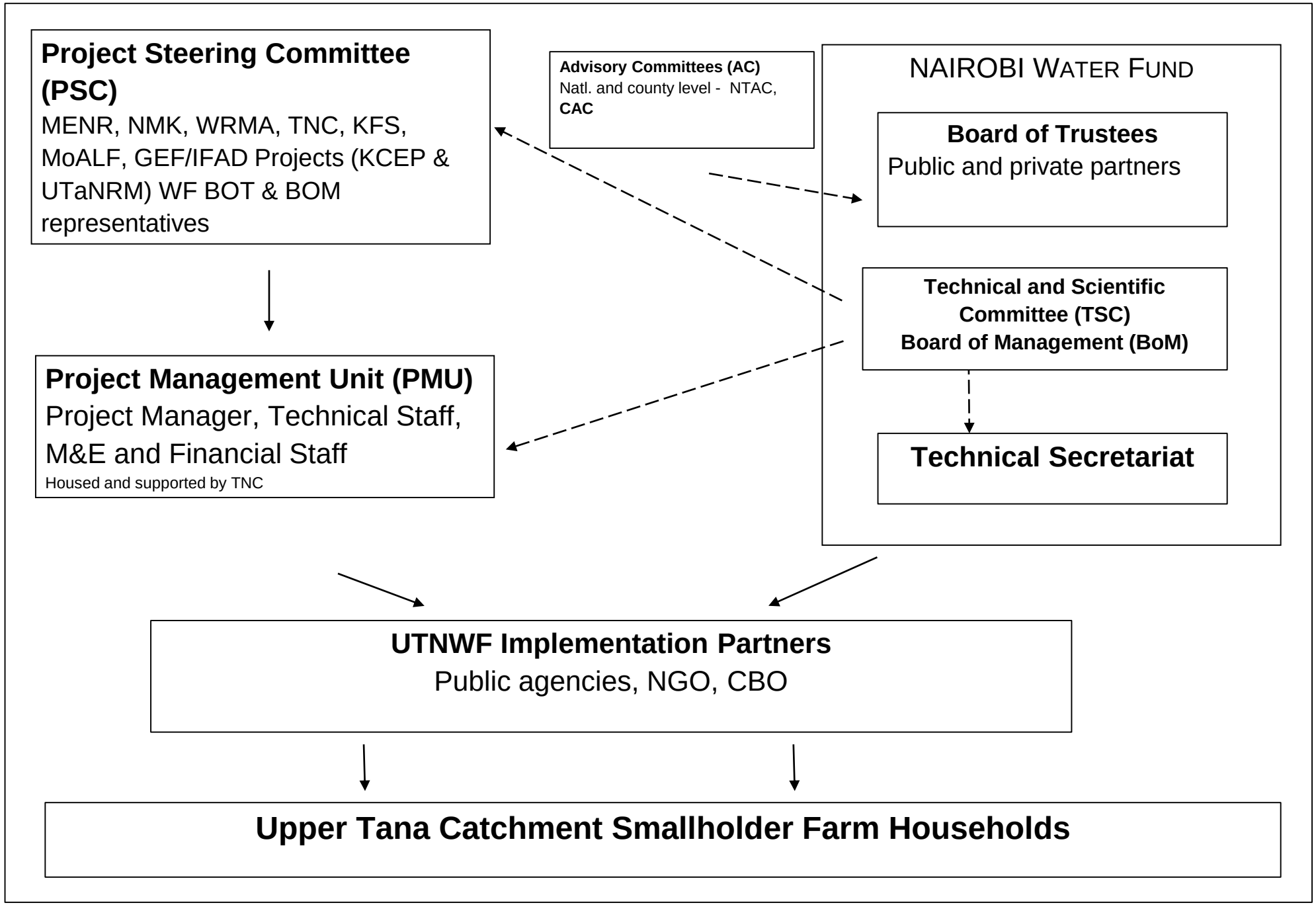
Upper Tana-Nairobi Water Fund
A Business Case

- Agroforestry
- Grass strips
- Reforestation
- Riparian management
- Road mitigation
- Terracing



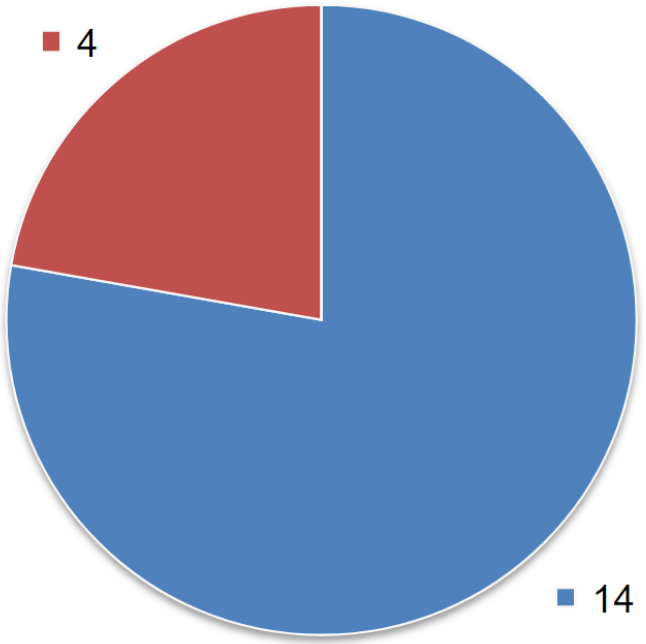
$10 million USD over 10 years



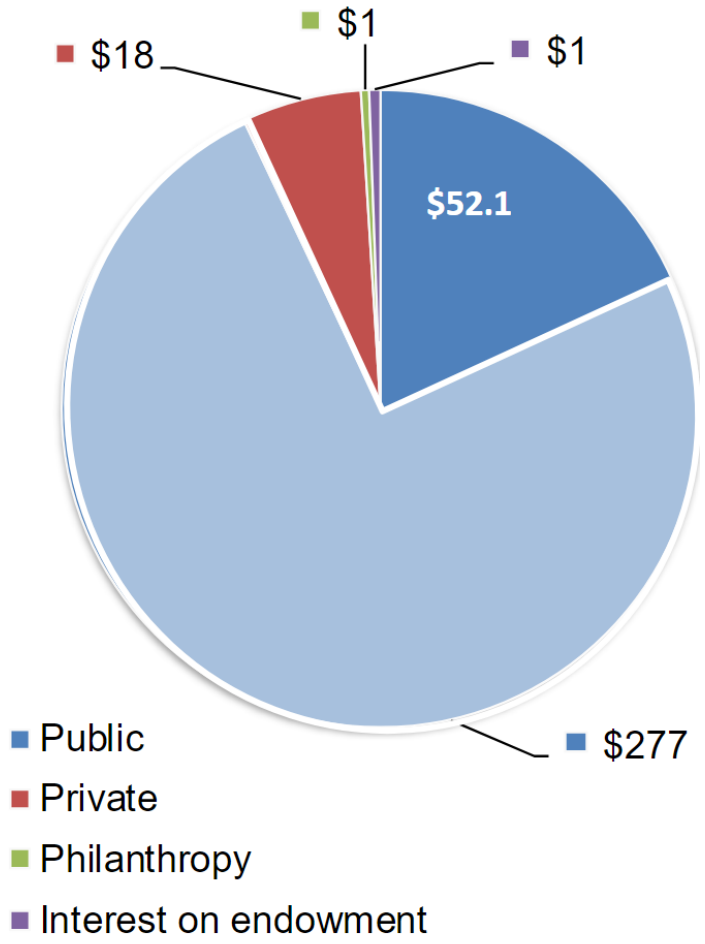

Project Steering Committee (PSC)
MENR, NMK, WRMA, TNC, KFS, MoALF, GEF/IFAD Projects (KCEP & UTaNRM) WF BOT & BOM representatives
Advisory Committees (AC)
Natl. and county level - NTAC, CAC
NAIROBI WATER FUND
Board of Trustees
Public and private partners
Technical and Scientific Committee (TSC)
Board of Management (BoM)
Technical Secretariat
Project Management Unit (PMU)
Project Manager, Technical Staff, M&E and Financial Staff
Housed and supported by TNC
UTNWF Implementation Partners
Public agencies, NGO, CBO
Upper Tana Catchment Smallholder Farm Households

Water Fund Finance

Primary Source
(# of Water Funds)



Total Revenue by Source
(in millions)



- Most Water Funds, including Nairobi, are run on public funds
- Public funds are both bi/multi lateral donor and tariffs
- Corporate/private critical in early stages, including pilots
- TNC has managed funding initially, then thru Water Fund organization
- Interest on endowment generally minor early on
- Funding cycle is as key as the project cycle

ENGAGING WITH FARMERS

Why Nairobi Water Fund

Time to act

- Investing in necessary remedial measures in farmlands and adjacent forest
- Commitment to conservation and livelihood investments
- Governance, M & E, and technical support all long-term

Means to act

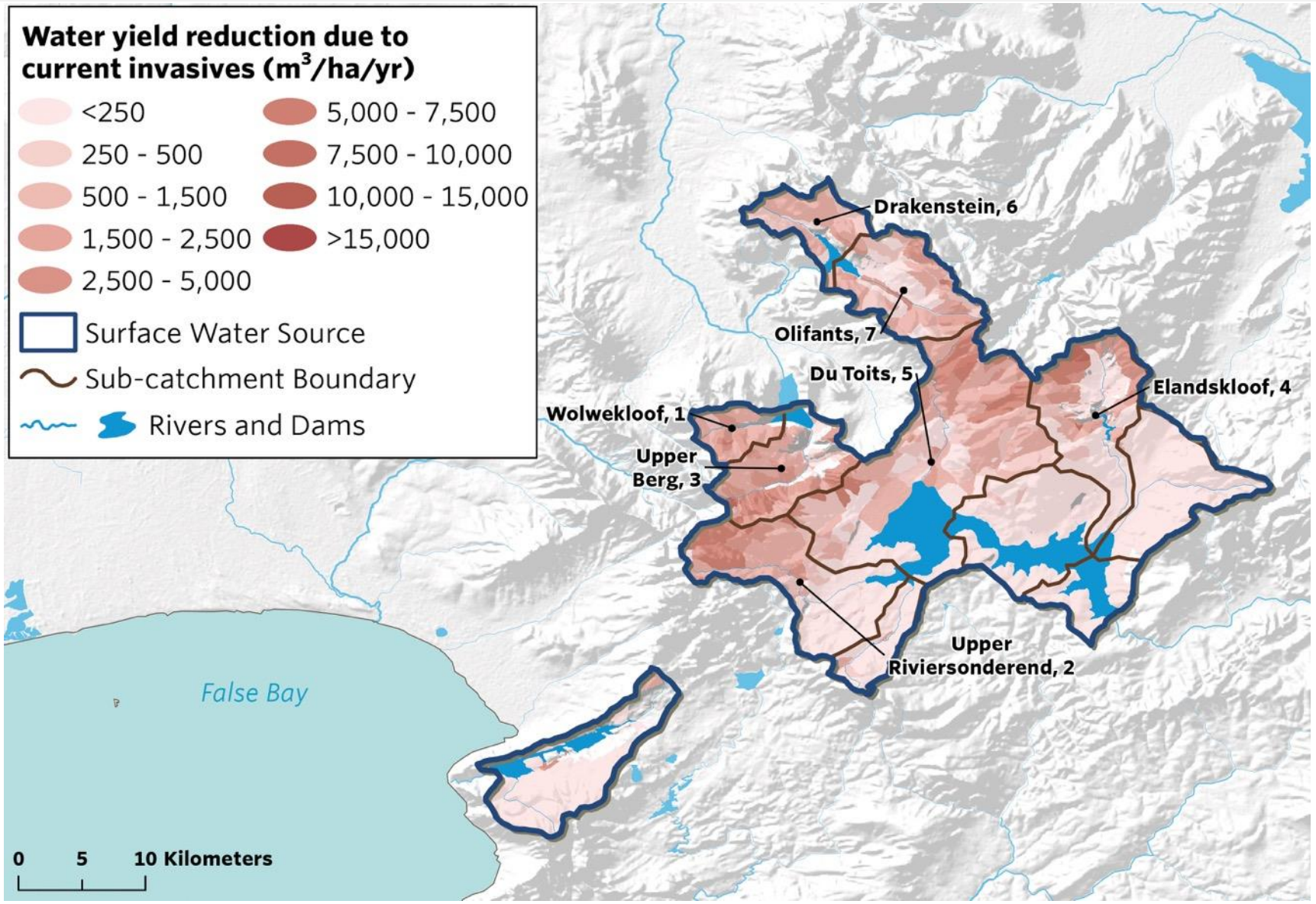
- Pilot investments using private funds (early stage)
- Broad investment using public funds
- Endowment interest for O & M (long term)
- Engage directly with extension agents

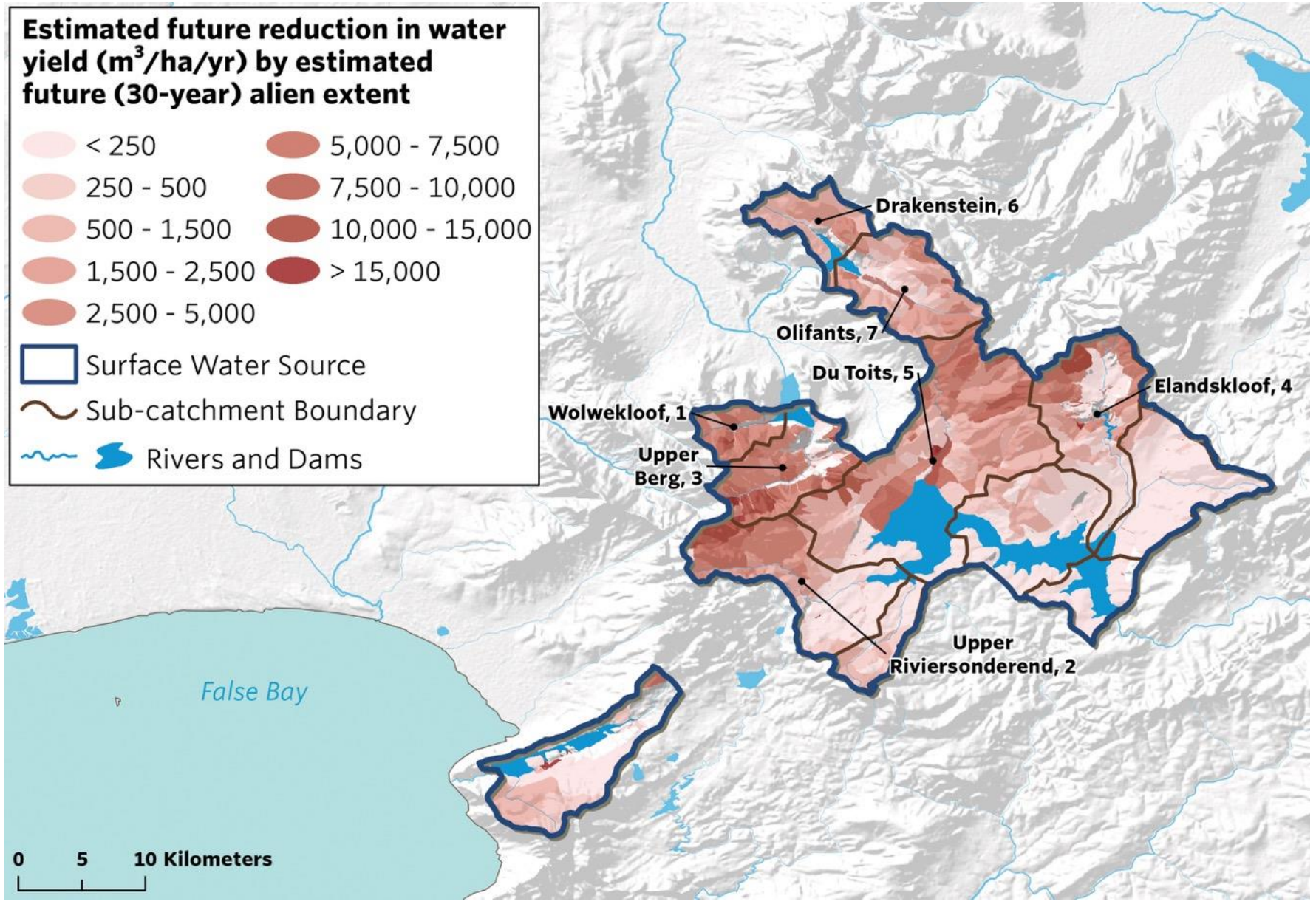
Impact

- Increased incomes make interventions largely self sustaining

GREATER CAPE TOWN WATER FUND BUSINESS CASE:

Assessing the Return on Investment for Ecological Infrastructure Restoration


Water yield reduction due to current invasives (m^3/ha/yr)
<250
250 - 500
500 - 1,500
1,500 - 2,500
2,500 - 5,000
5,000 - 7,500
7,500 - 10,000
10,000 - 15,000
>15,000
Surface Water Source
Sub-catchment Boundary
Rivers and Dams
Drakenstein, 6
Olifants, 7
Du Toits, 5
Elandskloof, 4
Wolwekloof, 1
Upper Berg, 3
Upper Riviersonderend, 2
False Bay
0 5 10 Kilometers


Estimated future reduction in water yield (m³/ha/yr) by estimated future (30-year) alien extent
< 250
250 - 500
500 - 1,500
1,500 - 2,500
2,500 - 5,000
5,000 - 7,500
7,500 - 10,000
10,000 - 15,000
> 15,000
Surface Water Source
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False Bay
0 5 10 Kilometers

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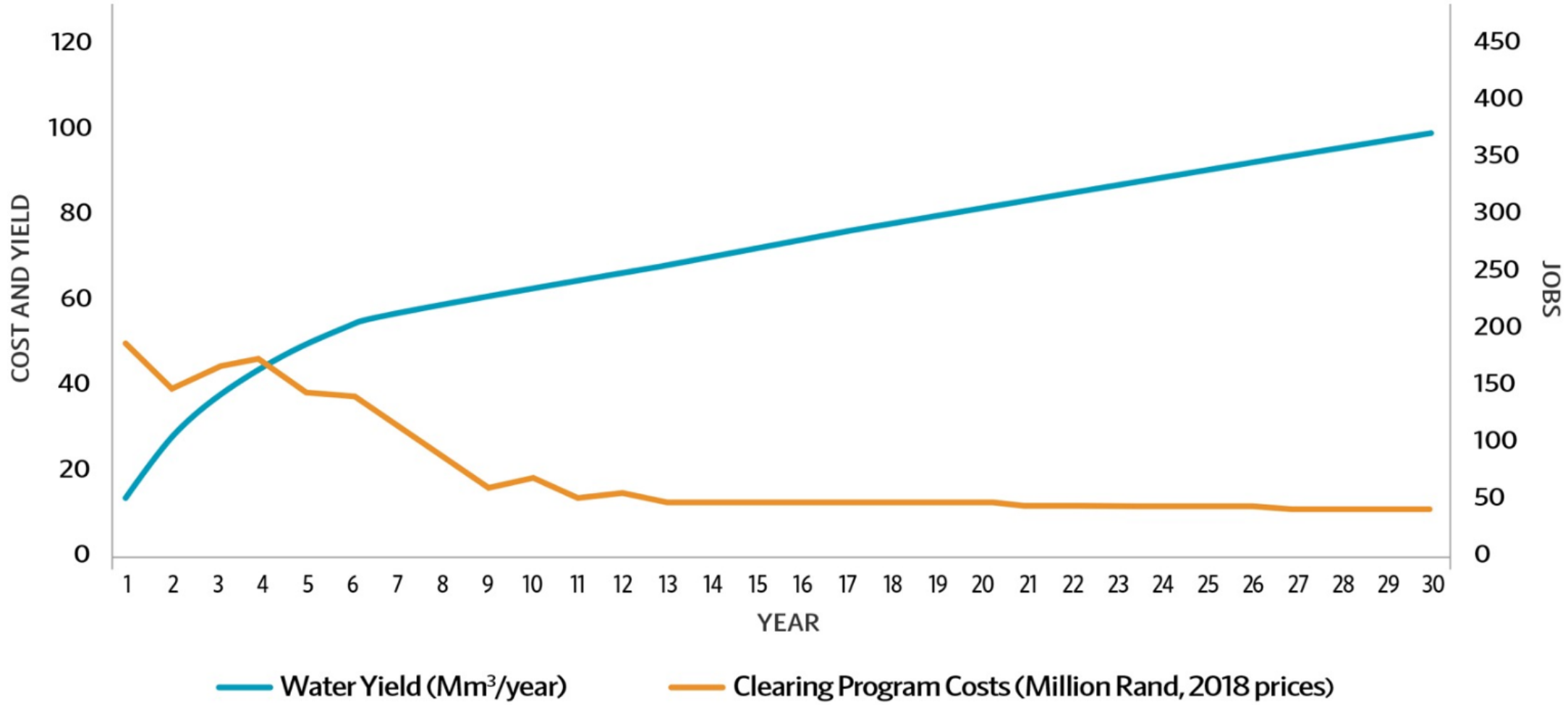
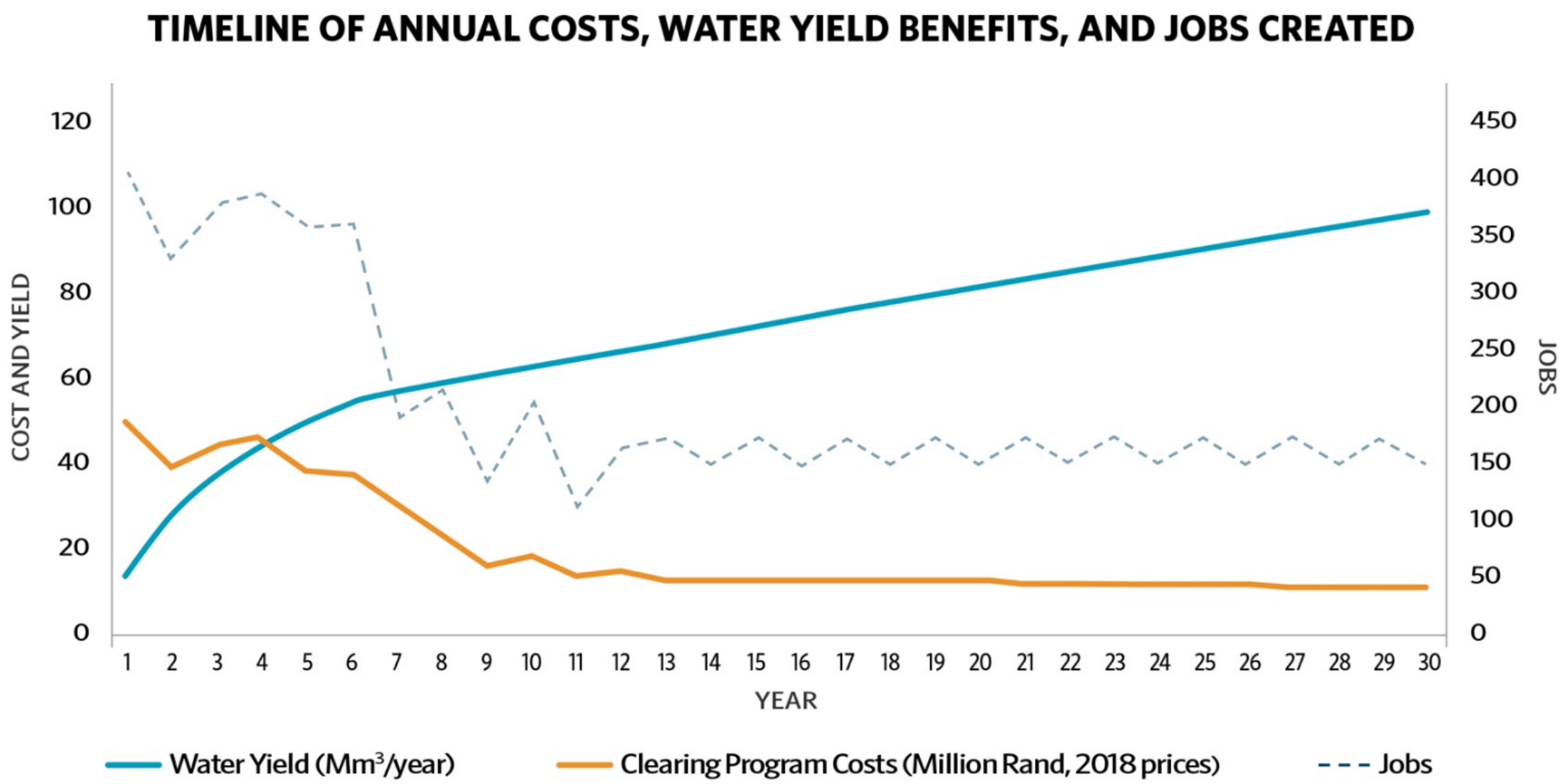
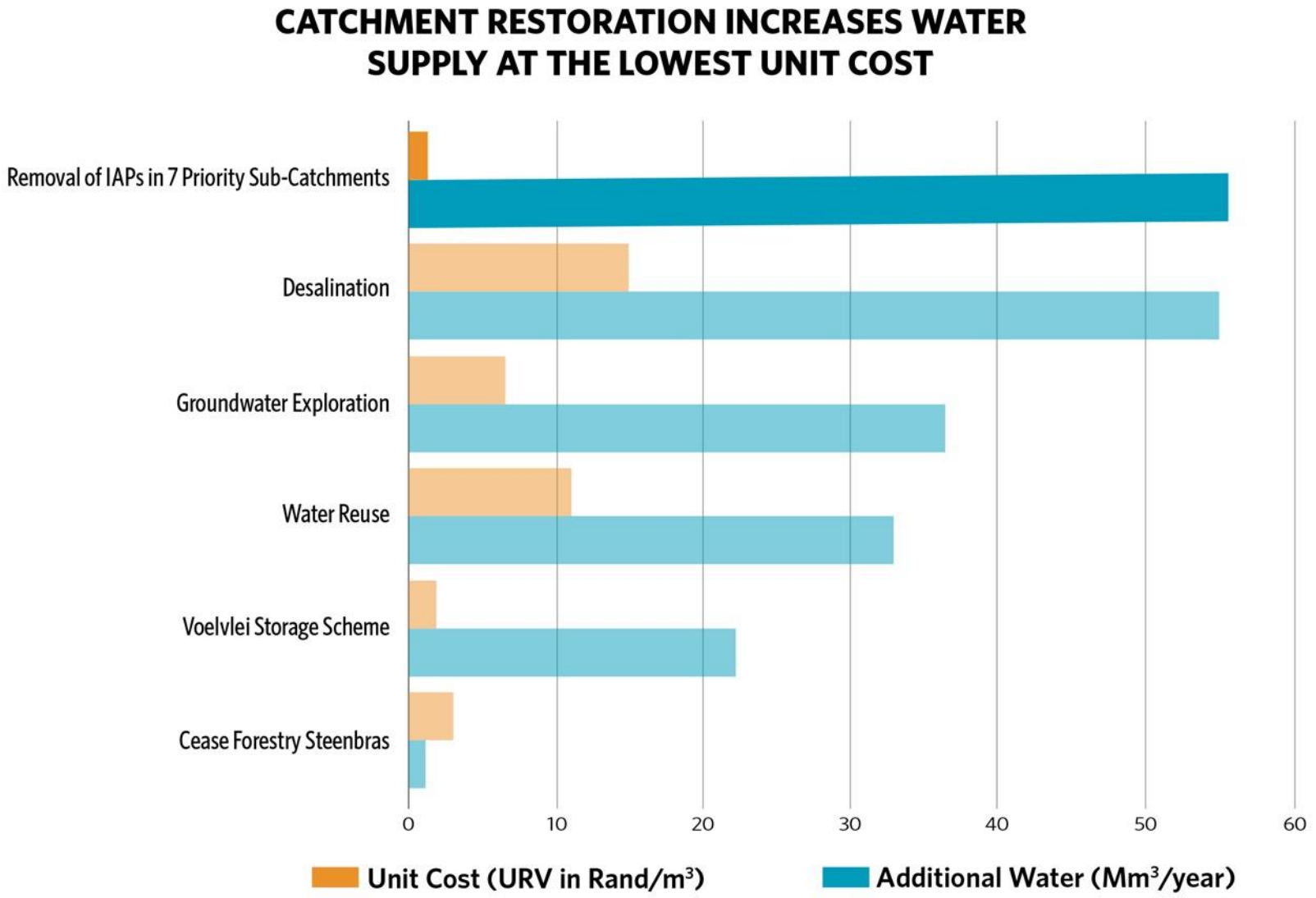
TIMELINE OF ANNUAL COSTS AND WATER YIELD BENEFITS




TIMELINE OF ANNUAL COSTS, WATER YIELD BENEFITS, AND JOBS CREATED
COST AND YIELD
120
100
80
60
40
20
0
450
400
350
300
250
200
150
100
50
0
JOBS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
YEAR
Water Yield (Mm³/year)
Clearing Program Costs (Million Rand, 2018 prices)
Jobs


CATCHMENT RESTORATION INCREASES WATER SUPPLY AT THE LOWEST UNIT COST
Removal of IAPs in 7 Priority Sub-Catchments
Desalination
Groundwater Exploration
Water Reuse
Voelvlei Storage Scheme
Cease Forestry Steenbras
0
10
20
30
40
50
60
Unit Cost (URV in Rand/m³)
Additional Water (Mm³/year)