



SUSTAINABLE, INCLUSIVE AND RESILIENT URBAN WATER SERVICES IN MOZAMBIQUE
INVESTMENT PROGRAM 2022 - 2032

The challenges of FINANCING CLIMATE RESILIENT SOURCE INFRASTRUCTURE

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Supply failures often reflect source constraints Sources are challenging because they are

Uncertain - hydrology, users, demand, regulatory concerns
and

Complex

diverse - no 'standard' approach
multiple options - multi-source & multi-purpose
multiple benefits - for diverse sectors & policy goals
resilience/assurance/sustainability
multi-jurisdiction - cross political boundaries

Long and lumpy

Planning & development more lengthy than reticulation services
Expensive, often - involve major capital works
- optimum size larger than immediate demand
OPEX vs CAPEX tradeoffs require difficult choices



Sterkfontein, SA's 3rd largest dam, paid for by system users, kept almost full for 35 years!
Benefits: strategic storage, pumped storage, inter-basin transfer, provides resilience!

Climate change aggravates challenges

- Greater uncertainty (rainfall, runoff, demand)
- Threat of extremes (drought, storms & floods)
- Demands more investment, for resilience
- Risks and responses poorly understood
- Public decision-making contested
- Risk aversion delays decisions
- Incremental approaches can increase risks
- Crisis responses often sub-optimal
- ***Climate issues distract from other challenges***



Southern African water source failures

Cape Town – will it come to this??? (1918)



Lesson not learnt: Cape Town water queue(2018)



Namibia, shares some of the largest rivers in SADC – but Windhoek must recycle sewage and faces regular shortages

Luanda, Angola's capital, has more than enough raw water available from the nearby Bengo and Kwanza rivers but is still struggling to translate source to adequate, reliable supply



Nampula province a good example

- Provincial capital source inadequate
- Nacala port also needs additional supply
- Monapo River also serves agro-industry
- Matanuska banana farm funded its own dam supply, now proposed to help support city

Multipurpose scheme would have been desirable – but no mechanism to coordinate & fund

Other cities face different problem-sets:

- Maputo, shared river challenges
- Beira region, needs coordinated action to mitigate drought & flood challenges & support livelihoods
- Pemba, groundwater at its limit, needs dam!

Mozambique: Site for new dam to increase Nampula water supply identified

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2019 National Water Resources Plan (*Plano Nacional de Recursos Hídricos*) provides an overview that:-

Outlines:

- The country's water resource endowment and challenges
- contributions that water could make to social and economic development
- Lists 25 dams that will be needed by 2040
 - Including source requirements for urban supplies, in multi-purpose context
- Proposes a multi-year implementation programme

Identifies

- Specific financial and institutional challenges

Different benefits require different financial arrangements

Water use	Benefits & beneficiaries	Appropriate finance arrangements
Basic SDG water supply (social)	Poor communities	Government grants, ODA grants
Economic supply	Commercial/economic users	User pays, concessional/long term loan
Supply assurance (drought)	All users, social & economic	Mix of social & economic channels
Disaster risk reduction (flood)	Society (public infrastructure)	Govt grants, ODA & impactors (e.g. hydro)
Environmental protection	Global public good	Local & global impactors? Green funds
Climate change adaptation	Affected society	Global polluters pay? Climate funds

Is blended finance appropriate ?

- Blended finance: is the objective simply more private money?
- Original definition:
- *“the strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries”.* (OECD 2018)
- Could assist Mozambique address resilience & climate change
 - Blend user payments, grants (govt & ODA) , (concessional) loans, climate/green funds
- OECD-DAC recommends that blended finance should be :-
 - “tailored for the local context”
 - but warns of “trade-off between customization and achieving scale”.
- Suggests that a programme approach, could be appropriate in Mozambique
 - Autonomous water resource development programme with dedicated development fund could manage project details and blend funding mix for each case

Response: a multi-purpose WR development programme?

- Multi-purpose approach to source development could assist
- Promote integrated resource development programme, with users
- Development fund and autonomous programme office
- Blended finance for resilience & sustainability
- Cities, FIPAG and water companies would be important partners





Reliable water sources underpin successful urban water supplies

Multi-purpose resource developments optimise benefits for all potential uses and users

A dedicated resource development fund using blended finance could provide right support for the right benefits to ensure effective source development

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