



Investing in water security
for climate resilient growth and development

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Innovative Approaches to Water and Climate Financing

Key messages:

- The cost of achieving water security for Africa will be tens of billions of dollars each year. Making development climate resilient could add another US\$10–15 billion annually.
- Investments in water security are likely to pay for themselves many times over in the long term.
- Investments for water security and climate resilient development can benefit from combining different funding sources
- Many water projects are eligible for climate adaptation funding, but some may be eligible for mitigation funding.
- Climate finance is important both for its own sake and to help leverage larger amounts of money from International Financing Institutions (IFIs) and elsewhere to enable projects to be carried out at the scale required.

Building water security and climate resilience into development activities is key to achieving long-term sustainability, but requires much higher levels of investment than at present. Innovative approaches to financing are needed to make sufficient funding available. Financing strategies will benefit from a blend of traditional water finance sources alongside specialist climate finance.

What will water security cost?

The cost of achieving water security for Africa is estimated to be tens of billions of dollars annually. In round figures, the range is US\$30–50 billion for capital investment, and US\$5–15 billion on annual budgets. Although most focus is on the initial capital costs of such investments, these figures indicate that annual recurrent costs, which last for the whole life cycle of the investment, are sizeable, and need to be provided for. 'Climate resilience' for this expenditure could add another US\$10–15 billion annually to the above costs (Table 1).

A separate study of the costs of climate resilience for the Millennium Development Goals (MDGs) in Africa found that: "...the external financing needed for 'climate resilient' MDGs is about 40% higher than the external financing for the MDGs alone,"¹

For the water and sanitation category, compared with the original MDGs' cost of US\$7.9 billion annually for 2010–20 (of which Official Development Assistance (ODA) of US\$5.8 billion was assumed

necessary) the extra external public funding needed to give these investments climate resilience is estimated to lie in the range US\$2.9–7.2 billion annually.

These estimates of investment and recurrent cost requirements are greatly in excess of what is now spent. Although the current level of spending on the full spectrum of water categories is difficult to estimate, most capital investment is funded by governments, ODA and non-OECD sources, while recurrent expenditure comes mainly from user charges and government budgets. Specialised climate finance currently remains a minor source.

Innovative approach to water finance

The circumstances for financing water for climate resilience are very varied, and thus financing strategies should include

¹ Fankhauser, S. and Schmidt-Traub, G. 2010. *From Adaptation to Climate-resilient Development: The Costs Climate-proofing the Millennium Development Goals in Africa*. p. 3. Policy paper. Centre for Climate Change Economics and Policy, Grantham Research Institute, London.

Table 1. Projected annual cost of adaptation to climate change in sub-Saharan Africa 2010–2050. Gross undiscounted costs under NCAR “wettest” scenario. US\$ billion in 2005 values.

Adaptation investment	Annual cost in US\$ billion
Water infrastructure (including urban drainage, water and sewage treatment)	0.6
Coastal zone protection and residual damage	3.9
Water supply and riverine flood protection	0.4
Raw water supply (including storage, desalination, etc.)	6.2
Irrigation efficiency measures	0.2
Irrigation expansion	0.6
Total of above items	11.9
<i>Total of all adaptation measures in all sectors</i>	<i>18.9</i>
<i>All adaptation measures as % of GDP</i>	<i>0.6%</i>

innovative approaches to make sufficient affordable funding available. The following options should be explored:

- Climate finance is a potential source of funds for establishing an enabling environment for water security and climate resilience, as well as support to upstream water infrastructure project preparation. Matching climate finance with traditional water finance from ODA and private sector is a good strategy.
- “Public goods” such as strategic water storage and flood risk management, need public initiative and financing.
- Other kinds of water services for which users could be expected to pay, such as household, agricultural and industrial water supply, should be able to attract a wider range of funding sources, including commercial loans and equity.
- Subsidies and taxes are needed to compensate for market failures and externalities. Examples of this are payments for environmental service schemes to reward farmers for careful husbandry of watersheds, or pollution charges to discourage release of untreated effluent in water bodies.
- Bridging a financing gap needs a systematic approach. Such an approach could be minimising costs and fixing realistic service standards, then maximising internal cash flow

from tariffs, taxes and transfers (the “3Ts”). The transfers being external transfers from ODA and philanthropic sources (including corporate social investment). The cash flow created can be used to leverage repayable funds in the shape of loans, bonds and private equity.

- Insurance policies should be used to deal with residual climate risks which it is not feasible or rational to mitigate.
- Some public goods can also be financed by philanthropic investment (such as from the Gates Foundation) and corporate social responsibility investors.

Recent global financial events have greatly affected the availability of funding sources suitable for water investment. This has led to less commercial bank loans, bond issue and private equity, and greater reliance on state budgets and on loans from IFIs and from non-OECD emerging markets (especially China). For large and complex schemes, such as multi-purpose water storage, a blend of all these various sources is likely to be required, including risk-sharing methods such as external guarantees. The EU-Africa Infrastructure Trust Fund (ITF) offers one such blending ‘platform’: for its first water project, Kampala Water, the ITF combines grants from its own technical assistance resources and the KfW, with loans from KfW, AFD,

EIB, plus equity from the NWSC and Ugandan Government².

Lending to African water infrastructure from the IFIs is rising in response to efforts to boost available resources and the creation of specialised facilities (e.g. the ACP Water Project Preparation Facility co-financed by the EU Water Facility and EIB). Despite these, planning and project preparation for the kind of activities entailed by climate resilience is a particular bottleneck, and the many specialised climate funds and facilities that continue to emerge in the evolving climate finance architecture can play a crucial role in facilitating the scale of lending volumes needed.

Climate funds and adaptation finance

Africa’s vulnerability to climate change suggests an urgent need to finance adaptation activities. Historically, relatively little financing for adaptation has been directed toward the region – examples of adaptation funds and projects are given in



² The German Kreditanstalt für Wiederaufbau, French Agence Française de Développement, European Investment Bank, and the National Water and Sewerage Corporation of Uganda.



Box 1. Recent data suggest that this trend may finally be changing in absolute terms: between 2004 and 2011 US\$328 million has been approved for 75 adaptation projects. US\$132 million has been disbursed to date, which represents about 30% of finance disbursed for adaptation globally (US\$439 million) through dedicated climate financing instruments³.

However, most specialised climate finance is currently destined for mitigation. Some types of investment in water security would be eligible for mitigation finance (e.g. energy efficiency projects in water treatment and distribution, or wastewater re-use), while other water projects would benefit indirectly from mitigation schemes (e.g. watershed, wetland and ecosystem conservation for 'carbon sink' purposes).

The Green Climate Fund (GCF)

The Green Climate Fund could be a major source of money for African water, though the sums involved are uncertain, and the situation is very fluid. African climate finance negotiators are playing an important role in influencing the structure and nature of the GCF, one strategic objective being an equitable allocation for adaptation. It is anticipated that the GCF will be in a position to start disbursing funds in about 2 years. Currently a number of funds exist which could potentially

support water adaptation projects, though in Africa the sums involved are currently not large (the average project has been below US\$5 million), and the transaction costs involved in gaining access should not be underestimated. So far, practically all the funds disbursed have gone to administrative set-up costs, the preparation of plans (e.g. NAPAs), capacity building, creation of implementation structures (e.g. NIEs), and the start up of innovative and pilot projects. Much of this has been focused on establishing direct access modalities for developing countries.

Until there is greater clarity over the future of the GCF, or even a separate Africa Green Fund, as proposed by the Africa Development Bank (AfDB), the obvious

Box 1

Examples of adaptation funds for African water related projects⁴.

Total deposited fund amounts have been derived from www.climatefundsupdate.org

Global Climate Change Alliance (US\$225 million deposited as of April 2012)

An EU initiative for Least Developed Countries, Small Island Development States and African countries affected by drought, desertification and flooding, e.g. Mozambique project for "Mainstreaming climate change into policies and strategies".

International Climate Initiative (US\$841 million deposited as of April 2012)

A German Government scheme, operational since 2008, funded from revenues of EU emissions trading. Although its main focus is mitigation, the scheme also assists development and implementation of adaptation strategies and ecosystem adaptation; with GIZ and KfW the implementing agencies. Examples of their projects are development of climate scenarios for the Congo Basin; and, more generally, preservation of natural carbon sinks, and conservation of forests and ecosystems.

Adaptation Fund (US\$258 million deposited as of April 2012)

Created under the Kyoto Protocol, and operational since 2009, this fund is financed from a 2% levy on clean development mechanism receipts plus direct support from developed country budgets. For direct access, potential recipients need to create National Implementing Entities (NIEs) or alternatively access the Fund through accredited Multilateral Implementing Entities (MIEs), which include international agencies such as UNDP, UNEP, World Food Programme, etc. A total of 17 projects (2 in Africa) have been approved for funding, to a value of approximately US\$104 million. Water management projects are the highest in terms of concept endorsement and proposal approval.

Least Developed Countries Fund (US\$379 million deposited as of April 2012)

This fund has been operational under the GEF since 2001 to develop NAPAs, and to implement projects arising from them, in Least Developed Countries. Nearly all the finance it has provided has been used for the preparation of NAPAs.

Special Climate Change Fund (US\$170 million deposited as of April 2012)

Created in 2001, and administered by GEF on behalf of the UNFCCC COP, this fund is mainly intended for adaptation projects in water and coastal zone management, and on coping with drought, through capacity building and technology transfer. Pledges continue to accumulate. There are currently 15 approved projects at a value of approximately US\$68 million.

³ Nakhooda, S., Caravani, A. Bird, N. and Schalatek, L. 2011. *Climate Finance in Sub-Saharan Africa*. ODI/Heinrich Böll Stiftung.

⁴ *Ibid*; Nakhooda, S., Caravani, A. Bird, N. and Schalatek, L. 2011. *Adaptation*. Climate Finance Fundamentals series. ODI/Heinrich Böll Stiftung; Petrie, B. and Eustace, J. 2011. *Climate Finance In Southern Africa – Challenges for the Coming Decade*. OneWorld Sustainable Investments for the Regional Climate Change Programme; www.unfccc.int.

niche for climate finance is to support early stages of the adaptation project cycle (such as plans, project preparation, innovation and piloting) as a step to leveraging larger volumes of money from elsewhere for implementing projects at the large scale required. In the meantime accreditation of NIEs to enable direct access for future climate funding is an important preparatory step to take.

Key references

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African Development Bank. 2011. *The Cost of Adaptation to Climate Change in Africa*.

EU Water Initiative Finance Working Group. 2010. *Strategic Financial Planning for Water Supply and Sanitation in Africa*. May 2010. Available at: www.euwi.net/wg/finance

Recommended further reading:

GWP/AMCOW. 2012. *Water Security and Climate Resilient Development: Strategic Framework*. GWP, Stockholm, Sweden.

GWP/AMCOW. 2012. *Water Security and Climate Resilient Development: Technical Background Document*. GWP, Stockholm, Sweden.

Summary of recommendations

- In drawing up sector plans and projects, ministries should minimise financing needs through physical and financial efficiency measures and by choosing standards and technologies that minimise costs.
- Before tapping into commercial finance, all possible efforts should be made to consolidate the cash flow needed to make projects viable, namely internally generated revenues from tariffs and charges, allocations from government budgets, and external ODA.
- Internally generated revenues (the 3Ts – tariffs, taxes and transfers) should be used to leverage commercial sources of finance, such as loans, bond issues and equity.
- African Water Ministers should continue to press for greater parity of treatment for funding adaptation, compared with mitigation, in the ongoing negotiations for the Green Climate Fund, which could be a major source of finance for this purpose.
- In the meantime, more mileage can be obtained by negotiations with conventional IFIs and the non-OECD sources of infrastructure finance such as China, India and others. In this context, some IFIs (e.g. EIB) include climate resilience as a key criterion for their 'mainstream' infrastructure lending.
- African Water Ministers should also press for the accreditation of regional or national implementing entities with a view to using these as vehicles for directly accessing current and evolving climate funds, including bilateral finance and the fast start climate finance currently being disbursed.
- The implications of investment programmes for recurrent spending should be carefully logged, and measures taken to secure funding in order to avoid future financial problems which could threaten their viability.
- For larger and complex projects, especially those involving several types of water user or different water functions, a mixture of financial sources is likely to be required, involving different stakeholders putting in funds according to their different mandates, risk preferences and types of money available.