

THE DREAMPIPE CHALLENGE: REDUCING WATER LOSSES IN LOW-INCOME COUNTRIES

The Dreampipe Challenge was a competition that aimed to increase funding of activities designed to reduce non-revenue water (NRW). NRW is the difference between the amount supplied by utilities and that billed to users. To increase sustainability, investments had to come from non-traditional sources, mainly commercial lenders, as opposed to governments, development banks and agencies.

Dreampipe, which ran from 2016 to 2018, focused on DFID's 28 priority countries in Africa and Asia, where NRW is particularly relevant due to water scarcity, rapid urbanisation and a growing population.

THE CHALLENGE

Every year, millions of cubic metres of treated water are either wasted or delivered for zero revenue. NRW is caused by both physical losses, such as burst and unrepaired pipes, and commercial losses, including incorrect or non billing and unauthorised water consumption.

Water utilities in low-income countries often do not have enough funds to deliver major NRW reduction activities, mainly because commercial funders, such as banks, associate this issue with utilities' mismanagement and perceive these investments as risky. NRW reduces water utilities' revenues, increases their costs and prevents them from supplying safe water to customers, with negative impacts on the health of the poor in particular.

Dreampipe was launched to encourage non-traditional stakeholders - water experts, utilities, lenders, financial experts and innovators - to

IDEAS TO IMPACT

Ideas to Impact is an action-research programme funded by UK Aid delivered by the Department for International Development (DFID).

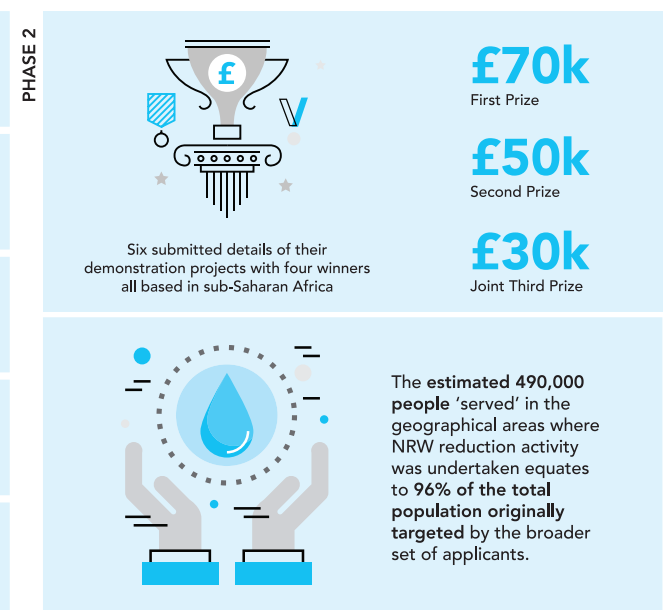
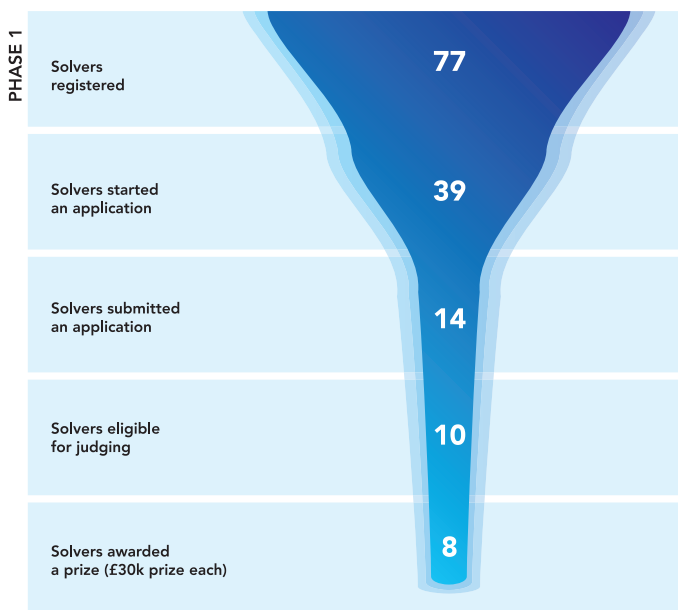
Ideas to Impact designs and runs innovation prizes to incentivise contestants to find solutions to challenges faced by the poor in low-income countries. These include access to clean energy, water and sanitation, transport and climate change adaptation, in Africa and South Asia.

The programme tests the value of prizes as a non-traditional mechanism to spur behaviour change and socioeconomic development. It has been delivered by an IMC Worldwide-led consortium and evaluated by Itad.

develop workable and replicable ideas to expand the finance available to water utilities for investments in NRW reduction.

To minimise investors' perceived risk of NRW reduction, the Dreampipe Challenge ran in two phases. During phase 1, applicants developed business plans. Winners of phase 1 progressed to phase 2 to implement a small demonstration project in a selected water utility. They also had to submit an updated business plan detailing how they planned to finance and contract for a major expansion project in the same utility.

Dreampipe: What happened



The expansion project had to involve a performance-based contract for NRW reduction with an entity that was independent from the water utility.

A phase 3 was also planned where phase 2 winners would develop a fully structured deal for the expansion projects but it was cancelled as the prize's goal had been achieved as far as was reasonably possible and so there was little to be gained in continuing as planned.

FINDINGS AT A GLANCE

Dreampipe had some success in stimulating water utilities to de-risk the prospect of commercial investments in NRW reduction and supported new partnerships, within and across organisations and between private and public sectors.

It catalysed the development and implementation of feasible and effective demonstration projects by utilities, consultancies and the private sector. At the end of phase 1, eight business plans were rewarded £30,000 each. In phase 2, six were implemented through a demonstration project and four won.

Although this was not a requirement in phase 2, the projects implemented by the four winners led to reduction of both physical and commercial NRW losses and were financed, albeit at a small scale, by non-traditional funding, from either commercial sources or utilities' own funds.

By the time Dreampipe closed, it had not uncovered a new, replicable way to finance larger-scale NRW reduction projects using non-conventional sources. However, it did stimulate participants to explore this issue, find different ways to solve it and share their ideas, which they may not have done otherwise. This resulted in unexpected solutions from unforeseen sources, which is one of the benefits of using innovation prizes to tackle a development problem.

The Dreampipe winners report that they have continued to reduce water losses. As of 2019, the first-place winner had started delivering their expansion project using commercial sources. The three utilities involved in the other winning projects were also continuing with NRW reduction activities, albeit on a small scale, using internal financing.

Summary of Ideas to Impact prize effects

<p>RAISE AWARENESS</p> <p>Bring awareness and knowledge of an issue to people's attention.</p> 	<p>PROMOTE BEST PRACTICE</p> <p>Identify best practice in a certain field and encourage adoption.</p> 	<p>FACILITATE PARTNERSHIPS AND NETWORKS</p> <p>Raise visibility and bring together people working towards a common goal.</p> 
<p>OPEN INNOVATION</p> <p>Enable new solvers to enter the field of endeavour.</p> 	<p>COMMUNITY ACTION</p> <p>Incentivise communities to take action towards a problem and solution.</p> 	<p>POINT SOLUTION</p> <p>Find a solution to a highly specified problem.</p> 
<p>MAXIMISE PARTICIPATION TOWARDS SPONSOR'S AIMS</p> <p>Benefits are provided by all effective participants, not only winners.</p> 	<p>MARKET STIMULATION</p> <p>Increase or start new economic activity for a particular good or service.</p> 	<p>ALTER THE POLICY ENVIRONMENT</p> <p>Influence policy change in reaction to the other prize effects.</p> 

Intended effect, limited evidence found

Unintended effect, limited evidence found

Unintended effect, no evidence found

THE WINNERS

Award (GBP)	Organisation and Project	Description
First prize 70,000	South Africa: WRP, working with Tshwane Metro (a city) and SAB, now part of the AB InBev group	With funding from South African Breweries (SAB), implemented their demonstration project in an area with 51,000 water connections. The intervention focused on night flow analysis, pressure optimisation, pump management, leak detection and substitution of local groundwater for more costly purchased bulk water. Leak repairs reduced the network water supply requirements by 15%, which is the equivalent of about 200,000 cubic metres per month. Most of this had previously been NRW.
Second prize 50,000	Zambia: Nkana Water and Sewerage Company (Nkana Water)	Implemented their demonstration project in Mukuba Natwange, an area with 1,100 water connections. Their approach consisted of the setup of a district metered zone equipped with bulk meters, a baseline survey and database clean-up, replacement of leaking distribution mains and community mobilisation. Customer metering was increased from 75% to 98%.
Third prize (joint) 30,000	Uganda: National Water and Sewerage Corporation (NWSC)	Implemented their demonstration project in Kyaliwajjala Branch, one of the 24 administrative units in the Kampala Water supply service area. The project, which was delivered in an area with 16,000 water connections, involved a comprehensive set of measures to tackle both physical and commercial losses. A sharp focus was on the laying of new water mains, proactive leak detection and repair, meter testing and repair, improved customer knowledge and detection of illegal connections.
Third prize (joint) 30,000	Nigeria: Weircapacity, working with the Kaduna State Water Corporation (KADSWAC)	Implemented their demonstration project in Kaduna, northern Nigeria, in an area with 450 water connections. The intervention involved a thorough mapping of the network, installation of bulk meters and a detailed customer survey.
Additional prize winners (in Phase 1)	Mozambique: Águas da Região de Maputo Ghana: Integrated Water Resources International (IWRI), working with Ghana Water Kenya: Upande Ltd, working with Nakuru Rural Water & Sanitation Co South Africa: Michael Goldblatt, working with Nelson Mandela Bay Metropolitan Municipality	

VALUE FOR MONEY

Dreampipe was run according to the original time and budget. It achieved its primary aim of stimulating effective and feasible solutions for de-risking investments in NRW reduction, although these did not use non-traditional financing that is obviously replicable or scalable.

However, this would only have become a requirement in phase 3. Similarly, the projects implemented in phase 2 did not explicitly prioritise women, girls and the poor, as this was only to become a requirement in phase 3.

Dreampipe stimulated an estimated £824,700 of investment by solvers in NRW reduction activities. Moreover, all the demonstration projects reduced commercial losses and, in some cases, they have led to further investment, despite phase 3 not going ahead.

There is limited evidence that Dreampipe raised awareness of NRW issues as much communication focused on prize launch and award. The cancellation of phase 3 partly explains this, as most awareness raising was planned for later in the prize's lifetime, when fully structured deals and expansion projects were expected to be underway.

TWO KEY LESSONS

1

An innovation prize alone cannot address the issue of financing NRW reduction in developing countries. The upfront investment required from participants and the short timeframe for mobilisation and implementation meant that barriers to entry were high. Investing in a feasibility study across a number of countries and then focusing on one or a few to run Dreampipe, might have been preferable.

Starting Dreampipe with a competitive process to secure a start-up grant might have also benefited the competition's participants. Finally, support to solvers can increase the chances of a prize's success. However, if phase 3 was not cancelled, the winners of phase 2 would have been unlikely to identify financiers and establish fully structured deals without significant assistance.

2

Dreampipe has increased our understanding of the challenge of financing NRW and the appropriateness of prizes to solve it. It confirmed that this issue arises due not only to lack of funds but also to non-financial barriers that remain even once financing is available to utilities. The design of Dreampipe was informed by the views of key experts in the field, who believed that a prize would open the doors to non-traditional funding.

The prize team were aware from the beginning that achieving the original aims would be hard but understanding the nature and extent of these challenges without running Dreampipe would have been impossible.

'WE COULDN'T HAVE RUN THIS INITIATIVE WITHOUT DREAMPIPE, ALTHOUGH WE WOULD HAVE LOVED TO. [...] NOW EVERYONE HAS CONFIDENCE IN WHAT CAN BE DONE AND MIGHT DECIDE TO INVEST [IN NRW REDUCTION].'

- Nyananso Ekanem, Managing Director of third place winner, Nigerian management consultancy Weircapacity

ideas to impact.



Find the full evaluation report at
www.ideastoimpact.net

Dreampipe was delivered by
IMC Worldwide.



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