

Through the Key Initiatives series, UNHCR's Division of Programme Support and Management (DPSM) shares regular updates on interesting projects that produce key tools, practical guidance and new approaches aimed at moving UNHCR's operations forward.

The Cost of Water Project

Tulya, 70, collects water from a well in Lukwangulo, Katanga Province, Democratic Republic of Congo / UNHCR / B. Sokol / November 2014

The Cost of Water Project supports the effective planning and sustainable management of water supply systems in refugee camps and settlements. Launched in 2014 by the Water, Sanitation and Hygiene (WASH) Unit in DPSM's Public Health Section in partnership with IRC¹, the project measures the overall costs of providing effective water systems in a variety of refugee hosting contexts to create a flexible decision-making tool specific to refugee situations. When completed, the tool will improve data collection, planning and budgeting for water projects, making information easily available and comparable for UNHCR staff, partners and donors, and lead to more efficient water service delivery to refugees and other displaced people across UNHCR operations.



UNHCR / P. Behan / December 2012



UNHCR / E. Hockstein / December 2008

The Context

Despite the average duration of a protracted refugee situation being over 20 years, the long-term cost of operating and maintaining water infrastructure is rarely considered at the onset of a crisis. Temporary emergency water systems are frequently retrofitted or adapted over time to function as long-term systems, often resulting in system unreliability and costly repairs. The unpredictability of post-emergency funding may render repairs and replacements difficult, exposing refugees to disease outbreaks and other risks associated with limited access to clean water.

Planning for and installing durable, efficient and cost-effective water systems at the onset of a crisis requires accurate information, not only of the initial infrastructure cost, but also of the cost of longer-term service delivery. The provision of sustainable water services requires reliable and consistent funding to deliver timely repairs, ensure infrastructure can be renewed and replaced and facilitate the adaptation of service delivery in response to changes in requirements.



UNHCR allocates some USD 30 million per year to run and maintain water supply systems.

UNHCR WASH standards specify that every refugee should have access to a minimum of:

- 15 litres of potable water per day in emergency situations
- 20 litres per person per day in protracted situations

The Cost of Water Project

The Cost of Water Project aims to improve budgeting for the provision of water in camps, particularly in post-emergency situations. By defining costs and service benchmarks, the project allows UNHCR to plan strategically the operation of water systems in the long-term. The resulting tool guides the allocation of resources to appropriate water systems while taking into account specific contexts, enabling UNHCR to sustain more cost-efficient and better quality water services for refugees and other displaced people.

To help understand the relationship between the costs and investments needed to operate and maintain water systems in refugee settlements and camps the project is piloting the life cycle cost approach (LCCA). The LCCA provides a standardised framework for measuring not only the service that can be expected from the initial investment, but also the level of service provided by the water system throughout its whole life cycle. This approach enhances the ability of UNHCR to make informed and relevant choices between different types, levels and models of WASH services while budgeting for all of the elements required for a more sustainable service.



In Practice

In practice, by observing the installation and maintenance costs in relation to the service levels provided by different types of water systems, the Cost of Water Project will inform decisions between different types of water systems in different contexts and guide the overall planned level of investment needed to ensure adequate water services for refugees and other displaced people. During a pilot of the project in Bambasi camp in Ethiopia, for example, UNHCR and IRC found that, because no capital investment was made during the emergency phase, \$40 per capita per year was spent by UNHCR to provide an adequate level of water service, this was compared with only \$8 per capita per year for a more permanent solution in the form of a piped water scheme with pressurised water. They estimated that the investment in the piped scheme is returned in 44 months due to the savings in operational expenses. Over time, this data will be centralised in the Cost of Water Tool, meaning that, based on inputs such as population size and environmental context, the Tool will generate accurate costings of different types of water systems in different refugee hosting contexts.

PHASE 1 – Creating First Benchmarks

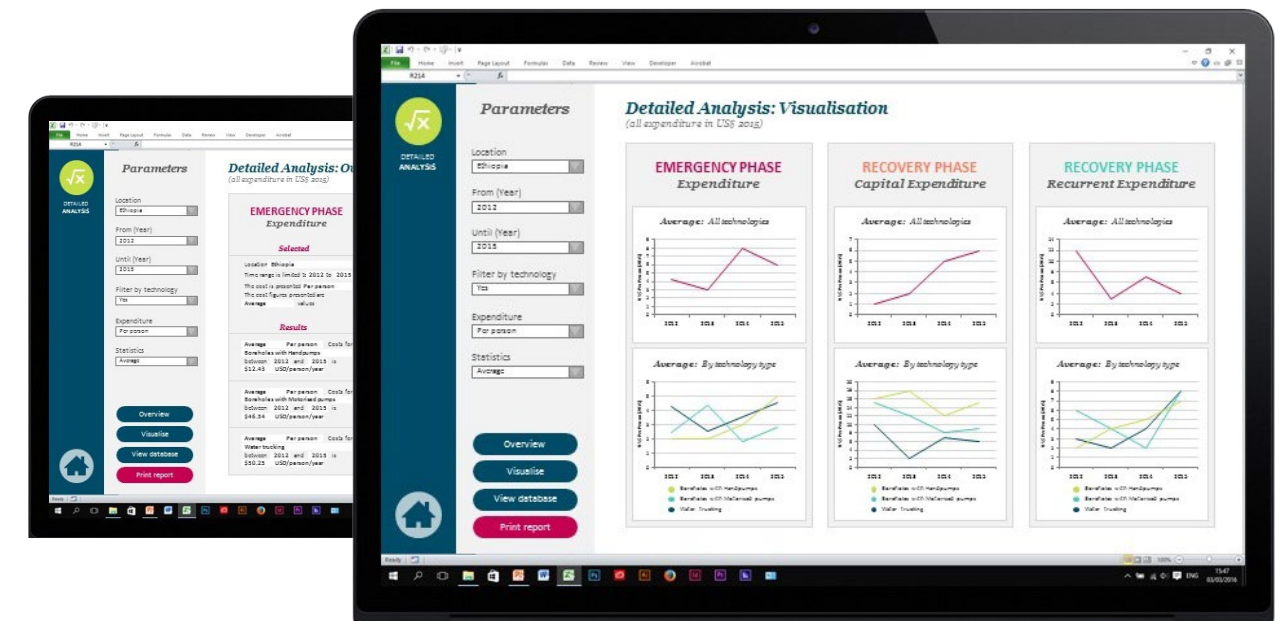
The Cost of Water Project was launched in 2014 in the Bambasi camp in Ethiopia and the longer-term refugee settlement of Kounoungou in Chad. In both settings, WASH and programme officers collected and analyzed data relating to the set-up of water delivery systems, their operation, maintenance and expenditures, including administrative and staff costs. Based upon these pilots, UNHCR and IRC adapted the LCCA methodology to refugee camps and settlements, laying the foundations for calculating comprehensive costs of water services in refugee settings.

PHASE 2 – Analysis of UNHCR water cost data

In early 2015, UNHCR and IRC collected all available data on PPGs, population figures, water-related expenditures and volumetric water data from 2011 to 2014. This data was analyzed to obtain a more precise and detailed breakdown of water costs. The analysis served to create a wider set of benchmarks for the cost of water in specific refugee settings by region, operation and the type of service delivered.

Phase 3 – Development of the virtual tool

Currently in the final stages of the project, DPSM and IRC are developing a virtual tool that provides cost of water benchmarks to guide the choice of the most cost-effective and sustainable technologies in different settings based upon the continuous input of data from field sites. It enables UNHCR and partners to strengthen the planning of capital costs per refugee in permanent water system development, and annual operation and maintenance costs per refugee and per liter in water system operation. Accessible by computer, smart phone and tablet, the tool takes into account the whole life cycle of given water infrastructures, from construction, finance and installation to maintenance, repairs and eventual hand over, assuring the suitability of the system.



More information

To access the *UNHCR Global Strategy for Public Health 2014-2018*, please visit <http://www.unhcr.org/530f12d26.pdf>.

Dr Christelle Prezon *et al.* (June 2015) 'Costing water services in refugee camps' UNHCR and IRC.

Dr Christelle Prezon (September 2014) 'Costing water services in a refugee context: methodological report' UNHCR and IRC.

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