

AltWater: Assessing the contribution of alternative water supply systems to improving water security and resilience in developing countries

Janez Sušnik^{1,*}, Françoise Bichai¹, Assela Pathirana², Michael Hammond³, Klaas Schwartz¹, Carlos Cossa⁴, Jose Ferrete⁴, Wahyono Hadi⁵, Adhi Yuniarto⁵, Warma Dewanti⁵

¹UNESCO-IHE Institute for Water Education, Integrated Water Systems and Governance Department, Delft, The Netherlands

² UNESCO-IHE Institute for Water Education, Water Science and Engineering Department, Delft, The Netherlands

³UNESCO-IHE Institute for Water Education, Environmental Engineering and Water Technology Department, Delft, The Netherlands

⁴Aguas da Regiao de Maputo, Maputo, Mozambique

⁵School of Environmental Engineering, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia

*Corresponding author. Email: j.susnik@unesco-ihe.org

Abstract

Global urban population could reach 7 billion by 2100. If 7 billion are to have safe drinking water that is sustainably and efficiently sourced, alternative systems must be considered, and efficiency gains must also be considered. This is a challenge related to SDG6.

AltWater involves 4 partner cities from developing countries which have unique water supply challenges. In Beira over 250,000 people (out of 436,000) do not have access to drinking water, and supply may only be available for 11 hours a day. Surabaya relies on one river for freshwater, with increasing pressures on this source.

AltWater seeks to answer the following: To what extent can alternative water systems improve the security and resilience of urban water supply whilst reducing the pressure on traditional sources through diversification?

We develop and implement an assessment methodology to define long-term plans for and quantify alternative water systems in the 4 cities. The research contributes to the wider question of how self-reliant, resilient and sustainable cities can become regarding water supply by relieving pressure on traditional sources. AltWater addresses several related international knowledge gaps identified by the IWA.

AltWater will train trainers locally, enhancing capacity and knowledge that can be self-sustaining. We offer impact-focussed solutions, offering the tools and knowledge for partners to address the issues and come up with plausible solutions after the life of the project.

Key Message

Urbanisation means water must be more sustainably sourced. AltWater works with 4 developing cities to quantify the contribution of alternative water systems to water supply. Such systems can boost water security and resilience via diversification.