

EVENT DETAILS

Non-Revenue Water

22 March 2023

Speakers

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Maria Tran - Facilitator

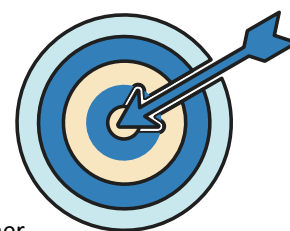
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Event recording and resources available [here](#).

Accelerating change on one of the water sector’s greatest challenges – Non-Revenue Water, was the focus of this World Water Day Pacific WASH Webinar for 2023.

Webinar Overview

Reducing water losses and improving the efficiency of water supply is a top priority for water utilities around the world. A well-performing water utility might lose around 20% of their water to non-revenue streams. In the Pacific this figure can be up to 60%, sometimes even higher, representing a significant loss of revenue and resourcing for water utilities.



To mark World Water Day – 22 March 2023, the ADB Pacific WASH Technical Assistance project, in association with the Pacific Water and Wastewater Association (PWWA), hosted an online discussion on the fundamentals and challenges of Non-Revenue Water. The webinar highlighted the work Samoa Water Authority and Tonga Water Board are doing to address Non-Revenue Water, along with an exploration of the fundamentals of NRW and how to do a water balance. The event was attended by approximately 45 participants from 11 Pacific countries, including representatives from 10 Pacific water utilities.

The webinar explored several key topics:

- The fundamentals of Non-Revenue Water and how to do a water balance
- The challenges and issues that arise when managing a water supply
- Where we need to focus to address Non-Revenue Water

The fundamentals of Non-Revenue Water

Non-Revenue water has been a critical challenge in the water industry for hundreds, if not thousands, of years. The global losses to utilities are estimated in the billions in both liters and monetary value, and solutions to tackle the problem are difficult to implement. Often, utilities find themselves in a vicious NRW circle—while operational budgets are reduced in areas like network maintenance, expenditure focuses on meeting rising customer demands, all the while revenue decreases.

Management of NRW requires a cohesive, business-wide, strategy to ensure everyone across the business is working together. It also requires strong community engagement and communication with customers to address challenges such as leaks (real/physical losses) and illegal connections or metering inaccuracies (apparent/commercial losses). Utilities can identify, measure and analyze water losses in their water distribution systems up to the point of customer metering using methodologies such as the International Water Association Water Balance to assist identify where losses are occurring, and which should be prioritized in management plans.



Staff training to build capacity in NRW (Samoa Water Authority)

Case Study: Samoa

Serving 85% of the Samoa population with water, the Samoa Water Authority (SWA) recognizes NRW plays a key part in achieving its vision of *sustainable water and wastewater utility provider founded on excellence*. Continuous increases in water demand, climate change impacts, investment priorities, and staff capacity and turnover, all contribute to the challenges of addressing NRW for SWA. Working with donors and partners, SWA has embarked on a NRW journey since 2014 tackling issues from supply through to customer management of leaks and illegal connections. Under the CEPSCO 1 Project, supported by the Japan International Cooperation Agency, SWA established a leak detection method that suited Samoa, and undertook significant capital works support by a Water Balance Analysis. These interventions together led to significant reduction in NRW from between 60%–80%, down to 34%–51% across the service areas. The second phase of this project is extending this work to address commercial losses, training and capacity building, and continued leakage repairs and pipeline works.



Report Leaks social media campaign (SWA)

Recognizing the need to connect with customers, SWA has also committed to an extensive engagement and information campaign promoting the reporting of leaks, bill payment and demand management.

The IWA Water Balance

In hydrology, a water balance describes the flow of water in and out of a system. For commercial utilities this accounts for all the water ‘produced’ in a system (System Input Volume) and all the water which leaves the system as either Revenue or Non-Revenue Water.

The [International Water Association Water Balance Methodology](#) is an internationally recognized best-practice model to identify, measure and analyse water losses in a water distribution system up to the point of customer metering. Once a water balance is established, managers can use this information to inform strategies and planning to address key issues contributing to Non-Revenue Water losses.

Case Study: Tonga

Tonga Water Board supplies approximately 65%–70% of the country’s population with water via approximately 12,039 water connections. The main water supply source is groundwater, and water is supplied via a piped network of about 257km. To tackle NRW, the utility recognized that the challenge was everyone’s responsibility and established a NRW Management Team to develop a strategy and ensure it was feasible and embedded across the business. By taking steps to reduce and manage NRW—including improving their customer database, repairing broken water meters and visible leaks, asset management, recovering illegal connections, bill management, etc., the utility saw an increase in authorized consumption from 42% in 2014/15 to 70% in 2020/21 and a reduction in NRW water losses from 58% in 2014/15 to 30% in 2020/21.

Learning Snapshots

- *Non-Revenue Water is a complex water management challenge that requires business-wide long-term commitment and contributions to tackle.*
- *A Water Balance is a critical exercise and tool to identify where in a commercial system real and commercial losses are occurring. This can then be used to develop a long-term strategy and management plan for the business.*
- *Engaging customers is a central piece to the NRW puzzle – managing bill payments, leak detections and illegal connection management, all require engagement and cooperation with community.*

Upcoming Events



- 17 May 2023 – Groundwater Assessments to Support Planning and Resilience. [Register here.](#)
- 5 July 2023 – The Role of Utilities in Supporting Rural WASH. [Register here.](#)

To register your interest for future 2023 Webinars, please contact: lfernando@adb.org. Past ADB Pacific WASH webinars can be accessed here: [Pacific WASH Webinars](#)

ADB continues to support government and water service providers in the region to build resilience, capacity and knowledge to manage threats in our changing world.