Reducing Water Losses in Pacific Island Water Utilities

Water Demand Management (WDM) Programme for Pacific Island Countries

**Why?**
Globally, many utilities have problems meeting continuously increasing demand for water partly because large amounts of water are lost through leakage – Pacific utilities are no different.

The key towards sustainability is the sound management of water already available.

This is a demand management approach - optimising use of existing water resources and infrastructure.

**WDM Programme**
Initial focus is on six countries: Cook Islands, Federated States of Micronesia, Marshall Islands, Niue, Solomon Islands and Vanuatu.

Metering and logging of system flow and pressure (found to be lacking in the Pacific) is vital and allows creation of a water balance - a key tool to improve system efficiency and reduce water loss.

Demand management offers significant benefits to both customers and utilities, including energy and financial savings, higher level service, improved water quality and a deferred need for substantial investment.

**OVERARCHING GOAL**
Sustainable access to safe drinking water for communities in Pacific Island countries

**OBJECTIVE**
Improved capacity for water demand management in Pacific urban water utilities

**OUTPUT**
- Water demand management teams established, trained and functioning with increased capacity within each participating utility
- System loss management plans for individual utilities developed and implemented
- Experience of successful water demand management initiatives promoted and shared between utilities

**Key Utility Benefit: Reduction in Operating Costs**

**Niue**
A Niue System Loss Management Plan has been developed.

Bulk flow meters are installed on all reservoir outlets and production bores. System is sectorised into District Metered Areas.

**Vanuatu: Luganville**
A water balance and draft System Loss Management Plan have been developed. Least-cost options for reducing water losses were identified, which will be implemented as next steps:

- Installation of Pressure Reduction Valves (PRVs) to reduce system pressure, leakage, mains and service bursts.
- Installation of bulk meters to allow adequate system monitoring (and creation of District Metered Areas).

Reducing average system pressure will result in an estimated financial saving from 17% to 35% annually through reducing electricity consumption for pumping.

Potential Annual Financial Savings: NZ$19,737

**Vanuatu: Luganville**

**Potential Savings from Active Leakage Control**
- Annual electricity cost per ML supplied: NZ$ 379.56
- Annual Water Supply: 274 ML
- Potential Savings from Active Leakage Control*: 52 ML
- Potential Annual Financial Savings: NZ$19,737

*Based on reducing current annual real losses by 50%.

For further information:
Chelsea Giles-Hansen
Water Demand Management Programme Officer
chelsea@sopac.org
+679 338 1377 ext 273

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chelsea@sopac.org
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