



GEF PACIFIC IWRM PROJECT RESULTS NOTE

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RSC 4 2012

Integrated Sustainable Wastewater Management (Ecosan) for Tuvalu



*Construction workshop for island
contractors to support community
replication*

Top 3 Project Results

1. Successfully engaging the Tuvaluan community, government and politicians in the uptake of compost toilets, to the point where it is now seen nationally as the preferred sanitation option
2. Successfully designing and replicating across four countries a sanitation solution appropriate for SIDS, using local expertise to adapt existing international technologies
3. Mainstreaming IWRM into Tuvalu through the development of a national policy and a national indicator framework

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1. PROJECT OBJECTIVE

To demonstrate that improved sanitation technology and practices can provide protection of primary and secondary water resources, marine biodiversity, livelihood, and food security, and practically demonstrate the links between public health and the conservation of natural assets

2. RESULTS: PROCESS

From a baseline of little interest in composting toilets to a success story other countries are looking to emulate, the Tuvalu GEF Pacific IWRM project has demonstrated the value of engaging stakeholders. This core IWRM and project approach has facilitated a national-level change in attitudes to sanitation and water management, development of a national water and sanitation policy framework, increased water security and is dramatically increasing access to improved sanitation in Tuvalu.

Initially, the project struggled to find families to trial the first ten compost toilets. A communication and engagement campaign involving innovative strategies including a toilet roadshow, a competition to name the Tuvaluan designed toilet (the 'Falevatie'), focus groups and targeted media campaigns and numerous school and community sessions were built around a sound technical solution. Less than three years later over 25% of Funafuti's households (275 families) are seeking to install compost toilets.

The project focus on stakeholder engagement has been reflected in strong support for a national indicator framework and a national water and sanitation policy. The inclusion of gender targets in senior national water governance is a reflection of the empowering nature of the project and a positive response to pilot gender awareness in water workshops.

The project is also assisting with drought management, particularly relevant following the 2011 drought and national State of Emergency, through the development of a national water storage model, providing critical water security management and planning information.



Figures 1 and 2

The Compost Toilet Roadshow showcased the Falevatie (compost toilet) by taking the toilet to the communities. At each stop games and activities were set up and people were invited onboard to inspect the toilet and were given the opportunity to discuss the toilets and concerns with the project staff

2(a) INDICATOR#1: LESSONS LEARNED INCORPORATED INTO OTHER PROJECT(S) AND/OR REGULATIONS

Target: Replication demonstrated by end of project

Despite ecosanitation offering many benefits to low-lying Pacific islands challenged by a lack of water resources and minimal capacity for sustainable wastewater treatment and disposal, previous attempts to introduce the technology had seen many failures and no replication. In the space of three years, the Tuvalu GEF Pacific IWRM project has changed this landscape, with the Tuvaluan compost toilet being adopted and adapted in Nauru, RMI and Tonga, with Nauru having expanded the application from households to schools.

The lessons identified across stakeholder engagement, capacity building and communication have helped Nauru and RMI rapidly develop positive stakeholder interest and the knowledge continues to be spread through South-South twinning exchanges.

Within Tuvalu, development partners are strongly supporting the expansion of ecosanitation both within Funafuti and to the Outer islands, with commitments already to treble the number of toilets and national and development partner plans to provide most households in the Outer Islands with access to a compost toilet.



Figure 3 Construction workshop, convened for island construction workers to understand the principals of twin chambers and construct the toilets themselves

2(b) INDICATOR#2: NATIONAL IWRM INDICATOR FRAMEWORK EMBEDDED IN FORMAL NATIONAL REPORTING

Target: Framework endorsed by Minister

In a country prone to drought and with significant water and sanitation management related environmental and health challenges, the development of national indicators was supported from community to the Minister. The absence of a monitoring and reporting mechanism meant that government, the community and other stakeholders had little knowledge of the status of water security until the next drought and no means of assessing the value of water management decisions.

The development of national IWRM indicators in early 2012 provided many stakeholders with their first opportunity to actively engage in national water management decisions. The process defined some of the management challenges for the first time (for example, the variance in livestock water use). The value of the framework was recognized immediately by the request for guidance on replicating the process in the agriculture and fisheries sectors.



Figure 4 IWRM Demonstrating water quality testing

2(c) INDICATOR#3: PROPORTION OF COMMUNITY ENGAGED IN WATER RELATED ISSUES

Target: 30% increases in attendance at awareness raising activities
30% increase in active engagement activities

Prior to the project, the centrally managed water and sanitation sectors provided little scope for community engagement. From such a low baseline, percentage increase in engagement is almost meaningless. More importantly, from a position of virtually no community engagement in water related

issues, the project has engaged more than 25% of Funafuti at the highest level of personal engagement, committing the household to a changed lifestyle through ecosanitation.



By continually focusing on communication and engagement the project has managed to actively engage a large proportion of Funafuti, through workshops, community and school events and Kaupule meetings. Key initiatives included the development of a national name for the compost toilet, which provided a sense of national ownership and the subsequent roadshow, engaging families through entertainment and providing access to information and an opportunity to talk through concerns.

Community engagement in governance has increased through community leaders' membership on the project committee and the national APEX body.

Figure 5 Children engaged in games associated with the Falevatie Roadshow

3. RESULTS: STRESS REDUCTION

Reducing water and sanitation management impacts on Tuvalu's groundwater and coastal resources has been identified as critical to the long-term sustainability of the country from a food and water security and biodiversity perspective. One of the most severe challenges to the groundwater and coastal water quality and to water security is the use of septic tanks. Many septic tanks have failed; however due to the sandy soils, even functioning tanks still do little to reduce the pollution load to the environment.

Stress reductions are being achieved in the project through the installation of composting toilets, which address both the household demand for water, increasing water security, and the discharge of toilet wastewater into groundwater and ultimately into coastal waters.



Figure 6 Funafuti demonstrating the lack of surface water resources and the close proximity of the coast and lagoon to all sanitation systems

3(b) INDICATOR#2: REDUCTION IN SEWAGE POLLUTION ACROSS FUNAFUTI

Target: 5% reduction in sewage pollution over Funafuti

Studies of Funafuti groundwater indicate that the groundwater and nearshore coastal waters and sediments are heavily polluted from septic tanks, which are also a significant contributor to the eutrophication of Fongafale Lagoon and associated macroalgae blooms that clog the lagoon. This is further exacerbated by the open defecation practices in the lagoon, which increase during drought periods. Significant loss near shore habitat and reductions in fish numbers are forcing fishermen further and further into the lagoon for similar catches.

The installation of the 40 compost toilets has removed the sewage pollution into groundwater and subsequently into coastal waters from these 40 houses. This represents about a 5% reduction in pollution into the groundwater. The co-funding commitments to replicate ecosanitation to a further 60 houses in partnership with this project will deliver a further 8% reduction in sewage pollution, putting the project on track to exceed the target. Additionally, current government and development partner planning and community commitment suggest that much larger targets may be achievable.



Figure 7 Composting toilet installed by the project. Prior to the installation of these toilets, waste seeped into groundwater and discharged into the lagoon

3(a) INDICATOR#1: REDUCTION IN USE OF FRESHWATER FOR SANITATION PURPOSES DUE TO COMPOSTING TOILET INSTALLATION

Target: 30% reduction in household water use



Figure 8 Waterless ecosanitation toilet installed by the project

Toilets flushing into septic tanks typically use six to ten litres per flush, and represent more than 30% of household water use. In Tuvalu, where over 70% of water storages are household rainwater tanks and there is only limited commercial and agricultural water use, toilet flushing represents about 30% of national water use. During the 2011 drought resulting in a State of Emergency, flushing toilets were a significant contributor to drawing down water reserves, and ultimately the need for flushing water meant that families were often left with a choice of sanitation or drinking and cooking water.

The Tuvalu GEF Pacific IWRM project has installed 40 compost toilets, reducing household water use by over 30% in these houses (representing about 5% of Funafuti's population). The co-funded installation of toilets in partnership with this project will see these reductions in about 15% of Funafuti houses. Ultimately, the changes in building regulations being developed and implemented under this project, together with development partner commitments will see similar reductions over much of Funafuti and the Tuvalu Outer Islands.

4. RESULTS: WATER RESOURCE AND ENVIRONMENTAL STATUS

Whilst MDG statistics suggest that Funafuti has high access rates to improved sanitation and drinking water, recently the United Nations Special Rapporteur on the right to safe drinking water and sanitation declared that this did not reflect the true situation in Tuvalu. Most sanitation systems have failed and open defecation is still practiced, increasingly so during drought periods.

The provision of sustainable sanitation through the Tuvalu GEF Pacific IWRM is directly increasing the access to improved sanitation for 40 households, with co-funded and catalytic outcomes delivering further increases. These toilets will also alleviate some of the challenges in providing access to improved drinking water sources, significantly reducing household water use, increasing security and water availability during drought periods.

4(a) INDICATOR#1: POPULATION WITH ACCESS TO IMPROVED SANITATION

Target: 5% of Funafuti residents with access to improved sanitation (250 people)

Discussion on the high numbers of people in Funafuti still using open defecation and the number of people with access to the compost toilets (and as a proportion of Funafuti)



Figure 9 Toilets have been installed to service isolated communities previously without improved sanitation systems

The United Nations Special Rapporteur's acknowledgement of Tuvalu's serious challenge in meeting human rights in access to sanitation and drinking water highlighted the importance of this issue nationally. Nationally, 4% of Tuvaluans still practice open defecation, and during drought periods, this increases significantly.

The provision of sustainable sanitation through the Tuvalu GEF Pacific IWRM project to 40 households is directly increasing the access to improved sanitation for about 280 people, over 5% of Funafuti's population.

Whilst the project has already exceeded the target for improving access to sanitation, the co-funded and catalytic outcomes will see a further 60 households with access to sanitation during the project period, a further 8% of Funafuti's population, well exceeding the project target.