

IWRM in Cook Islands : an achievement story

By Jaime Short



Protecting Lagoon Water Quality through Improved On-site Sanitation Systems



Above: The project site at Muri, showing how close homes are to the lagoon and the potential of contaminating water.

The Cook Islands Integrated Water Resources Management Project began in 2011 and was successfully established within the community of Avana and Muri, Rarotonga. Direct contact and involvement with the community both in awareness and physical work activities resulted in a positive community response and acceptance of the project and has aided in the establishment of further similar work in the project area.

Concern about the health of the lagoon began following an eye irritant syndrome outbreak from a substance believed to have blown in from the lagoon and frequent algal blooms. Subsequent to this human health instance, the Ministry of Marine Resources began conducting regular water quality monitoring which found comparably high levels of bacteria and nutrients in lagoon water. These high levels were mostly attributed to inadequate onsite sanitation systems and animal waste that leach contaminants through the porous ground into the lagoon.

A large part of the IWRM work programme has been the installation of trial onsite sanitation systems that replaced the older systems already in the villages of Muri and Avana. This area was chosen as there had been already considerable attention drawn to the area for improving lagoon water quality especially since Muri is heavily populated with tourist accommodation and is a main tourist hub of the Cook Islands.

Prior to IWRM, the Muri Environment Care (MEC) Group, a local environmental NGO, had been spearheading environmental awareness similar to the IWRM Project. The Muri village traditional mayor, the local MP and a senior tribal leader are members of the MEC. A close relationship with MEC was established early on and therefore through early awareness activities and involvement of key local leaders, reaching and connecting with the local community about this issue was well-supported and led to the eager participation of households.

The purpose of this work was to trial different combinations of onsite treatment systems and Land Applications Systems (LAS) for treated wastewater disposal, to assess which combinations work best in the particular setting of the Cook Islands. The new systems were installed at nine homes, seven in what is known as the 'Lagoon Protection Zone' which requires higher levels of treatment due to the more porous, sandy soil type and three in inland areas that do not require such a high degree of treatment. One of the seven systems installed in the Lagoon Protection Zone was installed at a community building. The aim of this was to trial how well the model installed would work with occasional heavy loadings.

The systems have been operating successfully during the time following their installation and this has paved the way for a new separate project for a larger scale upgrade of onsite domestic sanitation systems for the rest of the project area. This project has seen the almost complete replacement of 200+ outdated sanitation systems in the project area.

In turn, the success of this pilot project has resulted in a proposal, and funding commitment from development partners, for upgrade of over 1,000 onsite sanitation systems across the islands of Rarotonga and Aitutaki, over a 4-5 year period. It is likely that a similar approach will be utilised across the remainder of the Cook Islands. The original idea for, and the subsequent success of the IWRM trial project has therefore paved the way for a major investment across the Cook Islands which will lead to substantial benefits for the health of the people and the ecosystems of the islands, and therefore to the ongoing economic development and security of the country.



Above: Installation of package secondary treatment systems at a home in Muri, Rarotonga