

**Tuvalu International Waters Project**  
**COMMUNICATIONS STRATEGY**  
June 2005

**Promoting the Adoption Safe Toilet Systems in Funafuti**

**1. Introduction**

There is an urgent need to improve the management of toilet waste in Funafuti the capital of Tuvalu. The current water-based systems for managing toilet waste, such as water-sealed latrines and septic tanks, are now threatening the sensitive groundwater system of this fragile atoll.

During high tides and heavy rains it is likely that contaminated effluent from soakage pits is overflowing into low-lying residential areas, putting people at risk from illnesses such as hepatitis, typhoid, gastroenteritis and diarrhea. Diarrhea is a leading cause of death, in many Pacific Island communities, particularly in children under five years of age.

**What is the objective of the Tuvalu International Waters Project?**

Target 10 of the Millennium Development Goals (MDG's) is to "halve the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015".

The Tuvalu International Waters Project (IWP) is working together with the neighbouring communities of Alapi and Senala to find ways to improve the management of toilet waste and promote the adoption of practical, cost-effective and safe toilet systems in Funafuti.

Funafuti is a small community of only 4000 people and many people are living on daily incomes of less than \$AUD4 per day. Because of the high costs associated with the construction, operation and maintenance of a centralized, fully-reticulated, wastewater treatment system, this may not currently be a viable option for Tuvalu.

The Tuvalu IWP is now working to ensure that:

The Community:

- is aware of the wastewater problem and the possible solutions
- has a plan to implement the preferred solutions
- can pilot some of these low-cost solutions as demonstration projects

The Government:

- can use these lessons from the community to develop a clear plan to improve the management of wastewater at the national level
- will develop and implement a National Water and Sanitation Plan
- will introduce any appropriate legislation as required
- will prepare a project proposal for donor agencies to assist in the sanitation battle.

**Who is managing the project?**

The Tuvalu IWP is being managed by Tuvalu's Department of Environment in partnership with the Prime Minister's Office and the Pacific Regional Environment Programme (SPREP).

Of the 14 IWP projects Tuvalu is the only country specifically trying to address problems caused by wastewater contamination. It is therefore providing something of a model for the entire Pacific region.

At the national level a National Task Force, which includes other government agencies, and NGO's oversee the project.

### **What is the problem?**

For decades flush toilets and septic tank systems have been promoted in Funafuti as the most safe and hygienic way to dispose of human waste.

However these systems are inappropriate for an atoll environment where pollutants can move easily between the groundwater system and the lagoon. Many of these septic tanks were not constructed properly and recent surveys by the IWP have found that most of these systems are now leaking into the groundwater system.

Even when these systems are well constructed, Tuvalu's high groundwater levels, and porous soils make this technology a potential health hazard. In the densely populated areas of Alapi and Senala many of these septic tanks are now discharging directly into the ground water. The septic tanks are located too close to each other, too close to wells, and to homes.

During high tides and heavy rains it is likely that contaminated effluent from soakage pits is overflowing into low-lying residential areas putting residents (and particularly children) at risk from direct exposure to invisible organisms that cause disease.

There is now an algal scum forming along the lagoon shoreline adjacent to the pilot communities. This could be an impact of the nutrients discharged from the many pigpens, septic tanks and pour flush latrines leaching from the village.

In Tuvalu rainwater is the only cheap and reliable source of potable water. Most ground water is contaminated because of the extensive use of water sealed latrines, leakage from septic tanks, and from pigpens. Some wells have relatively fresh water, which is used for washing clothes, flushing toilets, bathing, animal feed and other daily uses.

A survey of well-water usage survey in the pilot site found that most people use this water for toilet use, followed by other uses such as washing clothes and bathing. Water borne disease survey for Funafuti confirmed quite a lot of children under five years old suffer a number of diseases especially diarrhea and that the incidence of disease increases during periods of water shortage.

IWP surveys suggest that addressing the threats posed by sanitation is a low priority for Tuvalu's communities and Government. This may be because people do not understand the dangers posed by the current situation or the alternatives that may be available to them.

There is also limited financial and technical support “in-country” available to assist households to install and maintain environmentally sound wastewater treatment systems.

## **2. Background**

### **Septic Systems**

The pilot communities of Alapi and Senala include just over 1000 people – a sizeable proportion of Funafuti’s total population of just over 4500 people.

Most people repair or maintain their own septic tanks. The Public Works Department (PWD) has produced a draft National Building Code that clearly defines all the requirements for managing wastewater correctly. This document includes clear and easy-to-follow specifications for the proper construction of septic systems, the required fittings, and the minimum distance from buildings and groundwater wells.

The PWD has been involved with the construction of wastewater treatment systems at government facilities and a few private households (based on requests and the availability of PWD staff). However, many of their own septic systems are leaking, because they are poorly constructed or have incorrect fittings.

### **Composting Toilets**

Four composting toilets were built during the 2000-2002 AusAID/Government of Tuvalu Waste Management Project. Three are commercial systems and one system was built from locally purchased materials at the Waste Management (WM) depot.

Three systems are in a state of disrepair and not used with lids and/or seats missing, doors smashed, or the doors simply locked to avoid vandalism. In these toilets no organic material has been made available to assist the composting process.

One composting toilet which is discretely located on the lagoon side near a number of homes is used by an extended family and appears to be reasonably well maintained, although there is a leak in the fitting that needs to be repaired.

At an IWP community meeting in December 2004 Mr Semeli Manase, one of the elders within the community, was invited to talk about this composting toilet that his family has been using.

Mr Manase explained to the meeting what is required to maintain the system, how the collection bin is removed and the new one reconnected. He said they have changed the waste collection bin twice since the toilet was constructed in mid 2002. He also said that he had no idea about the contamination of the groundwater and lagoons from poor septic systems before the IWP project started to raise awareness about the problem. He believes that, because no water is required for their composting toilet, this will help his household to avoid water shortage problems in the future.

Introducing any new kind of sanitation technology into a community, is a sensitive process, and residents should be fully consulted and involved in the design,

construction, and ongoing use and maintenance of any new system. It does not appear that this level of consultation occurred during the construction of the composting toilets as part of the Waste Management Project.

### **What is the IWP doing to address these problems?**

The IWP recognises that a staged approach will be required to move from initial awareness of the problem, to the development of appropriate solutions, and then on to sustained behaviour change.

The IWP wants to ensure the Government has a clear mandate and the resources required to improve the management of sanitation beyond the completion of the project in December 2006.

The IWP will provide Cabinet with a report detailing the **costs and benefits** of all the solutions currently available to address this problem in Funafuti. The recommendations will include clear information about the financial, human and institutional resources required to support the ongoing management of safe sanitation in Tuvalu.

The **Tuvalu Water and Sanitation Plan** will be reviewed, updated as necessary, and adopted. The objective of any future work at the national or institutional level must be to ensure that the Government can help to provide the basic resources and technical advice for communities and householders to adopt safe toilet systems.

One possible option could involve the introduction of dry sanitation systems, such as **composting toilets**, don't use water and don't discharge contaminants into the ground. Once installed there is usually no cost to operate these toilets but material, such as dry leaves or coconut fibre, must be added after every use to ensure the composting process occurs. The compost also needs to be emptied from the collection chamber every nine months to two years depending on the size of the chamber and usage.

### **3. Communications Objectives**

- Raise awareness of the urgent problems caused by contamination from faulty septic systems
- To help people understand that the current sanitation system is contaminating the groundwater, creating severe health risks, and polluting coastal fisheries
- Promote the adoption of the safest, most environmentally-friendly, cost-effective, and socially appropriate toilet systems, for Tuvalu
- Encourage householders to allocate resources to the design, construction and maintenance of these new toilet systems
- Encourage the Government to develop and implement the Water & Sanitation Plan to support and resource the introduction of these new systems.

- Encourage Government to strengthen the management of wastewater beyond the completion of the International Waters Project in December 2006.

#### 4. Target Audiences

Target Audience	Ratings /10	Description	Comments
<b>The Pilot Communities</b>			
Alapi & Senala		Approximately 139 households with a population of approximately 1050.	<p>Low incomes and low literacy levels</p> <p>How can we get a better understanding of what people know, think and do?</p> <p>Can we use the Working Group as a preliminary focus group to discuss these issues?</p>
Falekaupule – House of Elders		Fifty plus members	<p>Elders in the Falekaupule and Kaupule have the most influence on the behaviour of the community</p> <p>Best potential Spokesperson for the communications programme is the second leader of the Falekaupule</p>
Kaupule – the Island Council		Six (including the President)	
<b>Two Village Heads</b>		<b>?</b>	<b>?</b>
Project Working Group		Losi	
Landowners			Overseas owners sometimes lead to conflicts over development <u>of properties</u>
Training course		Up to 30 from	Need to target some

participants		throughout Funafuti <u>(Not just pilot communities)</u> <u>Including PWD staff</u>	who can train others
Community groundwater monitoring group		Government officers from different government departments	Lack of information on groundwater contamination with coliforms bacteria, nutrients etc
Church leaders <u>– which ones</u>			
Funafuti Women's Group		Gore Group	Lack of understanding about the problem
Funafuti Island Youth Group		Core Group	Lack of understanding about the problem
Nauti Primary School			
<b>National</b>			
Prime Minister, Cabinet			
Development Coordinating Committee (DCC)		Permanent Secretaries	
Mr Panapasi Nelesone, Secretary to Government, Office of the Prime Minister			
Mr Mataio Tekinene, Director of Environment, Office of the Prime Minister			
The National Task Force		<u>List members</u>	Good support from the core group but inconsistent representation from critical areas such as Health.
Mr Filipino Taulima, Director, Public Works Department			
Dr. Tekai Nelesone, Director of Health			

Department of Health Principal Margaret Hospital <a href="mailto:ttafune@yahoo.com">ttafune@yahoo.com</a>			
<b>Possible Partners</b>			
Waste Management Unit - Susan			
Taiwan Demonstration Garden			
Health Department			
Tuvalu Family Health Association (TUFHA) - Executive Officer, Emily Koepke			
NGO's - TANGO			
<b>External Supporters</b>			
SOPAC			Sanitation Park
Steve Iddings, WHO			Community-based testing
Leonie Smiley, Canada Fund			Funding options
Pita Moala – ADB			Supported original Waste Management Project
AusAid/NZ Aid			

## 5. Issues

- We lack clear data that links groundwater contamination to medical and environmental problems
- There is poor awareness of the environmental impacts caused by wastewater on groundwater, human health, and surrounding environment
- We are still not clear about the best options/solutions – do we have enough good information to convince people at the community or national levels

- We don't have a good understanding of what people in the community think about the problem or about alternative systems such as composting toilets – whether they're culturally acceptable, affordable, and whether people will maintain them and use the compost to grow plants and vegetables for consumption.
- The Health Department has actively promoted the hygiene benefits of flush toilets vs using the beach and may have an in-built bias against composting toilets. For decades flush toilets have long been promoted as the most hygienic form of dealing with excreta. There could be suspicion of new systems, such as composting toilets, given that it took years to accept flush toilets
- The community needs support from the national level in order to developing solutions.
- People are still unaware that the IWP is trying to address the problem from the community and national levels

## **6. Strategy**

### ***Stage 1: Raise awareness of the problem and the project's objectives at the community and national levels.***

Use media and brochure material to start to raise awareness of the problem among the community and national audiences.

#### **Regional Media**

The Tuvalu IWP has been publicised in regional media since November 2004:

- Dateline Pacific – Radio News Bulletin (November 2004)
- Islands Business – Feature Article (December 2004)
- Radio Australia – Panel Discussion for World Water Day “Liquid Gold” (22 March 05)

#### **Building a Communications Team**

It is important that a workshop be held with the Communications Team as early as possible to seek advice and to determine activities, roles and responsibilities. This workshop will be used to discuss the strategy, proposed activities and timelines.

The Team will include representatives from the community, Kaupule, NGO's and government agencies such as the Tuvalu Media Corporation, Health, and PWD.

#### **Project Brochure**

The brochures will clarify how the IWP is working in Tuvalu to strengthen the management of toilet waste at the community and national level. The brochure will be distributed to community, national and regional stakeholders and placed in the IWP website.



### **Community Champion Profile - Semeli Manase**

The first stage of the communication's program is to profile the community champion. The purpose of this profile is to provide a community perspective of the problem and the potential solutions. The profile will be used in a range of media, posted on the IWP website, and emailed to relevant stakeholders.

### **Management Profile – Mataio Tekinene**

A profile of the Director for Environment will be completed and posted on the IWP website. The link to this profile will be emailed to all national and regional stakeholders for the IWP. The purpose of this profile is to clarify how the Tuvalu IWP is working to strengthen the management of toilet waste at the national level. The profile will be used in a range of media such as the feature article.

### **Magazine Feature Article**

The magazine article will be designed to provide a “complete picture” of what the Tuvalu IWP is doing to strengthen the management of toilet waste at the community and national level. It will include material from:

- Community Champion
- Management Champion
- Director of PWD
- Health spokesperson
- Sanitation expert Kelesoma Saloa or Dr Leonie Crennan

This article will be targeted for publication in Tuvalu Echo, Islands Business and/or the Fiji Times.

### **Radio Programme**

Use the same interview format to provide a perspective of how the IWP is working in the Marshall Islands to help strengthen the management of solid waste in the community and national level. This activity will need to be completed for the communication's workshop in August 2005. The radio programme will be in Tuvaluan and English for distribution through local and regional radio networks.

### **Radio Updates**

There will be a weekly half an hour radio program starting June, in which we will talk about the project, what had happened, current activities and what is expected to happen in the future. Speakers will vary according to different topics.

This series of programmes will kick off World Environment Day with a 2-hour special introducing the project and asking for feedback and questions from the public.

### **Project Video – Focusing on the Problem and Potential Solutions**

Use the same basic format to show what the IWP is doing to help improve the toilet system at both community and national level. If possible we will use narrative techniques to look at the problem through the eyes of the community champion, together with computer animation to show the movement of contaminants into the groundwater system, the lagoon, and into contact with humans and marine life.

The video should be up to broadcast standard for the Pacific Way and special screenings should be targeted for national stakeholders and the communities. Copies should also be available for free distribution through the video stores.

### **Audience Research**

The Tuvalu IWP has already undertaken some very useful surveys to gain information about the community, their awareness of the problem, and their ability to fund possible solutions.

However, more detailed information about the target audience is required to develop a greater understanding of what the audience currently knows/thinks and does in relation to the problem.

This information will help to develop more effective messages and communications activities for each phase of the strategy and it will provide a useful baseline by which to measure changes in awareness, attitudes and behaviour

It would be good to understand the following:

- Do people understand the connection between the septic systems, contamination of the groundwater, and health problems?
- How often do people go to the beach?
- Do people perceive flush toilets as more hygienic or as status symbols?
- Do people only use groundwater for secondary uses such as washing clothes, gardening and flushing toilets?
- What do people think about composting toilets?
- What barriers would limit their use?
- Are there any gender issues associated with their use/maintenance?
- What would the compost material be used for?
- How much would people be prepared to pay for a compost toilet?

Semi-structured interviews with 100 people from the community, together with key national stakeholders, should give clear guidance on what types of new system would be most acceptable and the best way to achieve the desired behaviour change in the community. This is a significant audience sample and carrying out the survey itself will be a useful tool to raise awareness about the issue and potential solutions.

## ***Stage 2: Identifying and Promoting the Preferred Solutions***

### **Cost and Benefit Analysis**

The analysis will determine the best 2 or 3 options, or mixture of options, that Tuvalu should adopt. The preferred solutions and recommendations will be presented to Cabinet for their consideration.

### **Community Sanitation Workshop**

A practical “hands-on” workshop looking at the preferred technologies. The workshop will include the construction of at least one pilot compost toilet at the compound of an interested community member.

Meeting with the Pilot community on the result of the workshop.

### **Follow-up Meeting for Sanitation Workshop**

This meeting will give the opportunity to participants to the workshop and the Funafuti community to share their views and ideas based on what was taught in the workshop.

### ***Stage 3: Institutional Strengthening***

#### **Development of National Water and Sanitation Plan**

The process will include a National Workshop and wide public consultation and feedback process. The Draft Water and Sanitation Plan will be given to stakeholders for comments before submission to the Cabinet.

#### **Development of Community Water and Sanitation Plan**

A workshop will be held with the Pilot Community to start drafting their community sanitation plan. The plan has to be based upon objectives dictated in the National Plan. IWP may assist in the formulation of a Water and Sanitation National Committee.

#### **Drafting of National Legislation focusing on Water and Sanitation**

If required by the plan

### ***Stage 4: The Public “Social Marketing” Campaign***

## **7. Messages**

Different key messages will be required for each audience and each stage of the Communications Programme. To date the key messages have been based on the urgent need to recognise that there is a serious problem that must be addressed NOW.

- The current toilet system is contaminating the groundwater, ground surface, lagoons, borrow pits etc
- This could seriously harm you, your family and the coastal environment
- Children under 5-years are most at risk
- This is an emergency situation and it's getting worse
- We need to do something about this NOW
- We can build our own safer alternatives
- The proposed training course can provide people with the knowledge and skills to build cheap and safe alternatives

The proposed Audience Research is intended to help clarify those messages that will be most likely to promote action at the community and national level. The following message table is an initial attempt to try and identify the benefits and costs of the current (do nothing) scenario versus introducing compost toilets.

#### **Message Table**

<b>Benefits/Costs</b>	<b>Communities</b>	<b>Government</b>
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Perceived benefits of current behaviour (using water based toilets)	<p>Easy</p> <p>No smell</p> <p>Less flies</p> <p>Seen to be “healthier”</p> <p>Cheaper than building something else</p> <p>Already in place (available)</p>	No cost to improve
Perceived costs	<p>Some starting to see connection with groundwater and health problems</p> <p>Have to use water for septic, water sealed systems</p> <p>Don't use seawater for septic because think will kill good bacteria(?)</p>	

	<b>Communities</b>	<b>Government</b>
Perceived benefits of adopting new systems	<p>Less risk of disease (especially children under 5)</p> <p>More uses for groundwater</p> <p>Cleaner lagoon for swimming and fishing</p> <p>Healthier reef</p> <p>Better environment/surroundings</p> <p>Greater community pride</p> <p>Skills and knowledge that can be used elsewhere</p>	Reduce losses from health problems and lost productivity
Perceived costs	Money, time and effort required to build and maintain	

	<p>a new system</p> <p>Space required to build something new – very congested area</p> <p>Feel uncomfortable using something new – initially</p> <p>Handling compost – can take a long time – don't want to get to the stage of changing the bin over</p> <p>Fear that it's smelly</p> <p>Think it will attract flies</p> <p>Think it's unhealthy</p>	
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## 8. Implementation

It has already been mentioned that the project will require a staged approach – from raising awareness of the problem, to the development of appropriate solutions, and then on to sustained behaviour change.

What	Why	Audience	When	Who	Costs
<b>STAGE 1 – Raising Awareness</b>					
Dateline Pacific radio news item	To raise awareness of the issue	Government/Regional	November 2004	Soma/Steve	N/A
Islands Business feature article	As above	Government/Regional	December 2004	Soma/Steve	N/A
Radio Australia – Panel Discussion on Sanitation for World Water Day titled “Liquid Gold”	As above	Regional	March 2005	Soma/Steve	N/A

Project Brochure	<p>The brochure will clarify how the IWP is working in Tuvalu to strengthen the management of toilet waste at the community and national level.</p> <p>This will be the first attempt to provide a complete picture of what the project is attempting to do at the community and national levels.</p>	The brochure will be distributed to community, national and regional stakeholders and placed in the IWP website.	June 2005	Soma/Steve	Cost of printing
Establish Communications Team	<p>Seek advice/ feedback on Communications Strategy</p> <p>Determine roles responsibilities timelines.</p>	The Team will include representatives from the community, Kaupule, NGO's and government agencies such as the Tuvalu Media Corporation, Health, and PWD.	June 2	Soma/Steve	

Profile Community Champion - Semeli Manase	Provide a community perspective of the problem and the potential solutions. The profile will be used in a range of media, posted on the IWP website, and emailed to relevant stakeholders.	National Stakeholders	June	Soma/Steve/ Ruby	
Management Profile – Mataio Tekinene	To clarify how the Tuvalu IWP is working to strengthen the management of toilet waste at the national level	National decision- makers in Tuvalu  Other environment managers in the region	June	Soma/Steve/ Ruby	N/A
Management Profile- Filopo Taulima	To clarify the government view on options to the wastewater problem on Funafuti	National decision- makers in Tuvalu	June	Soma/Steve/ Ruby	

Magazine Feature Article	<p>To provide a “complete picture” of what the Tuvalu IWP is doing to strengthen the management of toilet waste at the community and national level.</p> <p>This article will be targeted for publication in Tuvalu Echo, Islands Business and/or the Fiji Times.</p>				
Radio Programme #1  Subsequent radio shows will be used to publicise:	10-20 minute programme to raise awareness of the urgency of the problem and what the project is trying to do to address it – will include same interview format as feature article	All Tuvalu – English version for regional radio networks	June 2005	Soma/Steve	TBA
<b>Project Video #1</b>	15-20 minute video to raise awareness of the urgency of the problem and what the project is trying to do to address it – will include same interview format as feature article	National/Community/Regional	Proposal completed by end of June – video completed by end of July	Soma/Steve	TBA
<b>Stage 2</b>					
<b>Stage 3</b>					



<b>Stage 4</b>					
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## **9. MEASUREMENT OF SUCCESS**

Increased number of safe sanitation systems built in the community

Amount of compost material produced for use in gardening projects

Improved medical records – less cases of diarrhoea (in under fives) typhoid, cholera

Less groundwater contamination as shown in the simple presence/absence tests used in the community-managed monitoring programme

Number of people participating in the groundwater monitoring programme

Number of people applying to attend training course

Number of people successfully completing training course

Changes in attitudes/awareness/behaviours against baseline audience survey

Number of communications activities – radio spots, community theatre performances, video screenings, videos distributed, level of participation at community meetings, special events held as a result of communications actions.

Uptake of new systems in villages outside of the pilot community?

20 families designing and building their own composting toilets by June 2006

Introduction of national legislation and enforcement to:

- Ban water sealed latrines
- Phase septic out over time – all new houses must have a compost toilet