



Government of Tuvalu

FAKANOFONOFOGA MO VAI MOTE TUMAA



Sustainable and Integrated Water and Sanitation Policy 2012-2021

Coordinated by the Ministry of Public Utilities and the National Water and Sanitation Steering Committee (NWSSC), in collaboration with Tuvalu Integrated Water Resources Management (IWRM) and Tuvalu Pacific Adaptation to Climate Change (PACC) and with the support of the European Union.

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Ministry of Works Communications and Transport
Vaiaiku, Funafuti
Tuvalu
Telephone: (+688) 20052
Facsimile: (+688) 20722

and

SPC Applied Geoscience and Technology (SOPAC) Division
Water and Sanitation Programme
Private Mail Bag
GPO Suva
Fiji Islands
Telephone: (+679) 338 1377
Facsimile: (+679) 337 0040
www.sopac.org

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Front and back cover photos: The community of Nukulaelae work around the clock to transport emergency drinking water supplies during the 2011 drought.



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Foreword

I am deeply honoured to present the first Tuvalu Sustainable and Integrated Water and Sanitation Policy.

In July 2010, Tuvalu supported the adoption of a United Nations resolution declaring that access to safe water and sanitation is a fundamental human right. The WSP is an important step towards safeguarding this fundamental human right for all Tuvaluans.

Government decided to progress the formulation of this policy in early 2011, and requested assistance from our partner in Integrated Water Resources Management (IWRM), the SOPAC Division of SPC. With the generous support of the European Union, technical assistance was secured and consultations undertaken, culminating in a Sustainable Water Forum held in September 2011. The Global Environment Facility (GEF) funded projects IWRM and PACC under the Public Works Department and the Ministry of Public Utilities together provided the logistic support.

Water vulnerability is a serious issue for Tuvalu, and the development of this policy was timely as we were struck once again by drought in September 2011. While Tuvalu has experienced droughts in the past, these have in the most part been taken relatively lightly. However, the serious impacts of the 2011 drought will not be forgotten, and now is the time to put in place practical measures to secure safe drinking water and sanitation for all Tuvaluans.

I want to express my sincere thanks to the European Union, the Global Environment Facility and SPC's SOPAC Division for their ongoing support of IWRM and PACC in Tuvalu. This policy would also not have been completed successfully without the commitments and contributions of a number of personnel whom I would like to acknowledge, including government officials, NGOs, and Island communities. Sincere thanks also to our National Water & Sanitation Steering Committee (NWSSC) and Development Coordinating Committee (DCC). I pay tribute to my fellow Cabinet colleagues for the support and endorsement of this policy.

Water is indeed everybody's business, and the WSP is a policy for all Tuvaluans. Its success will depend on the collaborative efforts of all sectors of Government, civil society and the private sector.

TUVALU MO TE ATUA

Hon. Kausea Natano
Deputy Prime Minister and Minister of Public Utilities



Introduction

Tuvalu developed this Policy as a response to recent water crises, and to ensure together we stand ready for future challenges.

The purpose of the WSP is to ensure that the people of Tuvalu have continued access to safe, reliable, affordable and sustainable water and sanitation facilities. The policy supports Tuvalu's key planning document, Te Kakeega II (National Strategy for Sustainable Development), as well as key regional frameworks such as the Millennium Development Goals, the Pacific Plan, and the Pacific Regional Action Plan on Sustainable Water Management.

The WSP also complements other national frameworks, including Te Kaniva (National Climate Change Policy), the Strategic National Action Plan (SNAP), National Biodiversity Strategy and Action Plan (NBSAP), the National Action Plan to combat Land Degradation and Drought (NAP), and the National Adaptation Program of Action (NAPA).

The WSP will cover the next 10 years (2012-2021). It is intended that measures for the implementation of the policy will be further progressed through the finalisation of Tuvalu's national IWRM Plan.

Policy Considerations

Tuvalu's physical, social and economic characteristics are typical of many low-lying small island developing states. Our nine small islands have a population of approximately 11,200 people on a total land area of only 26 km². Natural resources are very limited, and while Tuvaluans come from a long historical tradition of self-sufficiency, the nation as a whole is increasingly dependent on imports and foreign assistance.

Like many other Pacific Island Countries, Tuvalu faces pressures of growing populations, limited water resources and storage capacity, and poor sanitation infrastructure. Limited institutional capacity, thinly spread human resources, and irregular funding sources further challenge our ability to effectively respond to water and sanitation issues.

Compounding these challenges are the impacts of climate variability and climate change. Tuvalu's exposures to these impacts have been reflected in recent climate change related documents. Our vulnerability was dramatically illustrated in 1999 and 2011, when the country entered a prolonged period of drought, for which a state of emergency was declared and drinking water supplies in some of our communities were pushed to the point of exhaustion. High year-to-year variability in rainfall is largely due to the impact of the El Nino Southern Oscillation (ENSO, a natural climate pattern that occurs across the tropical Pacific Ocean, playing a significant great role in the severity and incidence of droughts and extreme weather events.

Clearly, the challenges facing Tuvalu are significant. However, Tuvalu is making steady progress in the management of its water resources through applying Integrated Water Resources Management (IWRM) and traditional water management methods. The IWRM approach acknowledges that water is everybody's business, from individuals to community and to government, and it is on this basis that this WSP has been developed.

Guiding Principles

The WSP was developed with a set of guiding principles, consistent with those of the Tuvalu Constitution, Te Kakeega II, NAPA, Te Kaniva and other national frameworks. Importantly, The WSP is owned by the people of Tuvalu. The development of the policy was a bottom up process, in which communities in the eight islands were consulted, as well as the eight communities in Funafuti, culminating in a National Water Forum held in September 2011.

The WSP adopts the following guiding principles:

1. **Access to safe drinking water and sanitation is a fundamental human right.** Access to facilities should not be confined to certain sectors of the community, and the WSP aims to ensure that the daily needs of all Tuvaluans, including the most vulnerable, are met;
2. **Water is everyone's business, and all Tuvaluans have a role in the management of water and sanitation.** The effective implementation of the WSP will depend on the success of integration, coordination and collaboration between responsible ministries, departments, Kaupule, non-government organisations, the private sector, civil society and international partners. The WSP encourages the effective participation of community stakeholders in planning, setting of rules and standards, implementation, monitoring and evaluation. The WSP also recognises that women have a key role in the management of water;
3. **Water and sanitation services in Tuvalu should, over the longer term, operate on a sustainable basis.** The WSP acknowledges the importance of ongoing partner support to help address some of Tuvalu's more serious water and sanitation challenges, but also recognises that, over time, a more sustainable footing is needed for our water and sanitation services;
4. **Managing risk is more effective than responding to consequences.** The WSP recognises that managing the water-related impacts of climate variability and climate change requires a risk-based approach, and adaptation to these impacts requires integration of effective risk reduction strategies across all sectors; and
5. **Effective water management is an important national response to the impacts of climate change.** The WSP recognises that there is an urgent need to improve our capacity to deal with today's serious water challenges, in order to improve our ability to adapt to the challenges cause by climate variability and climate change.

Policy Statement – Vision, Mission, Goals and Strategies

This policy statement was developed through nation-wide consultations with all communities. During this process, the following vision, mission and thematic goals were identified:

Vision

Atafai ki vai mo tou ola! Save water to sustain life.

Mission

By the year 2021, Tuvalu will have a safe, reliable, affordable and sustainable water supply; with proper and improved eco-sanitation to fulfil island communities' basic needs as well as meeting the sustainable development needs of the country.

Goals

1. To provide a safe, reliable, affordable and sustainable water supply;
2. To manage and conserve scarce water supplies;
3. To establish and maintain effective early warning and response systems;
4. To enable effective, equitable and integrated governance of water and sanitation;
5. To increase community awareness and participation in the management of water and sanitation;
6. To improve access to reliable, affordable and environmental sustainable technologies; and
7. To improve the affordability of water and sanitation services and increase access to sustainable sources of finance.

GOAL 1



To provide a safe, reliable, affordable and sustainable water supply

Safe drinking water is essential to the health, wellbeing and livelihood of all Tuvaluans. Across Tuvalu, drinking water supply is primarily achieved through harvesting and storing of rainwater.

This harvested rainwater is, by far, Tuvalu's most important and widely used potable water resource. It is perhaps the only water resource that is essentially free, safe, and delivered by nature directly to the consumer. Nevertheless, there are times in Tuvalu when there is a need to supplement rainwater supplies with other sources.

While more information is needed about the extent and sustainability of our potable groundwater resources, it is a limited but nonetheless important resource on many of Tuvalu's outer islands. Groundwater is also used for non-potable uses throughout Tuvalu, and is therefore an important factor in reducing the pressure on drinking water supplies.

The first Reverse Osmosis was installed on Funafuti in 1992 and later on Nanumaga and Vaitupu where local conditions necessitate that a reliable back up supply be in place. The number of desalination units has recently increased through partner supports, and in response to a number of drought conditions

Tuvalu is blessed with relatively reliable rainfall patterns that support rainwater harvesting as our primary water source, however prolonged dry periods can at times push our water reserves to critically low levels. While back-up sources are an important part of Tuvalu's response to drought, it is also crucially important that we optimise the harvesting of rainwater during the wet season and manage water demand, particularly in the lead up to and during dryer periods.

Importantly, securing adequate reserves of drinking water requires active participation at the household, community, Kaupule and Government levels. Harvesting and storage equipment (such as tanks, cisterns and guttering) is often provided by Government with the support of various donor partners. Practically, during pre-drought periods, individual households practise water management measures such as water recycling and during extreme dry periods, communities begin to source some of their water needs from community storages and government water reserves (including desalinated water).

Notably, drinking water security is not just about harvesting but it also takes into account quality, adequacy, management and water treatment. Rainfall is a relatively pristine source of drinking water; however concerted efforts are required to keep it that way on its path from collection to end use. Good maintenance of guttering and storages and boiling of drinking water are essential and are currently practiced at the household level.

Risk factors

The goal may not be achieved if:

- Rainwater harvesting volumes are limited by poorly designed, constructed and maintained roofs, gutters and tanks;
- Drinking water safety is compromised by contamination occurring during collection, storage, transportation and/or use;
- Remaining potable groundwater supplies become contaminated by animal, human waste and sea water inundation;
- An overreliance on back-up options such as desalination leads to complacency in strengthening resilience through better rainwater harvesting;
- Perceived issues of ownership and responsibility lead to the attrition of infrastructure through a lack of maintenance and investment; and
- The cost of replacing eroding infrastructure significantly increases the price of water.

Strategies

In order to achieve Goal 1, Tuvalu will seek to:

1. Review the roles of Government, Kaupule, communities and households in the operation, monitoring and maintenance of rainwater harvesting and storage infrastructure, with a view to maximising efficiency, community participation, and security of water supplies;
2. Implement programmes to ensure the appropriate maintenance of private, public and community water harvesting and storage infrastructure;
3. Implement programmes to minimise water leakage from tanks, cisterns and pipes, including a targeted maintenance programme to repair leaking water tanks and cisterns on outer islands;
4. Establish programmes to increase the installation and utilisation of household water tanks and, where appropriate, facilitate the construction of water cisterns as reserves during periods of low rainfall;
5. Optimise the safe harvesting of rainwater by utilising all potential harvestable surfaces and increasing water storage facilities;

6. Develop and implement a strategy for the deployment, operation and maintenance of desalination infrastructure, including protocols for permanent and needs-based deployment, and for effective operation and maintenance;
7. Review the pricing of Government water, including water generated by desalination plants, with a view to achieving both sustainability and affordability;
8. Undertake assessments of the potential for ground water to sustainably contribute to the potable and non-potable water needs of communities, Implement measures to reduce the pollution of ground water;
9. Encourage the development and implementation of drinking water safety plans at the household level, community and municipal level (including the development of drinking water safety components of Island Strategic Plans);
10. Improve coordination and information sharing between all government and non-government partners in water, sanitation and health (WASH) programmes;
11. Encourage regular cleaning and maintenance of gutters and the adoption of protective devices (such as first flush systems and screens) to improve water quality; and
12. Establish safe drinking water quality standards with an effective monitoring mechanism.

GOAL 2



To manage and conserve scarce water supplies

Tuvalu is blessed with an abundant rainfall resource (more so than many other Pacific Island Countries), and in most years this should provide adequate volumes of clean water to meet the potable needs of all Tuvaluans. Nevertheless, Tuvalu is from time to time faced with serious water shortages that may have caused by climate variability.

To safeguard against water shortages, Tuvalu has already pursued alternative sources such as desalination. However, these are expensive to operate and maintain, limited in the volumes they produce, and cannot be relied upon alone to protect Tuvalu from the impacts of drought. A more cost effective approach to achieving water security is to properly manage and conserve our scarce water resources.

Water conservation is not a new concept to Tuvalu. Tuvaluans have for many years lived a relatively sparing existence, extremely aware of the importance of conserving precious water supplies. While this awareness persists to this day, our patterns of water use are changing along with our way of life.

It is therefore important to note that Tuvalu does not take water conservation for granted, but rather embraces it as a specific goal that needs to be met through action at the household, community, Kaupule and Government levels.

Risk Factors

This goal may not be achieved if:

- Water is mismanaged at a household level;
- Lack of water storage at the household level;
- There is a lack of legislative and/or regulatory drivers for water conservation;
- Leakage from collection and storage systems is not taken seriously;
- Clean drinking water continues to be wasted on flushing toilets.

Strategies

In order to achieve Goal 2, Tuvalu will seek to:

1. Encourage community participation in water conservation through developing a greater awareness and understanding of its importance, and promotion of effective water conservation measures;
2. Develop a greater understanding within the community on the importance of conserving water, and promote effective water conservation measures;
3. Further develop and expand eco-sanitation as a key mechanism of saving water and protecting groundwater supplies;
4. Improve designs and maintain water infrastructure to minimise water losses;
5. Where appropriate and sustainable, promote the conjunctive use of groundwater for non-potable purposes to reduce the demand for potable water;
6. Investigate the introduction of regulatory mechanisms that promote effective water conservation;
7. Conduct a proper research on water demand and water usage in Tuvalu
8. Review procedures for the allocation of water from public and community water cisterns with a view to maximising efficiencies and minimising waste; and
9. Conduct assessments to determine patterns in demand, storage and rainfall.

GOAL 3



To establish and maintain effective early warning and response systems

Tuvalu is highly vulnerable to the impacts of climate variability and climate change, perhaps most immediately through the impacts on our water resources. Tuvalu's exposure to the hydro-meteorological hazards of drought, storms and cyclones is particularly serious.

Tuvalu has already begun planning for these impacts, including through the development of a National Strategic Action Plan for Climate Change and Disaster Risk Management (NSAP). Amongst other goals, this Plan seeks to achieve water security and preparedness for droughts and other extreme events through integrated and coordinated water resources planning and management, including the development of preparedness and response plans for each island. The WSP further elaborates on the actions needed to achieve these outcomes with respect to drought.

Tuvalu can significantly increase its resilience to the impacts of drought through investing in Disaster Risk Reduction approaches, rather than relying on immediate disaster respond. Undertaking risk assessments and putting in place effective Early Warning Systems and Responses can ensure people of Tuvalu are well prepared for extended dry times. However, these systems and responses are not only the responsibility of Government. Island Kaupule, communities and households all need to play their part, and the development of drought responses will need to include active involvement at all these levels.

Risk Factors

This goal may not be achieved if:

- There are no clear indicators of drought or triggers for drought response;
- Monitoring and Response roles are unclear at a Kaupule, community and household level;
- Early response to warning messages are ineffective at vulnerable communities and outer islands due to limited and instable communication system;
- Weather and climate forecasting are limited and inaccessible at the Kaupule, community and household level;
- Secondary and guidance sources on weather and seasonal forecasting (such as the Regional Specialized Meteorological Centre (RSMC) and Regional Climate Centres in Fiji, New Zealand, Honolulu and Australia) are not effectively accessed by stakeholders, Kaupule and community levels;

- Response roles are not well understood by key stakeholders;
- Monitoring and response roles on mitigating potential impacts of droughts are unclear.

Strategies

In order to achieve Goal 3, Tuvalu will seek to:

1. Establish effective Early Warning Systems (EWS) for hydro-meteorological hazards affecting Tuvalu, including appropriate indicators and triggers to better inform decision making, and practical drought contingency plans at a national and island Kaupule level;
2. Build the capacity of Island Kaupule and communities to effectively participate in prevention, mitigation and preparedness measures, including effective mechanisms for the monitoring and reporting of drinking water reserves;
3. Develop practical and effective community awareness and messaging on EWS and responses;
4. Improve the collection, reporting and management of relevant meteorological data for all islands (including rainfall, temperature, and wind speed) in order to better inform warning systems and responses;
5. Improve the preparation and dissemination of simple, accurate and reliable weather and climate forecasts;
6. Build the capacity of staff of the Tuvalu Meteorological Station and ensure they have access to appropriate forecasting equipment and climate data;
7. Ensure effective coordination and communication between the National Disaster Management Office (NDMO) and those responsible for water, sanitation and hygiene - including the Ministry for Public Utilities, Island Kaupule, Ministry of Health, Ministry of Education, Meteorology and non-government organisations;
8. Improve the understanding of climate change information and its application for decision making; and
9. Ensure that adequate stocks of emergency relief equipment and materials (including water containers, water purification tablets and water testing equipment) are available to be deployed if and when required.

GOAL 4



Enable effective, equitable and integrated governance of water and sanitation

Consistent with the principles of IWRM, Tuvalu needs an effective enabling environment, supported by appropriate policies, plans, strategies and legislation, to enable the sustainable management of our water resources. To be truly effective, this enabling environment will need to incorporate practical coordination and consultation mechanisms, as well as clear mandates and capacities for the provision of various water and sanitation roles and services.

Several useful water governance mechanisms are already in place in Tuvalu. The country is applying an integrated approach to dealing with the water-related impacts of climate change, with programmes for IWRM and Pacific Climate Change Adaptation working together closely within the Public Works Department. Effective collaboration also exists with disaster risk reduction efforts, most recently through the development of the NSAP for Climate Change Adaptation and Disaster Management, which also takes on board measures to address the risk of water-related impacts.

Tuvalu has an active National Water and Sanitation Steering Committee, which advises Government on priority water and sanitation issues. While this Committee is a positive step towards IWRM and PACC, further support and strengthening is needed to ensure effective coordination and meaningful stakeholder participation at a national level.

Tuvalu has several laws in place that deal with elements of water and sanitation (such as the draft Water Act Public Health Act and Falekaupule Act) but these laws are in need of review and improvement to better drive water and sanitation outcomes. Tuvalu also has a draft Building Code, and this needs to be finalised to give better direction to the incorporation of rainwater harvesting infrastructure in public and private buildings.

While Tuvalu has no specific water and sanitation investment plan, recent plans such as the Tuvalu Infrastructure Strategy and Investment Plan (TISIP) include some direction on investment needs in the water sector.

Tuvalu intends to finalise an IWRM Plan in the near future. This Plan will be a key mechanism to progress the implementation of strategies included in The WSP.

Risk Factors

This goal may not be achieved if:

- Clear direction and mandates are not provided to all Ministries for the management of water and sanitation;

- Government has no way of measuring progress in managing water and sanitation issues;
- Fragmentation occurs between agencies with a role or stake in water management;
- There is inadequate recognition, mandate and support for coordination mechanisms (such as the National Water and Sanitation Steering Committee), and these do not adequately engage key stakeholders;
- There is inadequate coordination between partner programmes, as well as inadequate utilization of existing governance frameworks and coordination mechanisms by these programmes;
- Appropriate technical capacity cannot be established and retained within government agencies, Kaupule, and the community due to high cost involve or high labour turnover;
- There is low capacity to plan, design and implement programmes;
- Government resources and capacity are diverted to support the growing requirements of partner programmes;
- There is inadequate information available to support decision-makers, and the capacity to effectively analyse this information remains low;
- There is inadequate coordination of data collection and sharing of water-related data;
- Consultation fatigue leads to low stakeholder participation;
- Private sector capacities and resources are not fully harnessed;
- Efforts to increase water use efficiency are not backed up by policy and planning mechanisms; and
- There is an inadequate consideration of water and sanitation issues in investment planning.

Strategies

In order to achieve Goal 4, Tuvalu will seek to:

1. Recognise that water and sanitation are fundamental to Tuvalu's quality of life, economic development and capacity to adapt to impacts of climate change, and fully consider these links in investment planning;

2. Review and progress improved legal, regulatory, policy and administrative frameworks for the management of water resources and sanitation, ensuring that they work together to support the principles of IWRM;
3. Clarify the roles and responsibilities of all managers and stakeholders in the management of water resources;
4. Establish a practical IWRM indicator framework to measure progress towards water and sanitation outcomes;
5. Ensure that all partner programmes addressing water and sanitation issues contain measures to strengthen, support and retain local management capacity with better coordination;
6. Undertake regular capacity assessment of the relevant ministries, agencies, communities and Kaupule;
7. Review and improve existing data collection, management and assessment tools;
8. Ensure the effective regulation of activities that contribute to further groundwater pollution;
9. Fully utilise the capacity supplementation and technical backstopping services provided by regional organisations to which Tuvalu is a member;
10. Strengthen the mandate, build the capacity, and more effectively utilise Tuvalu's National Water and Sanitation Committee (or an equivalent effective body);
11. Build the capacity of the Water and Sanitation Unit of PWD as a key management agency for the management of water resources and the provision of safe drinking water and sanitation;
12. Recognise, support and strengthen the role of island Kaupule and community based organisations in contributing to the management of water resources at a local level; and
13. Establish a comprehensive national IWRM plan for the management of water resources and sanitation.

GOAL 5



Increase community awareness and participation in the management of water and sanitation

The protection of water resources and the provision of safe water and sanitation services is not the role of Government alone. Rather, achieving water security in Tuvalu depends on the active participation of our communities.

The effective participation of the community in water management depends on both awareness and motivation to act. Awareness is critical to ensuring that communities and households have the right information to make informed decisions to protect their health and manage their water resources. However, awareness alone will not necessarily change people's behaviour. Households and communities need clear and compelling motives to act.

The WSP recognises the importance of empowering Tuvaluan communities to act to protect and secure their water future, and proposes a range of strategies to promote awareness and participation. The policy also recognises the important role that women have in the management of water and sanitation, and seeks to encourage women's participation in local planning and decision-making. Consistent with principles of IWRM and WASH, the policy promotes the strengthening of community capacity in water conservation, water safety, hygiene and proper use of eco-sanitation. Importantly, the policy recognises the need to constantly improve awareness programmes, and the importance of monitoring effectiveness in order to ensure that programmes meet expected outcomes.

Risk Factors

This goal may not be achieved if:

- Current mindsets, perceptions and attitudes persist in regard to the use of water and sanitation facilities;
- Communities continue to believe that the management of water and sanitation is purely a Government responsibility;
- Communities do not have the right information, in the right form, to inform their choices and behaviour;
- Household and community awareness and capacity building strategies are inadequate or not targeted at the right stakeholders;
- Government capacity does not grow to support the needs of the community as they become increasingly engaged in water and sanitation issues;
- A relatively low level of interest in water conservation and protection persists amongst some community members;

- Water and sanitation are not recognised as key elements in Tuvalu's defence against the impacts of climate change;
- Information and awareness material is not effectively targeted to the appropriate communities and achieving required behavioural change;
- The effectiveness of current awareness programmes remains unclear, hindering their improvement;
- Women are excluded from decision making about local water and sanitation issues;
- Student training on water, sanitation and hygiene does not contribute to awareness and behavioural change beyond the class room; and
- More effective modes of communication are not developed and exploited.

Strategies

In order to achieve Goal 5, Tuvalu will seek to:

1. Monitor the success of awareness and education programmes associated with water and sanitation in order to improve the effectiveness of future efforts;
2. Ensure the water and sanitation information is presented and promulgated in a way that enables communities and households to make informed decisions;
3. Ensure that all sectors of the community are included in awareness and participation programmes, including disable people and women, who have an important role in the management of water and sanitation;
4. Ensure that awareness and education programmes promote best practice in water harvesting, drinking water safety, hygiene and sanitation;
5. Continue awareness and education programmes that build the capacity of households to effectively manage and maintain drinking water and sanitation facilities;
6. Implement effective training programmes to build community capacity and awareness on hygiene, safe sanitation, and drinking water safety planning;

7. Improve access to and availability of useful technical information on water and sanitation management;
8. Make more effective use of existing awareness materials and resources available at global and regional organisations.
9. Encourage community awareness and participation in water best practice activities and in the work of the National Water and Sanitation Steering Committee;
10. Effectively engage non-government organisations, civil society and the private sector in awareness programmes and in the management of water and sanitation;
11. Better integrate water and sanitation messaging across related sectors (line ministries and other departments), including better integration with messaging for climate change adaptation and disaster management;
12. Develop education programmes that effectively target students in pre-school, primary, and secondary schools, with a view to encouraging enduring behaviour change beyond the class room; and
13. Effectively utilise World Water Day as a tool to increase awareness and participation and to be coordinated by the Water and Sanitation Unit under the PWD, in close collaboration with Health Department, Environment Department.

GOAL 6



Improve access to reliable, affordable and environmental friendly technologies

Tuvalu's limited fresh water and financial resources mean that appropriate technologies must be a key component of efforts to secure our water and climate resilience. While water and wastewater treatment technologies have developed significantly in recent years, not all of these are affordable or suited to Tuvalu's remote atoll environment.

Fortunately, some technologies clearly are suitable, and can be adapted to our own needs and circumstances. Tuvalu currently leads the region in its adaptation and uptake of eco-sanitation solutions "falevatie", and this environmentally friendly and water-saving technology is now planned to be replicated across the country and the region.

Simple household-level technologies such as rainwater harvesting systems and first flush capture units can also be adapted to Tuvalu's unique circumstances, however community acceptance and ownership of such systems is essential to their longer term viability.

To fully capitalise on current and emerging technologies, capacity must also be developed in both Government and the community for their effective design, operation and maintenance. The development of home-grown innovation and improvements to existing technologies should also be encouraged.

Risk Factors

This goal may not be achieved if:

- Technologies are adopted without also building and maintaining the capacity to operate and maintain them, or without an affordable maintenance agreement in place;
- Eco-sanitation technologies are yet to be socially acceptable by community at large
- Solutions are chosen on technical merit alone, with no consideration of social economic and environmental factors;
- Prohibitive costs persist due to Tuvalu's relatively small and isolated market, with little economy of scale and expensive transportation costs;
- Technologies overly rely on the logistically difficult importation of expensive spare parts;
- Some systems are vulnerable to failure, such as leaking storages;
- Tuvalu's isolation limits our exposure to new and emerging technologies;

- Technical capacity is lost due to emigration and a lack of technical backstopping;
- Technologies are introduced without a rigorous review of the suitability to the social, economic, climatic and geographic constraints unique to Tuvalu; and
- Relevant agencies lack the appropriate equipment to monitor, assess and manage water resources.

Strategies

In order to achieve Goal 6, Tuvalu will seek to:

1. Further develop the expertise in appropriate water and sanitation technologies within the Water and Sanitation Unit of the Department of Public Works, with a view to the Unit being a centre of excellence for the use of these technologies in atoll environments;
2. Undertake regular reviews and assessments of available and emerging technologies;
3. Adapt appropriate, reliable and durable technologies for the specific conditions and needs of Tuvalu;
4. Promote and expand the use of successful technologies such as eco-sanitation and improved rainwater harvesting;
5. Consider all factors, in adopting technological solutions;
6. Build, or otherwise secure, the capacity to operate and maintain technological solutions well into the future;
7. Promote the use of renewable and sustainable source of energy, such as solar power, in water technologies;
8. Provide information systems and technical information to improve accessibility and capacity to identify and apply appropriate options;
9. Build and maintain the capacity and equipment to fully utilise information management tools such as GIS in water management;
10. Liaise regularly with other low-lying atoll countries to enable sharing of relevant information and experiences with water and sanitation technologies; and
11. Fully explore technical expertise available through CROP agencies such as SPC and SPREP and donor countries.

GOAL 7



Improve the affordability of water and sanitation services and increase access to sustainable sources of finance

Historically, relatively few resources have been available to support water and sanitation services in Tuvalu. This Policy encourages the identification of opportunities to make the provision of these services more sustainable over the longer term, while recognising the core principle that safe water and sanitation is a fundamental human right that should be affordable and accessible to all.

Tuvalu's water and sanitation facilities have received significant support over past years from our development partners, and while it is envisaged that this generous support will continue, there is a need to ensure that future priorities for water and sanitation infrastructure investments are determined in a strategic manner. While donor support has been essential to address some of our most serious water and sanitation issues, Tuvalu will over time need to establish a more sustainable footing for our water and sanitation services.

The WSP promotes the efficient delivery of water and sanitation services, in order to both provide better services and keep costs down. The policy encourages community participation in assisting to keep costs under control, and recognises the importance of effective maintenance programmes in order to protect capital investments into the future.

The policy also acknowledges that more can be done to improve the effectiveness of the support we receive from our various partners, and recognises the importance of maintaining local capacity to manage existing programmes and also to secure potentially new sources of funding to assist us in facing future challenges.

Risk Factors

This goal may not be achieved if:

- The importance of investment in water and sanitation is not clear across all sectors of Government and the community;
- Inadequate resources are made available for Water and Sanitation services in the annual recurrent budget of Government;
- Priorities for water and sanitation infrastructure are determined by trends in donor funding, rather than through a process of strategic investment planning;
- The cost-effectiveness of investment is undermined by not effectively aligning with needs and by inadequate maintenance and management;

- An adequate portion of the costs of collecting, treating and delivering water is not recovered; and
- Inefficiencies in service delivery and inappropriate technologies lead to increased costs of service delivery.

Strategies

In order to achieve Goal 7, Tuvalu will seek to:

1. Develop financial mechanisms to ensure that water and sanitation management is sustainable over the long-term;
2. Ensure that priorities for water and sanitation infrastructure investments are determined through agreed strategic planning processes, in order that they align closely with identified needs, maximise investment returns, and are supported by effective maintenance programmes;
3. Review recurrent budget allocations for water and sanitation (including through other line Ministries);
4. Review options to recover a portion of the cost of water and sanitation services, while ensuring these services remain affordable to all;
5. Review the pricing structure of delivered water, including the option of differentiating prices levied during periods of low rainfall;
6. Review and optimise the mix and timing of various water-harvesting and treatment technologies utilised in order to achieve water security while minimising total capital, operation and maintenance costs;
7. Improve Tuvalu's capacity to source donor funds, including potentially new sources of funding, and provide timely acquittals and progress reports;
8. Partner with the community to better protect investments through good management and maintenance practices; and
9. Assess possibility of establishing a Water Trust to sustain water development in the country.

Implementation

The strategies endorsed by this policy can only be implemented with the full cooperation of all Government agencies, Kaupule, NGO's and communities, with the support of Tuvalu's international partners. It is intended that an implementation plan for this policy will be further developed through the development and finalisation of Tuvalu's National IWRM Plan.



Postscript - Tuvalu's message to the world

On 20 May 2013, Tuvalu addressed regional leaders and delegates at the 2nd Asia Pacific Water Summit, at the invitation of the Prime Minister of Thailand. The following is an extract of this address, delivered by the Hon. Kausea Natano, Deputy Prime Minister and Minister of Public Utilities.

Your Excellency Prime Minister, Your Majesty, Honourable Heads of State, and distinguished guests. As a representative of one of the most vulnerable people on this planet, I very much welcome the opportunity to address you today.

Tuvalu is a nation of atoll communities spread across almost a million square kilometers of the Pacific Ocean. With no surface water, and very little potable groundwater, we rely almost exclusively on captured rainfall for all of our freshwater needs. Many delegations to this Summit have spoken of the important links between water, sanitation, human health, the environment and national economies. In Tuvalu, the links between these are direct and clear to all. As an atoll nation, much of my country's land mass is no wider than this room. There is a profound and immediate relationship between our management of land use and sanitation and the health of our scarce groundwater and our coastal lagoon environment.

Much of our water and sanitation management occurs at the household level, which we know from experience can be sustainable and resilient if communities have the right knowledge, capacity and appropriate infrastructure. As with many countries present here, Tuvalu is implementing a number of useful projects targeting improvements to water and sanitation, including innovative and world-leading approaches to eco-sanitation.

These are a good start, and the support of our partners is much appreciated. However, I feel there is a need for a shift in thinking from the project-by-project approach, to one of sustained and sustainable financing for the water sector. Establishing a longer-term, programmatic fund for water and sanitation across the Pacific could help break the cycle of water insecurity that too many of our communities live with every day.

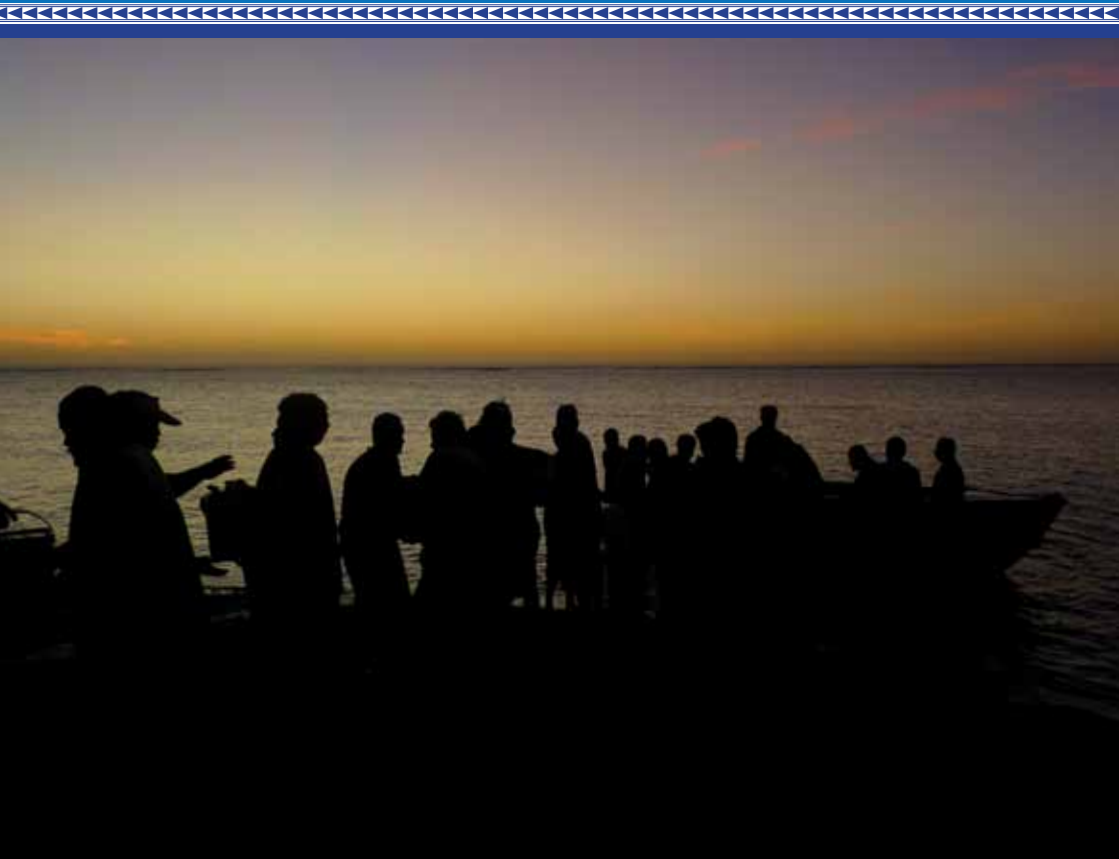
Your Excellency Prime Minister, Your Majesty, Honourable Heads of State, distinguished guests, thank you for listening.



Government of Tuvalu



This policy was developed through a process of nation-wide consultations by Tuvalu's National Water and Sanitation Steering Committee, with the support of the Ministry of Public Utilities and partners



Atafai ki vai mo tou ola! Save water to sustain life!

