

2011

Performance Audit Report on Access to Safe Drinking Water



6/28/2011

ACCESS TO SAFE DRINKING WATER

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ACRONYMS AND INTERPRETATIONS

ACRONYMS

CEO – Chief Executive Officer
EPC – Electric Power Corporation
IDI – INTOSAI Development Initiative
INTOSAI – International Organisation of Supreme Audit Institutions
IWS – Independent Water Schemes
JWSSC – Joint Water Sector Steering Committee
MDGs – Millenium Development Goals
MNRE – Ministry of Natural Resources and Environment
MOH – Ministry of Health
MWSCD – Ministry of Women, Social and Community Development
NWRMS – National Water Resources Management Strategy 2007-2017
PASAI – Pacific Association of Supreme Audit Institutions
PMS – Performance Management System
SDS – Strategy for Development of Samoa 2008-2012
SNDWS – Samoa National Drinking Water Standards 2008
SUNGO – Samoa Umbrella for Non-Government Organizations
SWA – Samoa Water Authority
WHO – World Health Organisation
WQU – Water Quality Unit
WRM Act – Water Resources Management Act 2008
WSMU – Water Sector Management Unit
WSPs – Water Safety Plans

INTERPRETATIONS

Sector – means Water Sector
Sector Plan – means Water Sector Plan and Framework for Action 2008/09 – 2011/12
Standards – means National Drinking Water Standards 2008
Strategy – means the National Water Resources Management Strategy 2007-2017

1.0 EXECUTIVE SUMMARY

Access to safe drinking water is a basic right for all. Water is generally regarded as the critical natural resource for sustainable human and economic development. The geographic and physical characteristics of small island nations in the Pacific impact on their fragile water resources. Therefore it is important for the Pacific region to have cohesive efforts in achieving sustainable management of our water resources and ensuring that everyone has access to safe drinking water.

Over recent years, the Samoan Government has progressively made developments to the management of water resources. This included the formation of a water sector to take a collaborative approach to water resource management in Samoa given the scattered roles and the number of agencies involved.

The objective of this audit is to assess the effectiveness of the actions taken by key agencies to ensure access to safe drinking water. The key agencies are the Ministry of Natural Resources and Environment (MNRE), Samoa Water Authority (SWA) and the Ministry of Health (MOH). In order to achieve this objective audit focused on the following aspects:

- The existence of a legal and policy framework to ensure access to safe drinking water
- The process by which the legal and policy framework is implemented
- Monitoring the effectiveness of implementation efforts and any improvements

Key Findings

Existence of a legal and policy framework

- There is a legal and policy framework that ensures access to safe drinking water
- The sector plan addressed all aspects of access to safe drinking water

Implementation of the framework

- Compliance with the Water Abstraction Licensing Scheme is not enforced
- Delay in finalising Water Safety Plans for all treatment plants
- Non-compliance with National Drinking Water Standards
- Land Management and Ownership hinders efforts towards protecting water resources and water quality
- Agencies have made considerable efforts in public awareness
- Lack of resources required for specific activities

Monitoring the effectiveness of implementation

- Reduction in level of complaints
- There is a need to improve coordination of sector performance management
- Lack of public reporting on drinking water quality
- MOH's certification is required before registration of new bottled water companies

Conclusion

The sectoral objectives support Samoa's national development agenda as explained in the SDS 2008-2012 and aim to ensure the realization of improved public health and alleviation of poverty through community access to water of suitable quality and appropriate quantities to meet all reasonable health, environmental and economic development needs. A number of policy and

regulatory documents have been reviewed and revised to provide a comprehensive and coherent institutional and regulatory setting for the sector to undertake its developments.

While recognizing that progress has been made in the management of water resource and water related issues to ensure access to safe drinking water in Samoa, the audit found areas requiring further attention by the responsible agencies. Areas that need improving included the effective implementation of the legal and policy framework; and monitoring and reporting of effectiveness in implementing the legal framework.

One of the sector's objectives is ensuring access to safe drinking water. Monitoring the results of sector performance is critical to an assessment of the water sector's achievements in this regard. In addition reporting to the public of these results as well as the status of drinking water quality is equally important.

Enforcing compliance with Part V of the Water Resource Management Act 2008 on Water Abstraction Licensing should be revisited by the JWSSC to ensure that the legislation is effective in protecting water resources.

Finalising water safety plans for all water supply system is crucial in minimising risks that might affect the quality of drinking water supply.

Because of insufficient resources in the form of finance, human and capital, there is a need for agencies to prioritize the activities that should be implemented.

Overall Agencies' Response

Management of the three implementing agencies covered in this audit agreed with the audit findings and recommendations proposed in this report.

2.0 INTRODUCTION

2.1 Background

Water is generally regarded as the critical natural resource for sustainable human and economic development. Access to good quality water for drinking, bathing and cooking is crucial to our health and well-being. Providing access to safe drinking water requires substantial investment however these costs can be largely offset by the reductions in health care costs.

Urbanisation and sustainable development have improved the economic prospects and standards of living for a large portion of people in the Pacific, but has also brought along challenges for the region. The geographic and physical characteristics of small island nations in the Pacific impact on their fragile water resources. Therefore it is important for the Pacific region to have cohesive efforts in achieving sustainable management of our water resources and ensuring that everyone has access to safe drinking water.

2.2 Why Audit Access to Safe Drinking Water

The audit on Access to Safe Drinking Water was undertaken by the Audit Office of Samoa as part of an initiative developed by the Pacific Association of Supreme Audit Institutions (PASAI) with the support of the Asian Development Bank (ADB) and the INTOSAI Development Initiative (IDI). Ten PASAI member countries, including Samoa, are participating in this second cooperative audit. Other participating audit offices include: Cook Islands, Federated States of Micronesia – Yap and Kosrae, Fiji, Palau, Papua New Guinea, Kiribati, Tonga and Tuvalu.

Each of the participating audit offices is auditing the same topic of Access to Safe Drinking Water within their respective jurisdictions, with a focus on national policies and assessing the effectiveness of actions taken to ensure that the community have access to safe drinking water.

Improved public health and alleviation of poverty can be achieved through community access to water of suitable quality and appropriate quantities to meet all reasonable health, environmental and economic development needs.

2.3 Responsibility for Managing Water in Samoa

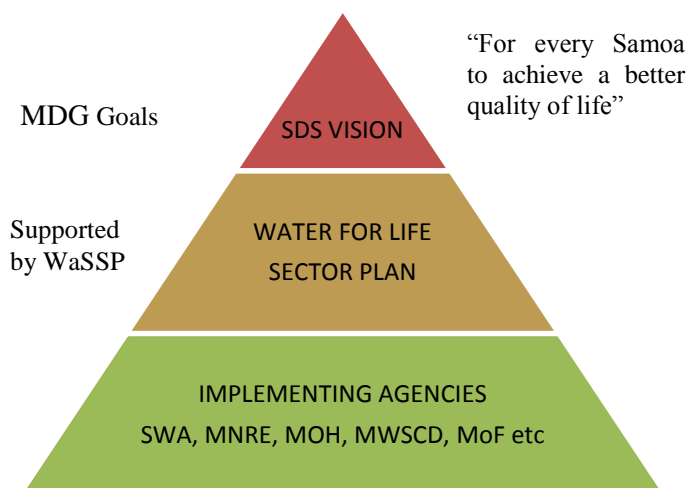


Figure 1: Institutional Arrangement

2.4 Strategy for the Development of Samoa

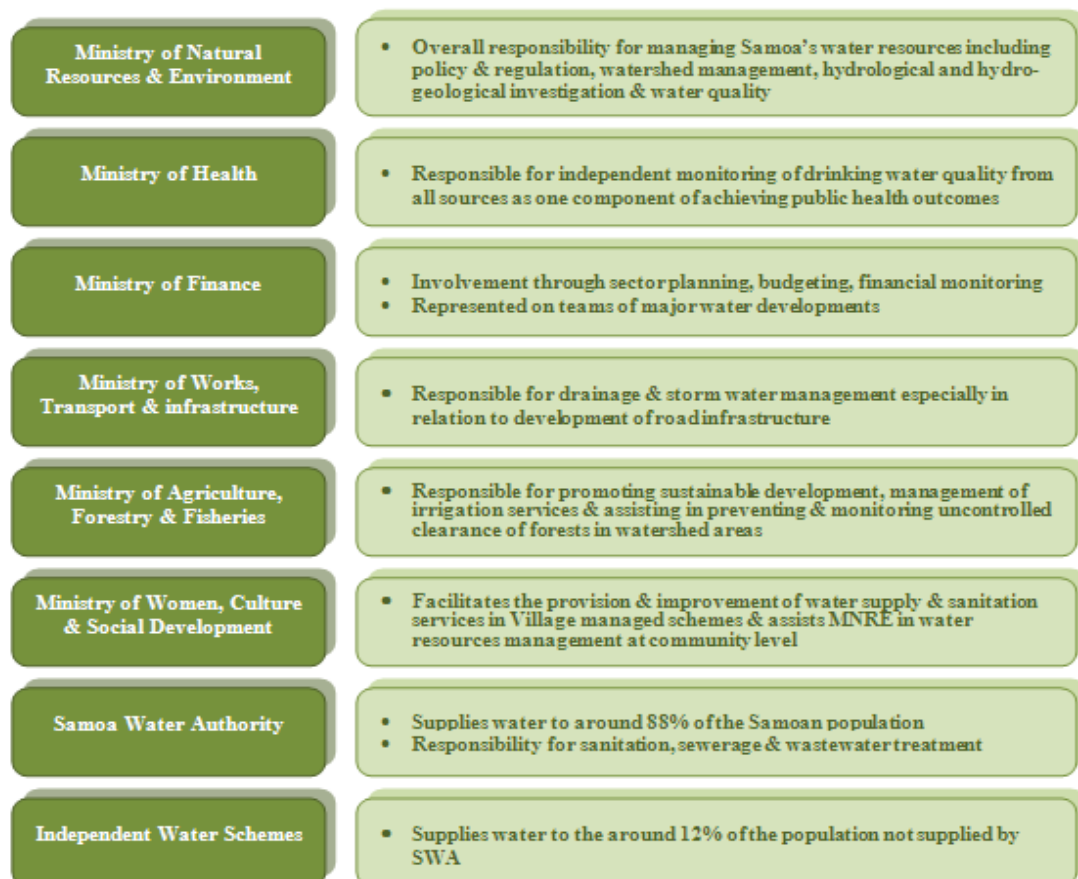
The *Strategy for the Development of Samoa, 2008-2012 (SDS)* outlines Samoa’s development vision, its medium-term national development goals, and the strategies that will be implemented over the four financial years 2008/09–2011/12 to achieve these goals. The national strategy sets the platform for the whole of Government and identifies national goals and objectives to be achieved during the period. The national vision included in the SDS is “*Improved Quality of Life for All*”.

One of the objectives is to have improved health outcomes through environmental sustainability. Effective development and use of water resources can have significant impact on achieving improved health outcomes and environmental sustainability. The SDS sets out the aim of developing a more sector-wide approach embracing all aspects of water management. It points out that the goals and strategies for addressing issues in the water sector are presented in *Water for Life: Water Sector Plan and Framework for Action, 2008–2012*, which is formulated within the context of the *2007 National Water Resources Policy*.

2.5 Water for Life – Sector Plan

The plan is a comprehensive document covering all aspects of proposed development in the water sector and is closely linked to relevant goals in the SDS. This plan was developed to provide a collaborative approach to water resource management in Samoa given the scattered roles of the agencies involved.

Water management in Samoa is a complex area with many entities involved in various aspects of the management process, as outlined in the following chart.



Source: Adapted from *Water for Life – Water Sector Plan and Framework for Action (2008/9-2011-12)*

As indicated in the chart, the Ministry of Health has responsibility for ongoing and independent monitoring of drinking water quality supplied from all sources as part of its requirements for achieving desired public health outcomes. These activities are conducted by the Environmental Health and Sanitation Unit within the Ministry's Health Promotion and Preventative Services division.

2.6 Sources of Drinking Water Supply



Figure 2: Alaoa Treatment Plant

Generally the following are the three main sources of drinking water:

- Surface water (streams, rivers, lakes);
- Groundwater (water drawn from bores or wells); and
- Roof catchment (rainwater collected on roofs and stored for later use)

The source of water in a particular region of the country is partly dependent on the extent of development of water infrastructure that has taken place. The major sources of drinking water available in Samoa include:

- Water supplied from treatment plants operated by the SWA – four in Upolu and one in Savai'i
- Water supplied from bore holes operated by SWA
- Independent Water Schemes operated by village committees
- Water supplied by bottled water companies
- Water stored from roof catchment

2.7 Access to Drinking Water Supply

The following table shows data on access to drinking water supply in Samoa based on the findings from the 2006 Population and Household census.

Table 1: Data on Access to Drinking Water Supply¹

Improved Drinking Water Sources	No. of Households.	Percentage %.
Tap water	8,458	35.6%
Metered Tap Water	11,668	49.1%
Stored Rain Water	1,829	7.7%
Paid Purified Water	1,160	4.9%
Sub-total	23,115	97.43%
Unimproved Drinking Water Sources		
Well/Spring Water	599	2.5%
Not Stated	45	0.2%
Sub-total	644	2.7
TOTAL	23,779	100%

Improved drinking water source means water is supplied through piped water into dwelling, plot or yard. Unimproved drinking water source includes supply from unprotected dug well or spring, tanker-truck or surface water. These definitions were developed by the Joint Monitoring Programme (JMP) to measure progress in achieving the MDG relating to water supply. The JMP is a joint initiative of the WHO and the United Nations Children's Fund (UNICEF) who is responsible for monitoring the progress in the water and sanitation related MDGs.

For the purpose of this audit we have used the following parameters to define access to drinking water²:

- No access – more than 1km / more than 30 minutes round trip
- Basic access – within 1km / within 30 minutes round trip
- Intermediate access – water provided on plot through at least one tap
- Optimal access – supply of water through multiple taps within the house

2.8 WHO Guidelines

The *Guidelines for Drinking-water Quality*, issued by the World Health Organisation, can be seen as an authoritative approach to managing the access to and quality of drinking water. The guidelines explain requirements to ensure drinking water safety, including minimum procedures and specific guidance.

Areas covered in the guidelines include:

- Roles and responsibilities in drinking water safety management
- Establishment of health based outcomes and targets
- Development and use of water safety plans

¹ Water and Sanitation Sector Third Annual Review Report 2009/10

² The Right to Water – WHO publication

- Surveillance of the quality of drinking water supplies
- Guidance on application of the guidelines
- Explanation and standards on the various chemicals and other factors that can impact on drinking water quality.

The guidelines recognise that the extent to which they are implemented is dependent on the environment and circumstances operating in particular countries.

The WHO guidelines have been used as a reference for developing Samoa's National Drinking Water Standards and related processes. Further comment on these standards and procedures is provided later in this report.

3.0 AUDIT OBJECTIVE & SCOPE

3.1 Objective

The objective of the audit is to assess the effectiveness of the actions taken by key agencies to ensure access to safe drinking water. In order to achieve this objective the following lines of enquiry (LOE) were used:

- LOE 1: The existence of a legal and policy framework to ensure that access to safe drinking water is improved.
- LOE 2: The process by which the legal and policy framework is implemented
- LOE 3: Monitoring the effectiveness of implementation efforts and any improvements

3.2 Scope

The audit will focus primarily on the roles and responsibilities of key Government agencies responsible for ensuring access to safe drinking water. The following Government agencies play a major role in implementing the legal and policy framework to ensure that access to safe drinking water is improved.

- 1) Ministry of Natural Resources and Environment (MNRE)
- 2) Samoa Water Authority (SWA)
- 3) Ministry of Health (MOH)

MNRE has the mandate for the protection of the water resources in Samoa. SWA is the main water service provider and is responsible for supplying water to the majority of the country. MOH is responsible for monitoring the quality of drinking water for all the sources in Samoa.

3.3 Areas excluded from this audit

- The audit will not review the actions taken by the Ministry of Women, Community and Social Development (MWCSD) in managing the Independent Water Schemes operated by village committees
- The audit will not review the water supplying system of the Independent Water Schemes.
- The audit excluded consultations with the Ministry for Women Community and Social Development (MWCSD) with regards to its monitoring role on managing IWS which are operated and managed by village committees

The major reasons for excluding these areas from the final audit scope are:

- SWA supplies water to 88% of the total population while the remaining 12% is supplied by village operated schemes. In order for our audit report to be useful and be implemented on time we have excluded these schemes from the scope of our audit.
- There are many implementing agencies for the various issues relating to water. The major aspects of this audit topic which was selected by the PASAI were access to and safe drinking water. We believe that MNRE, SWA and MOH are the major agencies who are involved in implementing activities that ensure community access to safe drinking water.

4.0 AUDIT METHODOLOGY

Audit had an introductory meeting with the Chief Executive Officer (CEO) and the Assistant Chief Executive Officer (ACEO) for Water Resources Division (WRD) of the Ministry of Natural Resources and Environment. At this meeting the CEO was informed of the performance audit that will be carried out on access to safe drinking water. The CEO affirmed his office's support and the provision of information and data required for our audit fieldwork to enable us to achieve the audit objectives.

The following procedures were used to gather evidence:

- i. Discussions with employees of implementing agencies – MNRE and SWA
- ii. Review of key relevant legislations and regulations.
 - a. Samoa Development Strategy 2008-2012
 - b. Water for Life: Water Sector Plan and Framework for Action 2008-2013
 - c. National Water Resources Management Strategy
 - d. Water Resources Management Act 2008
 - e. National Water Resources Policy
 - f. Samoa National Drinking Water Standards
 - g. Implementing Guidelines for Drinking Water Standards
 - h. MNRE Management Plan 2008-2011
 - i. SWA Service Charter 2010
 - j. Water & Sanitation Sector Third Annual Review Report 2009/10
- iii. Site visit and inspection of water treatment plants in Upolu
- iv. Observe tests on water quality carried out by SWA
- v. Observe tests on water quality carried out by MOH

5.0 FINDINGS & RECOMMENDATIONS

Audit criteria were developed to assess the achievement of each line of enquiry (LOE). Based on the evidence gathered using the selected audit procedures during our audit fieldwork we discovered the following findings and made respective recommendations.

5.1 Existence of a legal and policy framework

5.1.1 A Legal and Policy Framework Exists

Criteria: Legislation and policy should be in place that ensures and improves community access to safe drinking water.

The SDS sets out the aim of developing a more sector-wide approach embracing all aspects of water management, water use and wastewater. The sector-wide approach is represented by the *Water for life: Water Sector Plan and Framework for Action, 2008-2013*. The Sector recognises the importance of access to safe drinking water as reflected in its overall goal of “*ensuring community access to water of suitable quality and appropriate quantities to meet all reasonable health, environmental, and economic development needs*”.

The sector plan identifies the various Government agencies and their responsibilities in relation to achieving the objectives of the water sector. This plan brought together all aspects of water resources management and water services. The sector is led by the Joint Water Sector Steering Committee (JWSSC) which has a number of responsibilities ranging from guiding sector policy and planning processes to monitoring water policy and programme implementation as well as approving individual water projects appraisal reports, financing agreements, annual work programmes, evaluations and final reports. The JWSSC comprised of Chief Executive Officers (CEOs) of relevant Government agencies for the purpose of sector coordination.

The implementing agencies’ roles and responsibilities in relation to ensuring access to safe drinking water are prescribed in their respective management plans and service charters.

The Water Sector Management Unit (WSMU) which was previously under the Ministry of Finance (MOF) is now under the MNRE as part of its Water Resource Division (WRD). The WSMU is responsible for:

- Ensuring effective coordination and collaboration within the water sector;
- Water sector financial planning;
- Water sector performance monitoring;
- Water sector visibility; and
- Water sector capacity building

This Unit provides technical secretariat functions to the JWSSC, which is a high level steering committee responsible for sector development, management, planning and monitoring.³

Audit found that there is a well established legal and policy framework that ensures community access to safe drinking water.

³ Policy Paper for National Water Resources Management Policy – October 2009

5.1.2 The Sector Plan addressed all aspects of Access to Safe Drinking Water

Criteria: The sector plan should address all aspects of access to safe drinking water

The Sector Plan is a comprehensive document covering all aspects of proposed development in the water sector from managing water resources to access to safe drinking water. It identifies the agencies and their responsibilities that will contribute to improving access to safe drinking water. These responsibilities cover those relating to the management of water resources, provision of water services and monitoring of drinking water quality.

For the purpose of this audit we have identified key aspects that ensure access to safe drinking water. These aspects are the three parts to the system supplying drinking water: a source, treatment plant, distribution system and water quality monitoring.

Source

The three main sources of drinking water are:

- Surface water (streams, rivers, lakes);
- Groundwater (water drawn from bores or wells); and
- Roof catchment (rainwater collected on roofs and stored for later use)

Treatment Plant

Treatment plants can be large or small operations. They can be a series of automated treatment processes or plants that use a manually controlled single treatment process, or a single pump drawing water from a source (usually groundwater) with or without any treatment.

Distribution System

Distribution systems carry drinking water from the treatment plant to the consumers. The distribution system is made up of the pipes, water storage facilities (water tanks or reservoirs) and any other components situated between the plant and the boundary of the consumer's property.

Water Quality Monitoring

In addition to efforts taken to safeguard water resources and treatment plants, ongoing and independent monitoring of drinking water quality will ensure that the water is safe to drink. The MOH through its Water Quality Unit monitors drinking water quality against the National Drinking Water Standards.

Audit found that the Sector Plan addressed all aspects of access to safe drinking water.

5.2 Implementation of the Framework

5.2.1 Water Abstraction Licensing Scheme

Criteria: The key agencies should implement the relevant activities identified in the Sector Plan

The three main implementing agencies responsible for ensuring access to safe drinking water have made progressive developments towards achieving this objective. Despite this progress, we believe that there are a number of areas that could be addressed that would enhance the effectiveness and efficiency of implementation of some relevant activities to ensure and improve access to safe drinking water.

Part V of the Water Resource Management Act 2008 provides for regulating the taking of water resources through a licensing system. The water abstraction licensing scheme is in place and is currently being implemented. Formal induction of the scheme involved extensive consultations with other agencies within the water sector (SWA and Electric Power Corporation (EPC)), independent water schemes, government ministries, SUNGO, water bottling companies and members of the public.

The following fees have been endorsed by order of the Minister:

- Licensing fees of \$500 (including drilling permits)
- Abstraction fee of \$0.10 per cubic meter

Licenses are mandatory for all groundwater abstractions, but only applicable for surface water abstractions when the amount of water taken exceeds 10 cubic meters per day.

Despite extensive awareness programs and public notices, only one application was received at the end of the grace period. The non-response from the two major users of the resource – SWA and EPC indicates a lack of support of the scheme by these utilities.⁴

SWA and EPC's lack of support of the licensing scheme is a clear breach of the WRM Act 2008. Furthermore it does not send a positive signal to the sector if there is no support amongst the agencies on matters that were ultimately developed to address other sub objectives of the sector, such as protecting the water resources. Any breach of an Act could attract penalties. Therefore the possibilities of any penalties occurring should be made clear to the SWA and EPC to avoid further financial costs.

Recommendation

We recommend that the JWSSC should consider ways to coordinate the efforts and cooperation of the agencies within the sector to improve compliance with relevant legislations especially the Water Abstraction Licensing Legislation.

Management Comments

Management agreed with audit recommendation.

5.2.2 Delay in finalising Water Safety Plans

Draft implementing guidelines for National Drinking Water Standards outline that the development and implementation of Water Safety Plans (WSPs) for each water supplier should be required to ensure that hazards to drinking water are identified and the likely risks are controlled. The guidelines further state that WSPs should be developed for individual drinking water systems. However, for small systems this may not be realistic, and technology-specific WSPs or model WSPs are prepared.

In view of the benefits of implementing WSPs, they should be developed for the 5 treatment plants operated by the Samoa Water Authority (4 in Upolu and 1 in Savai'i) with an overall plan developed for smaller water supply systems. Responsibility for development of plans rests with SWA or other relevant suppliers.

At the date of preparing this report, only one water safety plan had been completed for the Fuluasou treatment plant but not for the other plants operated by SWA. Another water safety plan has been developed for one of the Independent Water Schemes (Matautu) in Savaii and has not been completed.

⁴ Water & Sanitation Sector Third Annual Review Report 2009/10

In the absence of these plans, all risks associated with water quality may not be identified and effectively managed. Completion of the plans is of particular relevance given the current lack of compliance with drinking water standards as the Ministry views the plans as a means of identifying, prioritising and scheduling required improvements to water systems that will increase water quality.

Recommendation

We recommend that SWA should develop water safety plans for the other treatment plants that they operate. In addition the Ministry of Health should work closely with all water service providers in developing and finalising WSPs as these plans are very crucial in minimising risks that might affect the quality of drinking water supply.

Management Comments

Management agreed with audit recommendation.

5.2.3 Non-compliance with National Drinking Water Standards (NDWS)

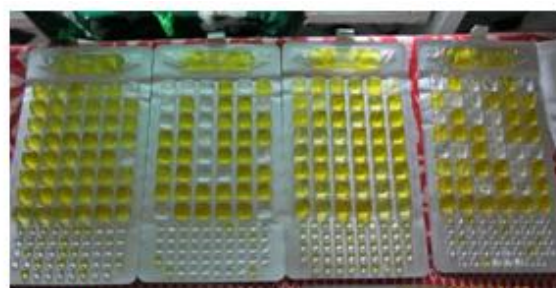
The Ministry of Health is responsible for independent monitoring of the quality of drinking water supplied by all sources in accordance with the NDWS. The results of tests carried out on water supplied from SWA's treatment plants as well as some bottled water companies showed non-compliance with the prescribed standards.

Water supplied by bottled water companies should be relied on as a very safe alternative source of drinking water for the community, while ongoing developments are carried out for SWA systems to be consistently compliant with National Drinking Water Standards. The existence of some poor results in testing undertaken by the Ministry to date is therefore of concern.

The quality of drinking water is assured if water quality complies with the standards. Compliance is improved if there is a formal process to be followed if any non-compliance with the standards is identified. Currently there is no specified action to be taken if non-compliance is repeated for a number of consecutive months.



Water samples test results complying with quality standards



Non-compliant water sample test results

Recommendations

- Consider increasing the frequency of testing of bottled water to ensure that it represents a highly safe source of drinking water for the community
- There should be a requirement for any bottled water company to carry out its own water quality testing on a regular basis (fortnightly or monthly whichever is appropriate) to give assurance to their customers that the water they supply meets the quality set by the NDWS

- A formal documented process be developed and implemented for actions to be taken when non-compliance is identified. The process should include:
 - i. Circumstances when written warnings are to be issued to the relevant service provider and/or bottled water company
 - ii. The penalties to be imposed
 - iii. The follow up procedures to review the action taken by the provider on the area of non-compliance.

Management comments

Management agreed with audit recommendations.

5.2.4 Land Management and Ownership

The continuous clearance in and around water catchment areas for agricultural purposes continues to pose major threats to the adequate supply and quality of water. Sedimentation as a result of erosion is a major pollutant in catchment areas. Pesticides used in agricultural activities and animal waste from livestock wash into rivers and streams posing major health threats to downstream communities.

One of the most contentious issues in water resource management in Samoa is ownership of water resources. With more than 80% of land under customary ownership, conflicts arise between government and land owners on this issue. There is currently limited or no control at all on the use and management of these lands. This further hinders the agencies' efforts in improving access to safe drinking water as well as protecting and conserving watershed areas. SWA and MNRE have encountered delays in carrying out their activities because prior consultation with land owners as well as receiving their consent is required before any activity by the agencies could be carried out.

The involvement of village councils and chiefs will assist in consultations towards efforts to protect water resources and water quality.

Recommendation

Given that more than 80% of land is under customary ownership, Government agencies should consider integrating traditional village councils and chiefly systems into national and local authority decision-making to minimise unsustainable land use practices. Government agencies should also consider to pay a reasonable cost for the use of other people's land to avoid long term delay in implementing the necessary activities.

Management comments

Management agreed with audit recommendation.

5.2.5 Agencies' Efforts in Public Awareness Programs

Criteria: The Ministry should create and promote greater public awareness of water resources issues.

Promoting public awareness of water issues is a very important and costly activity. The implementing agencies have carried out a variety of awareness programs ranging from school awareness programs, environment pages in the local newspaper to radio and television talk back shows as well as advertisements on the television. Sign boards and two buses were used to raise

awareness on watershed protection. Furthermore consultations were carried out with major stakeholders on watershed conservation and protection.

An environment week is held annually where several awareness activities relating to environment issues including water are carried out. The activities involved presentations, discussions and a lot of interaction between representatives of the Water Sector and the community. This forum provides a lot of opportunity for the community to gain understanding as well as provide feedback on concerns about water issues.

Audit found that the implementing agencies have carried out awareness programmes in relation to water issues.

5.2.6 Resourcing of the Water Quality Unit

Criteria: There are sufficient human and financial resources available to ensure effective implementation of the strategy.

The Water Quality Unit (WQU) of the Ministry of Health employs 3 staff to implement monitoring activities for water quality. The WQU used the standards and the tests prescribed in the National Drinking Water Standards when carrying out its monitoring activities.

Discussions with staff and observations of the activities of the unit identified that:

- The 3 staff may not be sufficient to implement all monitoring activities specified in the Process for Water Quality Monitoring, Reporting and Planning
- Only one portable test kit is available to test water supplied to entire population of Samoa
- The laboratory used by the unit is small and located in the corner of the room occupied by all 3 employees and other office equipment and furniture and is not fully suitable to analyse samples of water

Effective implementation of all monitoring activities is dependent on the availability of adequate and appropriate resources (in relation to NDWS). Insufficient or inadequate resources, either human or capital, may result in delays or failure to complete some planned monitoring activities including the conduct of water tests, as these are all generally undertaken by a single employee. This could compromise public health.

Recommendations

- The Ministry should consider employing additional staff in the Water Quality Unit to ensure sufficient staff are available to perform all planned and required monitoring activities in line with planned timeframes
- Consideration should also be given to purchasing additional equipment to be used in monitoring.
- The laboratory used by the Water Quality Unit should be improved to the appropriate level for testing all aspects of water quality.

Management comments

Management agreed with audit recommendations.

5.2.7 Lack of Resources at MNRE and SWA

Both MNRE and SWA are faced with the problem of shortage of qualified staff, vehicles, equipments as well as financial support for other activities that required to be implemented.

It is evident that due to low tariffs SWA was dependent on Government subsidies for operations and maintenance of infrastructure. Currently, budget support has assisted SWA in addressing infrastructure asset replacements and improvements, however it is more evident that there is a lack of technical capacity (shortage of engineers and technical staff) which in turn has resulted to the delay of construction works for the current year. Outsourcing of works to the private sector is another indication of limited resources available, and therefore requires the capacity for contract management and other support functions.

Groundwater monitoring for bores by the MNRE requires specific equipment (drilling rig) in extracting data and technical capacity in conducting its analysis. However with the maintenance of the drilling equipment still taking months for repair, the analysis on information regarding establishing ground water bores for the country can be delayed. Similarly, there is a need for experienced drillers on operating the drilling rig so that setbacks such as the collapse of bores can be minimized.⁵

Recommendations

- We recommend that the implementing agencies should continue to improve the development of its human resources through more technical trainings and overseas work attachments.
- We recommend that the implementing agencies prioritize activities and the allocation of relevant resources so that activities can be implemented and improved when necessary.
- The implementing agencies should continue to submit proposals to donors for assistance in funding of overseas technical trainings and working attachments relevant to the agencies.

Management comments

Management agreed with audit recommendations.

5.3 Monitoring the effectiveness of implementation

5.3.1 Reduction in Level of Complaints

Criteria- Responsible agencies can demonstrate improvements in the effectiveness of their actions, over time.

Samoa Water Authority had undergone a restructuring of its Upolu Operations in April 2009. The restructuring aimed at improving efficiency and quality of services provided by the Authority. The restructure resulted in the separation of rural and urban operations and maintenance with defined coverage areas for provision of services. The two Divisions are responsible for the implementation of preventative maintenance programs and emergency repairs. These Divisions also implement approved minor capital work projects, and operate and maintain the water supply infrastructure system assets and water supply services in their designated areas.

⁵ Water and Sanitation Sector Third Annual Review Report 2009/10

The level of complaints in Upolu have reduced after the implementation of the restructure (July 2009-June 2010) when compared to the overall total of complaints before the restructure (July 2008 – June 2009) by 12%. The reduction in complaints is one way the SWA has demonstrated improvements in its efforts towards ensuring community access to safe drinking water.

5.3.2 Sector Performance Management

The implementing agencies prepared and submitted reports to the relevant committees such as the Technical Steering Committee, to explain the progress of implementation of activities. Activities have been carried out by the different implementing agencies but there is no evidence of implementation efforts by the sector towards achieving or improving community access to safe drinking water.

A performance monitoring system (PMS) has been set up to collate data collected from Implementing Agencies. Although this has been rather slow in progress, data has been collected for water quality monitoring, water resource management, sanitation and water supply. The challenge now is to ensure that data is authenticated and reflects the actual achievements of the sector.

There should be performance indicators for each implementing agency. This may include the following:

- Improvement in watershed protection
- % of people that have access to water has increased over time
- % of bottled water companies that comply with NDWS
- Improvement in trends in waterborne diseases

Recommendation

JWSSC should prepare a report using the information from the PMS to explain the progress of efforts taken by the various implementing agencies within the water sector towards achieving the sector's overall goal of ensuring community access to water of suitable quality and appropriate quantities to meet all reasonable health, environmental and economic development needs.

Management Comments

Management agreed with audit recommendation.

5.3.3 Lack of Public Reporting on Drinking Water Quality

Criteria: The JWSSC should monitor the effectiveness of actions taken by the responsible agencies to ensure access to safe drinking water.

One of the functions of the Drinking Water Quality Committee, as outlined in draft implementing guidelines 2009, is to report to the public the state of drinking water quality in Samoa. At the time of writing this report, there was only one advertisement in the public newspaper on results of monitoring compliance with the National Drinking Water Standards. Public reporting should be done regularly.

Reporting to the public should include information such as:

- Trends on waterborne diseases (as referred to in Drinking Water Quality Committee minutes) obtain some data on this trend
- General health information re steps to be taken when using water
- Public health warnings when water quality is below acceptable standards

- Results of testing of drinking water quality.

Forms of reporting could include:

- A section on the Ministry of Health's website dedicated to water quality where information can be accessed by the public
- Television and print media re general health information and health warnings
- Release of publications dedicated to the results of water testing
- Dedicated telephone number for the public to file complaints or enquire about water quality (separate to the telephone numbers of service providers).

Recommendation

The Committee develop and implement a reporting framework to assist them with keeping the public informed of all issues concerning water quality as well as meeting its public reporting obligations. A framework would include:

- The types of information to be reported
- The form of reporting for each type
- Requirements for issuing public health warnings
- The frequency and timing of reporting
- Agencies and/or staff responsible for each type of reporting.

Responsibility for types of reporting should be clearly assigned, for example Samoa Water Authority or Ministry of Health and staff member allocated responsibility for updating the website with current information.

Management comments

Management agreed with audit recommendation.

5.3.4 Registration of New Bottled Water Companies

Audit was advised that it is not currently a requirement for the premises and equipment of any new bottled water to be inspected by the Water Quality Unit of the Ministry of Health before it is issued a business licence by the Ministry for Revenue.

Such an inspection would ensure that the company has all the facilities necessary to enable compliance with water quality standards.

In the absence of an inspection process, the risk that a company will not be capable of meeting standards into the future is increased.

In relation to bottled companies, the Water Quality Unit should inspect the premises of any new company who intends to set up this type of business to ensure that all the facilities are in place and up to the prescribed standard that will ensure compliance with drinking water quality standards. The WQU's inspection and certification should be compulsory and a must for any business of this type before the business license is issued by the Ministry for Revenue.

Recommendation

The Ministry of Health should seek amendment to current business licensing practices in Samoa to make it compulsory that a new business license will not be granted to an intended bottled water company until the Water Quality Unit has inspected and certified the appropriateness of premises and other facilities as capable of meeting drinking water quality standards.

Management comments

Management agreed with audit recommendation.

6.0 CONCLUSION

The sectoral objectives support Samoa's national development agenda as explained in the SDS 2008-2012 and aim to ensure the realization of improved public health and alleviation of poverty through community access to water of suitable quality and appropriate quantities to meet all reasonable health, environmental and economic development needs. A number of policy and regulatory documents have been reviewed and revised to provide a comprehensive and coherent institutional and regulatory setting for the sector to undertake its developments.

While recognizing that progress has been made in the management of water resource and water related issues to ensure access to safe drinking water in Samoa, the audit found areas requiring further attention by the responsible agencies. Areas that need improving included the effective implementation of the legal and policy framework; and monitoring and reporting of effectiveness in implementing the legal framework.

One of the water sector's objectives is ensuring access to safe drinking water. Monitoring the results of sector performance is critical to an assessment of the water sector's achievements in this regard. In addition reporting to the public of these results as well as the status of drinking water quality is equally important.

Enforcing compliance with Part V of the Water Resource Management Act 2008 on Water Abstraction Licensing should be revisited by the JWSSC to ensure that the legislation is effective in protecting water resources.

Finalising water safety plans for all water supply system is crucial in minimising risks that might affect the quality of drinking water supply.

Because of insufficient resources in the form of finance, human and capital, there is a need for agencies to prioritize the activities that should be implemented.

8.0 APPENDICES

Overall Sector Goal: Improving Public Health :

<i>Indicator</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>Targets</i>			
				<i>2008</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>
Annual decrease of number of water related diseases reported							
• Typhoid	524	142	221				
• Gastroenteritis & Diarrhoea	2,454	2,483	3,167				
Access to safe and reliable supply of potable water (% of population)	50%	66%	79%	86%	88%	88%	

(Water For Life Sector Plan & Framework For Action 2008/09 – 2011/12)