REPUBLIC OF THE MARSHALL ISLANDS

CONFIDENTIAL

C.M. 034 (2014)

FOR ACTION
Minister in Assistance
Minister of Foreign Affairs

FOR INFORMATION
All Cabinet Members

SUBJECT: Approval of the RMI National Water and Sanitation Policy and Proposed Action Plan

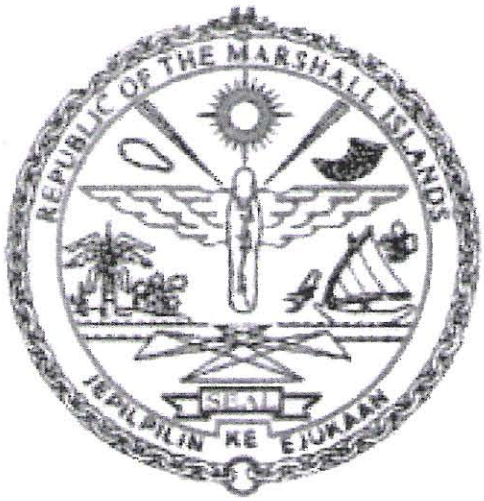
At its meeting on March 21st, 2014, the Cabinet:

approved the *attached* RMI National Water and Sanitation Policy and Proposed Action Plan.

Morean S. Watak
Clerk of the Cabinet

Christopher J. Loeak
President

[Reference – CP 6993 (2014)]
Signed by the President on Mar. 24th, 2014



Republic of the Marshall Islands

National Water and Sanitation Policy

March 2014

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Definitions

Improved water supply is defined as a water source one that, by nature of its construction or through active intervention, is protected from outside contamination, in particular from contamination with fecal matter. The minimum requirements of a improved water supply are that it is (a) Safe from any contaminant that may cause human harm, (b) Reliable to meet expectations of use, and (c) Adequate quantity to provide for all of necessary health and private sector activities.

Improved sanitation is defined as a facility that hygienically separates human excreta from people, animal and insect contact. More specifically, the minimum requirements of a hygienic toilet are that it (a) Prevents human contact with human excreta, (b) Prevents the discharge of untreated human excreta into open spaces, drains and water bodies, (c) Prevents fly, other insect vector, and animal contact with human excreta, (d) Includes a solid, raised, floor with a smooth and easy-to-sweep finish, (e) Includes or is near to a hand washing facility.

Hand washing Facility is defined as any facility with the presence of soap and running water. If no running water or soap, the most locally appropriate solution shall be included such as ash or hand sanitizer. Hand washing facility must be available at kitchen and inside the restroom for hand washing with soap at all five critical times (after defecation, after cleaning a child's bottom, before preparing food, before feeding a child, and before eating).

Excreta is defined as feces and urine.

Sanitation is defined as the safe management and disposal of liquid and solid wastes, and the practice of healthy behaviors.

El Niño/La Niña-Southern Oscillation is defined as a quasi-periodic climate pattern that occurs across the tropical Pacific Ocean roughly every five years.

Common pool resource is a particular social arrangement collectively regulating the preservation, maintenance, and consumption of a shared good ie. groundwater, fishing stocks, atmosphere, etc. The resources' boundaries are hard to devise and such are generally subject to the problems of congestion, overuse, pollution, and potential destruction unless harvesting or use limits are devised and enforced.

Glossary

CSES	Centre for Science in the Earth System
EPA	Environmental Protection Agency
MWSC	Majuro Water and Sewer Company
KAJUR	Kwajalein Atoll Joint Utility Resources
RMI	Republic of the Marshall Islands
GMI	Government of the Marshall Islands
SOE	State Owned Enterprise
EPPSO	Economic Planning Policy and Statistics Office
DHS	Demographic Health Survey
MOH	Ministry of Health
ENSO	El Niño/La Niña-Southern Oscillation

Acknowledgements

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Deborah Barker-Manase
Moriana Phillips
Ben Graham
Mark Stege
Jesse Shapiro
Tamera Heine

And the work of the current Policy sub-committee comprised of:

Lowell Alik
Julius Lucky
Roderick Kabua
Mark Stege
Nigel Deacon
Mathew Johnston

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Situation Analysis

The statement that "water is life" is an understatement in RMI where there is a chronic shortage of drinking water and the population is at a high risk of disease due to poor sanitation. Additionally water and sanitation's strong connection to the health and quality of life and the risks associated with climate change make it one of the highest priorities of RMI. All of RMI's 29 atolls and 5 islands are low lying with extremely limited freshwater resources, difficult sanitation challenges and vulnerability to weather and natural disasters. At least 74% of the population now lives in the two urban centers of Majuro and Ebeye (Census, 2010).

"Improved water supply" coverage is high, at least 97%, yet still poses high risk to the population due to limited quantities, contamination and drought (DHS, 2007). The primary source of freshwater is rain mostly through rainwater catchments and in some favorable locations with groundwater lenses. In Majuro the water system is more than 75% rainwater collection (both municipal and household) with the remainder coming from Laura groundwater lens. In Ebeye the water supply system is based solely on desalinization through expensive reverse osmosis filters. By 2006 approximately 60% of outer island water catchments were still unsafe and contaminated (EPA, 2006).

In the last 60 years at least 68 months have been in drought, where the average rainfall for that month and the previous two totalled less than 15 inches (Shapiro, 2011). Gradual sea level rise is predicted and El Nino Southern Oscillation (ENSO) events are projected to become more frequent and/or severe with climate change. Most urban households in Majuro have private rainwater catchments (more than 64% of Majuro households) but the majority don't in Ebeye (37% of Ebeye households), overall 49% of all households have less than 4 days of storage. Additionally the primary water source for 29% of households on Majuro and 56% on Ebeye is their neighbors, while 59% of total households report not having access to their primary drinking water source throughout the year (HWS, 2010) ie when rainwater catchments empty during drought. On Majuro only about 30% of households are connected to the public water system managed by MWSC that distributes water intermittently for set times currently (October 2012) 3.5 hours on 5 weekdays. On Ebeye there is a high percentage of household connections with once weekly distribution and with limited pressure. On the outer islands rainwater is almost exclusively used as the primary water source with 99% of households (DHS, 2007). Dry months are not necessarily indicators of drought but may be part of normal weather patterns. As such the negative impact of empty catchments during such months may point to the need for larger catchments.

Sanitation severely lags behind water with only 70% improved coverage, 82% in urban areas (main township at Majuro and Ebeye) and 53% in rural areas. Despite a law mandating toilets many households are still without improved toilets, with 35% of the population in rural areas and 3.6% in urban still defecating in the open (DHS, 2007). Additionally both urban sewer systems on Majuro and Ebeye dispose raw sewage directly into open water adjacent to populated areas severely impacting the environment and potentially people's health. This trend is especially concerning in dense urban areas and over freshwater lenses where there is contamination of critical fresh water resources and high potential for disease outbreaks. In 2006, 1 in 15 people (6.7%) on Majuro and 1 in 8 people (12.5%) in Ebeye were ill with gastroenteritis (could be described as diarrheal disease) and these are only the cases reported to the Ministry of Health (HWS,

2010). Almost 10% of all deaths of children under five are due to diarrhea (WHO, 2010). RMI has also seen outbreaks of Cholera for instance in 2000 there was over 440 cases and 6 deaths (Palmer, 2007). Diarrheal Diseases, cholera, typhoid, gastroenteritis and respiratory diseases are all strongly linked to poor water, sanitation, and hygiene and are of great concern especially for the young. Diarrhea is more common among children who live in households with a non-improved or shared toilet facility than among children who live in households with improved, not shared facilities and therefore Gastroenteritis must be even more prevalent in those households (DHS, 2007).

Indiscriminate disposal of solid waste and unsafe landfills are also a severe problem especially in urban areas, despite the existence of basic waste services. Majuro and Ebeye are still without safe and sanitary landfills, disposal for toxic or hazardous wastes or effective reduce, reuse or recycling programs. Institutional and public water supply and sanitation are also in poor condition with few hygienic or functioning facilities for the public.

In line with government spending priorities and the likely loss of externally generated revenue by 2023 RMI must make decisive improvements in SOE performance for provision of sustainable and equitable services in the future. In 2011 MWSC had over 1 million dollars in receivables and 2 out of 3 customers have been disconnected due to non-payment (MWSC, 2011). On Ebeye, KAJUR has yet to charge fees for water and sanitation services and annually requires a significant government subsidy. Affordability of services is also a key issue with an average income in urban areas of $15k/year and $17k/year in Majuro and Ebeye respectively. More than 12% of households have no income at all (CSES, 2006). Between 2001-6, more than 16 thousand people visited a clinic or hospital with Gastroenteritis in urban areas costing at least 1.9 million dollars (HWS, 2010). This means an annual cost of approximately $400k in 2006 dollars.

On 22 and 23 March 2011, a National Water Summit convened in Majuro highlighted the key sector issues and confirmed the urgency of water and sanitation improvement. In particular it was agreed that while there are a number of official policies, laws, regulations, plans and agreements that articulate RMI's intentions and standards with respect to water and sanitation, they have been developed over several decades in a relatively uncoordinated fashion. Many significant gaps still exist and there is a lack of a specific and overarching national water policy.

Both urban and rural water and sanitation need to be addressed by government policy and programs, including integrated water resource management, water supply, excreta disposal, wastewater, solid waste, storm water drainage and hygienic practices. Effective targeting of improvements is particularly important, both for equity reasons and because the bulk of the disease burden and costs of inadequate provision are carried by the poorest, most vulnerable and most disadvantaged individuals.

In summary this National Water and Sanitation Policy is urgently required in RMI to direct investment in the sector, improve water and sanitation services, and sustainably manage the limited fresh water resources.

Policy Principles

The RMI already faces significant development pressures. These pressures arise from extremely high population densities (on Ebeye and Majuro in particular), high levels of poverty, a dispersed geography of atolls over a large ocean area (making communication difficult and transport expensive), and a small island economy that is physically isolated from world markets but highly susceptible to global influences.
Environmental pressures are also acute, with low elevation, fragile island ecosystems, a limited resource base and limited fresh water resources (exacerbating the reliance on imports) resulting in an environment that is highly vulnerable to overuse and degradation.

These pressures are well-documented, in RMI's Strategic Development Plan 'Vision 2018'. The *Vision 2018* document is the broad vision of the nation as to where it would like to be in the year 2018 in terms of its sustainable development. The document sets out long-terms goals, objectives and strategies, which were developed through an extensive consultation process.
In regards to the management water resources and sanitation *Vision 2018* states and subsequently the mission statement for this National Water and Sanitation Policy is;

"Enabling all citizens to access clean and adequate water supplies"
and a
"level of hygiene and sanitation comparable to world standards".

Vision 2018 is part of a three tier plan that includes Master Plans and Action Plans as the second and third tiers. The Master Plans focus on major policy areas of which Water and Sanitation is not singled out but is covered by Infrastructure, Outer Islands Development, Environment, and Resources and Development. Action Plans will be developed through Ministries, Statutory Agencies and Atoll Local Governments. These documents will show programs and projects together with appropriate costing.
The Water and Sanitation Policy will also act in a similar structure where the Policy will act as a Master Plan and a subsequent Action Plan will be developed through Ministries, Statutory Authorities and Atoll Local Governments with programs, projects together with appropriate costing.

The National Water and Sanitation Task Force developed in 2010 and consists of various stakeholders from Government, Agencies and Community Organizations has been the lead in setting the parameters and scope of the policy as well as being constantly consulted on it content. The following was agreed as the scope of the policy;

1. The National Water and Sanitation Policy shall provide broad guidelines and support the state organ, including its central and local governments, in the formulation of water and sanitation laws, guidelines, strategies, investment plans, programs and projects;
2. Provide guidance and define rules and responsibilities for water and sanitation investment and activities for all sector stakeholders;
3. Provide a framework for the management of freshwater resources, water supply, safe disposal of excreta and wastewater; and the promotion of hygienic behaviors; and
4. Cover all people, organizations and areas throughout RMI.

The RMI has identified a series of priority areas which represent targets for attention and, in some cases, urgent response. While efforts continue to understand the nature of future climate variability, it is clear that the RMI faces major impacts on human health and water security of its communities' livelihoods and infrastructure from sea-level rise, sea surge, typhoons and rainfall intensity and drought issues from changing rainfall patterns.
To prepare for these impacts, the RMI National Water and Sanitation Policy presents five strategic goals that provide a pathway to an integrated, whole of Marshall Islands response. Objectives and outcomes are identified for each goal.

1. Reduce the occurrence of waterborne illness;
2. Ensure water resource sustainability;
3. Ensure water and sanitation utilities are financially solvent;
4. Target service improvements at the disadvantaged;
5. Be resilient to climate variability and extreme events.

To ensure the RMI meets these goals an initial 5-year Action Plan will be developed covering the period 2013-17. The Action Plan will develop projects and programs that will address the identified priority actions of the Policy.
The outcome will be a comprehensive response to improve the resilience of the people of the Marshall Islands.

Policy Areas

1. Waterborne Illness

Policy Statement 1:	Diarrheal disease shall be reduced through water quality and sanitation improvements and monitoring and social marketing
Target 1:	By the end of 2015, reduce occurrence of gastroenteritis by 50%

Strategies

1.1 Water Quality Monitoring and Improvement

Water quality shall be ensured for all public, household and commercial water supplies through:

a Monitoring household water quality through representative testing;
b Free chlorine residual testing for connected households;
c Regular water quality testing for all public and commercial water supplies;
d Establishment of a community based water quality officer and monitoring program;
e Improvement of monitoring capacity and certification of water quality laboratories and staff:
f Establishment of a sanitary survey program by Water Committees;
g Assurance that all coastal water quality monitoring sites meet the Marine Recreational Water Quality Standard.
h Maintaining and upgrading municipal infrastructure where necessary to achieve required water quality.

1.2 Social Marketing Campaigns

Social marketing campaigns shall be utilized to improve hygienic behaviors and awareness through:

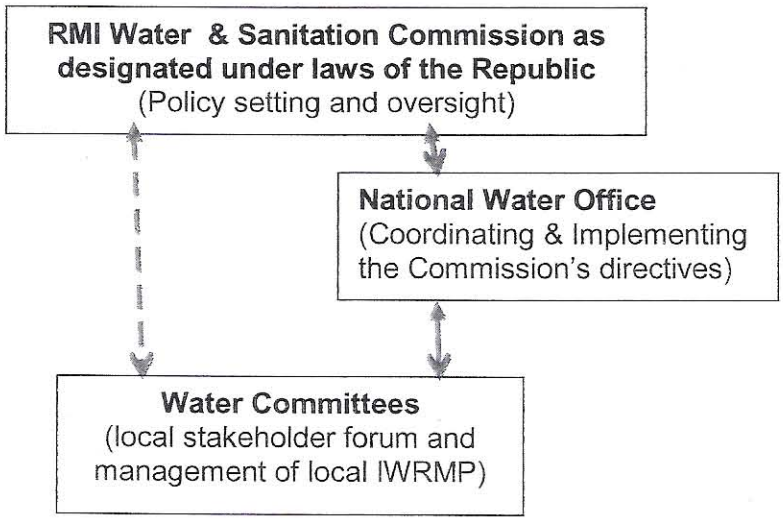
a Promotion of household water treatment and storage, latrine use, safe disposal of children's excreta and handwashing with soap;
b Participation in all global water, sanitation and hygiene days;
c Ensuring active public health workers and sanitation promoters;
d Promoting and enforcing national and local government guidelines, rules and regulations;
e Behavior change programs targeted at stopping open defecation, safe disposal of infant and child excreta, handwashing with soap and household water treatment and storage;
f Build the capacity of local organizations, small enterprises and individuals to undertake lead roles in the supply of water and sanitation goods and services;
g Raise awareness of the costs of inadequate water and sanitation;
h Ensuring improved water and sanitation facilities are available and maintained at all public, commercial and institutional locations;
i Ensuring drinking water availability at all schools public or private.

2. Resource Sustainability

Policy Statement 2:	**Groundwater is a common pool resource and shall be protected with collective and effective management.**
Target 2:	By the end of 2015, all water management organizations shall have an integrated water resource plan.

Strategies

Establish new institutional framework to guide water and sanitation policy across RMI based on the following structure



The Water and Sanitation Commission shall be established by GMI to include representatives from elected officers and the general public and this body shall determine the appropriate representation for the Water and Sanitation Office and the Water Committees.

2.1 Water and Sanitation Commission

The water and sanitation sector shall be governed by a *Water and Sanitation Commission* whom:

a Implements and monitors the water and sanitation policy;
b Makes key decisions on resource allocation and sector policies;
c Represents all key stakeholder groups and has geographic and thematic sub-bodies or sub-committees;
d Anticipates emerging challenges and opportunities;
e Utilizes objective criteria to inform decision-making.
f Oversee ongoing development of the Water & Sanitation Policy in RMI.

2.2 Water and Sanitation Office

The water and sanitation sector shall be coordinated by a *Water and Sanitation Office* whom:

a Provide secretariat to the Water and Sanitation Commission;
b Coordinate RMI National Water Day activities;
c Conduct water & sanitation sector assessments and donor reviews;
d Facilitate annual water and sanitation sector program alignment;
e Improve public communications and awareness on water issues;

f Declaring drought status level for use by water management organizations;
g Review, recommend and enact procedures for implementing policy and monitoring the effectiveness of policy;
h Review, revise, and where necessary enact legislation, regulations and codes relevant to water and sanitation and to the declaration and protection of water reserves.
i Prepare the water and climate outlook report;
j Establish performance monitoring systems and annual strategic reviews.

2.3 Community-Based Water Committees

All ground and surface water shall be managed and regulated by *Water Committees comprised of* representative organizations for each resource or region that:

a Regulate and monitor water use, replenishment and contamination;
b Are represented by the area population, landowners, water users, traditional leaders, local government and national authority;
c Demand strong community participation;
d Gradually endeavor to transition use of other water sources;
e Participate in integrated community based approach for management of water resources, Reimaanlok (National Conservation Area Plan for the Marshall Islands);
f The Water Committee can form part of a Reimaanlok Land Resource Committee
g Establish and manage an integrated water resource plan.

3. Water and Sanitation Services

Policy Statement 3:	**The cost of operation and maintenance of water supply and sanitation systems shall be recovered from service users through a fair and transparent tariff.**
Target 3:	By the end of 2015, all water and sanitation service organizations are financially solvent with transparent and appropriate subsidy for any community service obligations.

Strategies

3.1 Water and Sanitation Tariffs

Municipal water supply is not free, it must ultimately be paid for by the beneficiaries where:

a The cost of operation and maintenance of water supply systems will be recovered from service users through a fair and transparent tariff.

b Water tariffs must be simple, transparent, reflect the ability of the poor to pay and recover the cost of operation and maintenance.

c Commercial, industrial and institutional users should at least pay a rate that covers their total cost of water and sewage services.

3.2 Water Supply and Sanitation Service Management

Water Supplies and sanitation services shall be managed by organizations that:

a Have designed and constructed infrastructure that:
   1) Is accessible to the widest number of users including the elderly, disabled, very young and pregnant women;
   2) takes account the
      i. Financial and technical management of operation and maintenance;
      ii. Sustainability of resources;
      iii. Disadvantaged members of the community;
      iv. Integration with other sectors.

b Monitor and report to continually reduce unaccounted for water and increase cost recovery from services;

c Store and regulate its resources to ensure availability in times of drought and extreme climatic events;

d Preserve safe drinking water from source to distribution;

e Have clear and official subsidy agreements;

f Take enforcement action against those utilizing or installing illegal connections

g Provide advice & make recommendations as to the impact of any proposed major development on existing water and sanitation infrastructure

3.3 Water Harvesting from Public Buildings & Infrastructure

a Water directly harvested from government buildings may be used for the benefit of the public

4. Target the Disadvantaged

Policy Statement 4:	**Government Investment in water and sanitation service improvements shall be prioritized for those lacking access to improved water and sanitation and drinking water quality deficiencies**
Target 4:	By the end of 2015, 95% of households have access to improved water and sanitation

Strategies

4.1 Target groups

Disadvantaged for the purposes of this water and sanitation policy shall include only:

a Those households or communities with nil or limited access to improved water and sanitation facilities;

b Those living in or with:

1. Extreme poverty;
2. Severe disability due to age, disease, injury or other causes;
3. Disaster or conflict-affected households;
4. Significantly adverse ground conditions (necessitating expensive construction); or
5. Lack of space for private facilities;

And shall recognize the essential role of women in the provision, management and safe-guarding of water, sanitation and hygiene.

4.2 *Behavior change for the disadvantaged*

The disadvantaged shall be specifically targeted by:

a Behavior change programming to achieve improvements in household water treatment and storage, hygiene, and sanitation;

b Provision of specialized incentives and credit options for the supply of water and sanitation services.

4.3 Subsidies for those in need

Those households without access to improved water and sanitation facilities shall be provided subsidies for construction only when:

a There is a long term strategy to ensure that all eligible households will ultimately be provided with equitable services when local, national or donor agencies progressively provide sufficient budget for provision of this subsidy;

b Households are identified by local government or community leaders under clear, objective and repeatable nationwide criteria;

Subsidies may be provided in many forms including; coupons, vouchers, materials or credit and shall be designed to support the private sector and market sustainability, and not to undercut prices or displace existing demand;

4.4 *Public facilities for the disadvantaged*

a An appropriate capacity of sex segregated, disabled access, child, pregnant women and elderly friendly facilities shall be available at all public, commercial and institutional locations;

5. Climate variability and extreme events

Policy Statement 5:	**Ensure water and sanitation provision through proactive risk reduction and comprehensive monitoring**
Target 5:	By the end of 2015, all safety risks reduced to rating of "Medium" or lower from the Majuro water safety plan

Currently there exists a Water Safety Plan for Majuro but not for Ebeye nor the outer islands.

Strategies

5.1 Resource Monitoring

Comprehensive monitoring programs shall be established to ensure regular and sufficient data to inform sustainable resource management that:

a Regularly monitor quantity and quality of all critical groundwater resources;
b Regularly monitor rainfall in all locations supporting a population with both a school and a health dispensary;
c Regularly monitor sea level rise on Majuro Atoll;

5.2 Safety Planning

A comprehensive national water safety plan shall be developed that includes:

a Separate sections and assessments for each of the two urban centers of Majuro and Ebeye, and the Outer islands;
b Simple, clear, and objective assessment system using likelihood and consequence of event occurrence to determine risk;
c Endorsement by the Water And Sanitation Commission with annual reviews.
d Appropriate plans for outer islands based on population and local conditions.

5.3 *Drought and Extreme Weather Resistance*

Drought and extreme weather events are serious and frequent occurrence and every household, institution, and business should be strongly encouraged and where necessary supported to strengthen their resistance to these events through:

a Promotion of at least 7 days of storage, 200 ft2 of rain catchment area and 300 Gallon fresh water storage per resident, at all residential buildings[1];
b Promotion of at least 7 days of storage, 45 ft2 of rain catchment area and 10 Gallon storage tank per visitor per average day, at all public and commercial building[2] in addition to storage for water used in commercial processes (say washing or ice-making etc);
c Provision of information on safe on-site drinking water treatment in emergencies;
d Promotion of rainwater harvesting as the preferred water source wherever feasible;
e Develop early warning systems for droughts and other extreme events affecting water and sanitation provision and inform the community.
f Investigate inter and intra island transfer mechanisms, including water withdrawal, transportation and end storage and usage options

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[1] A = Average Daily Fresh Water Use per person with saltwater at residence: 45 Gallons
R = Average Daily Rainfall in Average Month: 0.35 inches
7 Day Storage per person = A* 7 days = 315 Gallons
S = Average rain catchment surface size to produce A per day = Ax12/(Rx7.48) = 206 ft^2

[2] B = Average Daily Fresh Water Use per person with saltwater at non-residential: 10 Gallons
T= Average rain catchment surface size to produce B per day = Bx12/(Rx7.48) = 45 ft^2

Institutional Approach

Implementation

The implementation of the Water and Sanitation Policy will be ensured and monitored by the Water Commission through the following activities:

1. GMI adoption and support for the policy and establishment of the Water and Sanitation Commission;
2. Development of supporting regulations and legal Instruments;
3. Establishing and annually celebrate March 22 as RMI's National Water Day, October 15 as RMI National Hygiene Day, and November 12th as National Toilet Day;
4. Develop medium term comprehensive strategic plans with all water and sanitation service providers serving more than 5000 people;
5. Annual reviews of sector performance and investment alignment for all water and sanitation service providers serving more than 5000 people ;
6. Development of an annual water and sanitation action plan;
7. Monitoring of waterborne illness;

Roles and Responsibilities

The following institutions shall take the following roles and responsible for Water and Sanitation:

Ministry of Health

The Ministry of Health shall promote reduction in the occurrence of waterborne illness and target programs at the disadvantaged through:

1. Social Marketing Campaigns to improve water and sanitation behaviors;
2. Behavior change and subsidy programs for the disadvantaged.
3. Providing data on occurrence of waterborne illness for monitoring purposes

Ministry of Public Works

The Ministry of Public Works shall be responsible for ensuring governance of water and sanitation service provision including:

1. Construction of water and sanitation facilities for the disadvantaged;
2. Establish and promote minimum standards for water and sanitation infrastructure including those for the disadvantaged;
3. Regulation of all municipal water and sanitation tariffs;
4. Governance of municipal water supply and sanitation service provision;

Chief Secretary's Office

The Chief Secretary's Office shall be responsible for targeting the disadvantaged and promoting actions for drought and extreme weather resistance including:

1. Monitoring and selection of the disadvantaged;
2. Programs to promote drought and extreme weather resistance.

Environmental Protection Agency

The Environmental Protection Agency shall be responsible for resourcing of the Water and Sanitation Office including:

1. Drafting enabling instruments for the *Water and Sanitation Commission*;
2. Drafting enabling instruments for the *Water and Sanitation Office*;
3. Day to day management of the *Water and Sanitation Office*;
4. Monitoring and reporting of water quality at all levels;
5. Facilitating the establishment and ongoing operation of *Water Committees*;
6. Ensuring the ongoing operation of the *Water and Sanitation Commission*;
7. Monitoring the quantity, quality, and contamination of ground and surface water resources;

8. Development and management of the National Water Safety Plan. (Majuro has been drafted).

Households

Households shall be responsible for the construction/provision and maintenance of their own water supply and sanitation facilities that:

1. Meet the minimum criteria of an improved and hygienic facility;
2. Endeavour to maximize their resilience to drought and extreme weather events;
3. Designed to prevent damage or contamination of groundwater when over a freshwater lens.
4. Prevent back syphonage of contaminated water into municipal water supplies.

Public, Commercial and Institutions

All public, commercial and Institutional facilities shall ensure their facilities are:

1. Accessible to improved water supply, sanitation, including safe drinking water, toilets, and hand washing accessories, (running water and soap);
2. Gender segregated and disabled accessible;
3. Available for use for customers and visitors.

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**add baseline data source for Gastroenteritis*

Annexure A; Policy Summary

WATER and SANITATION POLICY

Vision: *All Marshallese citizens with access to clean and adequate water supplies; and a level of hygiene and sanitation comparable to world standards.*

GOAL	1: Reduce the occurrence of waterborne illness	2: Ensure water resource sustainability	3: Ensure utilities are financially solvent	4: Target the disadvantaged	5: Be resilient to climate variability and extreme events
POLICY	Diarrheal disease shall be reduced through water quality improvements and monitoring and social marketing	Groundwater is a common pool resource and shall be protected with collective and effective management	The cost of operation and maintenance of water and sanitation systems shall be recovered from service users through a fair and transparent tariff	Government investment in water and sanitation service improvements shall be prioritized at those lacking access to improved water and sanitation and drinking water quality deficiencies	Ensure water and sanitation provision through proactive risk reduction and comprehensive monitoring
TARGET	By 2015, reduce occurrence of gastroenteritis by 50%	By 2015, all water management organizations have an integrated water resource plan	By 2015, all water and sanitation service organizations are financially solvent	By 2015, the 20% most disadvantaged households have access to improved water and sanitation	By 2015, all vulnerability risks rated "High" or above are reduced from the national water and sanitation assessment
STRATEGIES	*Water Quality Monitoring* *Social Marketing Campaigns*	*Water Committees* *Water and Sanitation Commission* *Water and Sanitation Office*	*Water and Sanitation Tariffs* *Water and Sanitation Service Management*	*Targeting the Disadvantaged* *Subsidies for disadvantaged HH* *Facilities for the disadvantaged* *Behavior change for the disadvantaged*	*Resource Monitoring* *Vulnerability Assessment* *Drought and Extreme weather resistance*

Annexure B; Consultation Report

	Policy Issue	Sub Set	Current Situation	Desired Outcome	Action	Lead Agency	Timing	Cost $000s
					Enabling public health official to monitor at household level	Min Health		
					House construction standard with adequate guttering and tankage			
				Legislative control of septics over water lenses	Proper design and construction of septic tanks and leaching fields			
		Redefine baseline "Gastro" occurrence			Needs to be based on initial Ministry of Health data at commencement of policy and comparison to data at end of 2015			
2	**Resource sustainability (concerns groundwater, rainwater harvesting and alternative water sources)**		Uncontrolled use of groundwater	Sustainable use of available groundwater resource	Management of common pool resource to minimise contamination and chance of damaging water lenses with salt water intrusion			
			IOM has surveyed wells, tanks and households on 13 drought affected islands	National water resources are mapped and available for potential funding / implementation agencies	Resource and expand upon IOM's GIS database of water resources			
			Little info on quality / quantity of Outer Island lenses	Good resource information so that atoll is sustainable and resilient based on total water resources (rain and groundwater)	Mapping and data collection of OI water lenses			
			Poor coverage of rainfall data across the nation (some islands have less than 1/3 of Majuro rainfall)	Understand rainfall variability	Expand reliable rainfall data monitoring			
			Utilities have unacceptable water losses	Meet best practice international standard for water				
			Poor capture of rainwater from existing structures	100% coverage of rainwater capture from suitable existing structures	Improve rainwater capture from existing structures			

	Policy Issue	Sub Set	Current Situation	Desired Outcome	Action	Lead Agency	Timing	Cost $000s
			Wholly reliant on groundwater and rainwater	Access to other water sources (eg seawater desal, water from air, solar stills, rainwater collection raft)	Take advantage of new technologies			
			Commercial water vendors exist on Majuro only	Encourage establishment of water vendors on OI	Gather information on current water vendors to investigate feasibility of establishing businesses more widely			
3	**Water and Sanitation Service Provider sustainability**	unacceptable water and sanitation service level in urban areas (Majuro and Ebeye)	Decaying infrastructure providing very poor level of water and sanitation services	Infrastructure maintained and refurbished on an ongoing basis	Detailed & prioritised infrastructure recovery plan			
			MWSC / Kajur are only managers of Government owned assets. Need owner to include assets in annual accounts	All assets captured, valued, depreciated and cost and potential sources of replacement funding identified	Asset inventory listing ideally GIS based	MWSC / Kajur / Min PW		
			No recognition of funding requirements for asset replacement		Identify costs and funding sources to identify, value and then depreciate existing assets to present day			
			Lack of skilled staff		Upskill and train staff to maintain and operate			
					Implement capital works to restore service potential of existing assets			
		Drought / dry weather providers	MWSC / Kajur needs to provide all water to whole population when tanks run dry	MWSC / Kajur have capacity and mandate to support entire population in time of drought	Define responsibilites to specific populations in Majuro, Ebeye and outer islands, recognise true cost.			

	Policy Issue	Sub Set	Current Situation	Desired Outcome	Action	Lead Agency	Timing	Cost $000s
		Failing business model	Government sets tariffs at affordable levels but no formal commitment to make up shortfall in sustainable business returns	Successful sustainable business model	Ongoing involvement in Pacific Water and Waste water Association (PWWA) to benchmark performance			
		Other Government water suppliers	Some outer island local Govs also provide water services	Better understanding of existing services on Outer islands	Confirm ongoing funding model and possible applicability to other atolls (Rongelap, Utirik, Enewetak, Bikini, Killi?)			
4	Target the disadvantaged		Difficult to define beneficiaries for limited resources	Clear rules for which households get extra help	Define the target group and criteria for financially disadvantaged, develop proposal for ongoing assistance			
			Donors provide free water tanks	tanks are targetted and supply is coordinated with affected stakeholders	Understand impact of distributing water tanks and develop sustainable national policy for future donations			
			some urban households have no connection to water or sewage	100% coverage of adequate water supply and sewerage services	Those unable to afford connections to water and sanitation are assisted with government subsidy. Some households are not connected because they can afford alternatives. Develop proposal for ongoing assistance			
			No recognition of vulnerable and special needs in supply of services	Recognition of vulnerable and special needs in supply of services	Define the target group and criteria develop proposal for ongoing assistance			
5	Climate variability and resilience to extreme events	Household water supply lacks capacity to cope with extreme events	Households frequently suffer from lack of water and poor quality water	Resilient to drought	Review required minimun storage for households in urban and rural situations			
					Data collection, rainfall			
					Increase water harvesting and storage capacity quantity and quality ensure Tanks and gutters are set up properly			

Policy Issue	Sub Set	Current Situation	Desired Outcome	Action	Lead Agency	Timing	Cost $000s
		Existing assets not fully utilised or in poor condition	Households maximise potential water harvesting and quality of stored water	Provide training on tank and gutter maintenance, plus access to resources			
		No national database of water and sanitation assets	Water and sanitation assets have capacity to handle extreme events	Data collection of existing infrastructure assets, sea walls, concrete catchments, water and sewerage collection, storage, distribution and disposal assets.			
		Prone to tidal storm surge	Resilient to storm surge	Disaster and emergency plans, early warning (Kiribati example) - Ensure JNAP is completed			