

# SOLOMON ISLANDS

## 1. INTRODUCTION

### 1.1. General Information

Solomon Islands is a double chain of group islands situated between latitude 5° and 12° south and Longitude 155° and 170° east. It consist of about 1000 islands stretched over a distance of more than 1,500 km from Bougainville Islands of Papua New Guinea from the Northwest and Vanuatu from the Southeast. The islands varied considerably from a small tiny atoll islands to a high mountainous heavily dense rain forested.

According to 1999 census report, the population of Solomon Islands is 442,000, with an average annual growth rate of 2.8 %. The capital is Honiara, with the population of about 49,000. About 85 % of the country population lives in the rural areas. The population race of the country is 94 % Melanesian, 2 % Polynesian, 1 % Micronesian and 1 % others.

There are more than 87 dialects spoken in Solomon Islands. Most commonly spoken being the Pidgin English, a mixture of English and each dialect. English is the official languages.

### 1.2. Economy

The economy of Solomon Islands is a mixture of traditional self-supply economy and currency economy; high primary industries products and high level of import products. The main sources of exports are agricultural, forestry, fishing and mining. The two ethnic tension had severely hampered the economy of Solomon Islands to almost a halt. The main concerns for the government now are the law and order and return of arms. The real GDP growth rate for 1997, 1998 and 1999 are: 0.9 %, 1.3 % and -0.5 % respectively. The nominal GDP per capita is estimated to be around USD 700 in 1997.

Due to the tension and declining economical situation, the government devalued the currency to try maintained the competitive power of export and the amount of external reserves.

### 1.3. Government Structure

Solomon Islands is a constitutional monarchy, represent in Solomon Islands by the Governor General; appointed by the British Queen on recommendation of the legislature with a term of 5 years. It also has a single chamber of national parliament composed of 50 elected members. The normal life of parliament is four years.

The actual administrative power is with the cabinet, which headed by the Prime Minister. The government organization has about 20 ministries.

### 1.4. Strategic Planning and Management of Water Resources

Water is generally accepted as the most important natural resources in the country. It is vital for drinking, sanitation, agriculture, industries and other countless purposes. However, it is often a problem thing. In Solomon Islands leakage from water supply system is one of the major problem, which is estimated to be about 70 to 80 %. Water ownership and management is also a source of conflict in the country among social group, among clans and tribes and among landowners. Given the situation, the government attempts to protect and manage this important resource, by trying to come up with an appropriate legislation that will provide a common understanding among various stakeholders on the issues of water resources.

The number of government departments and ministries, NGO and private sectors involved also indicated the level of importance in the sector. Four government ministries directly involved in the assessment, planning, development and management of water resources. Namely they are the Ministry of Mines and Energy (MME), Ministry of Health and Medical Services (MHMS), Ministry of Culture, Tourism and Aviation (MCTA) and the Ministry of Transport, Works and Communication (MTWC). Other Non government organization are also involved with provision of safe water to the communities and villages, namely Adventist Development Relief Assistance [ADRA], World Vision [WV] and Solomon Islands Development Trust [SIDT].

Among all these, there is a need for an appropriate coordination and strategic planning and management of water resources in the country.

### **1.5. Water Resources and Development**

Water resources availability in Solomon Islands varied considerably. It ranges from sizeable rivers to small streams from a high mountainous and dense rainforest islands to rainwater harvesting and thin fresh water lens of underground aquifers of the small low-lying atolls and islets. The rainfall precipitation average ranges from 2,000 mm at the low areas to about 8,000 mm at the high mountain. The evaporation measured at certain parts of the country, mostly at the low area of the islands varies between 1,500 mm to 1,800 mm. The analysis of the trend of the annual precipitation shows a declining trend averaged at 8 mm per year. On the other hand, temperature trend is increasing a rate of about 0.3° C per year, which meant that the evaporation should also increase.

With slight fluctuation of monthly rainfall, rainy season are generally between November and April and dry season are between May and October.

The longest measured river in Solomon Islands is Lungga River at the Bridge Station No: 5004601 with a catchment area of 377 km<sup>2</sup> [since 1965]. Other rivers measured were limited to only few years. The likely impact of the trends of precipitation and temperature to the surface runoff will not be available and realize due to lack of adequate reliable hydrological data.

In 1986, flooding claim about 100 lives in the Guadalcanal plains. In 1995, drought severely affected most part of country causing severe food shortages. With the climate and weather extremes is occurring frequently due climate changes and variation. A proper understanding of the potential risks needs to be developed and information disseminated to the general public.

Bad development practices such as logging and the traditional slash and burn method of farming have gradually or systematically destroyed the quality and reduce the quantity of rivers and streams, threatening the availability water to many parts of the country.

### **1.6. Water Supply and Sanitation**

All people have the right to safe water and sanitation. Provision of safe water and adequate sanitation combined with hygiene education reduce mortality caused by diarrheal diseases by 65 % and morbidity by 26 %. In Solomon Islands, Rural Water Supply and Sanitation, Ministry of Health and Medical Services has been actively involving rural people in assisting in implementing rural water supply and sanitation projects since 1979. Various donors funded the capital costs for projects, while the Solomon Islands government provides the staff salary. With the current financial and economical difficulties experienced in the country, the program was also affects and had reduced its activities. The remoteness of some of the islands and place make works to be difficult and expensive.

Even with the abundance of fresh water availability. Rural Water Supply and Sanitation remains to provide stand pipe water supply system in rural areas. One of the purposes of the Rural Water Supply and Sanitation Project is to reduce times required to acquire quality water by the villagers. However, with a policy of standpipe will not solve the problem for large villages and communities.

Solomon Islands Water Authority is activities were restricted to urban centers for economic reasons. Old reticulation system and mountainous area of Honiara had cause problem, makes pressure level and velocity irregular and inconsistent.

## **2. NATIONAL CONSULTATION PROCESS**

### **Details of the consultation process**

Financial constraints do not allow for wider consultation to all sectors, however, a working group was formed involving the major stakeholders of the water resources in the country. These include:

1. The four ministries directly involved with the management of the water resource. They are Ministry of Mines and Energy, Ministry of Health and Medical services, Ministry of Culture, Tourism and Aviation and the Ministry of Transport Works and Communication.
2. The Rural water supply and Sanitation under the ministry of Health and Medical Services is responsible for implementing rural water supply and Sanitation projects throughout the country.
3. Ministry of Finance is involved with the Financing and donor agencies.
4. Ministry of national Planning is responsible for the overall planning and donor agencies.
5. The worldwide Fund for nature representing the NGO's.
6. Solomon Islands Water Authority established under the act to look after the urban water developments.

### **List of stakeholders involved in the consultation process**

#### *Government*

- The four ministries directly involved with the management of water. These are Ministry of Mines and Energy, Ministry of Health and Medical Services, Ministry of Culture, Tourism and Aviation and the Ministry of Transport Works and Communication.
- The Rural water supply and Sanitation under the ministry of Health and Medical Services who is responsible for implementing rural water supply and Sanitation projects throughout the country.
- Environmental Health Division, Ministry of Health and Medical Services.
- Ministry of Finance.
- Solomon Islands Water Authority (SIWA) established under the Act of Parliament to look after the urban water developments.

#### *Community and users*

- SDA Burnsreek Youth

#### *Non-government organizations*

- The worldwide Fund for nature.
- SIDT
- World Vision
- ADRA

The stakeholders involved were asked to put in their submission to the working group who put together the final draft. The views and ideas in the submission were included in the briefing paper.

Discussions were also conducted with other persons that involved in water related activities amongst other organization.

## **3. VISION, ISSUES AND CONSTRAINTS**

### **National visions towards sustainable water resources management**

The National Vision is to have an abundance of safe and clean water accessible to all present and future generation of Solomon Islands, thus improve standard of living and eradicate poverty.

In achieving the vision above it is important to consider the priorities, obstacles and constraint of each of the thematic issues outlined below:

#### *Theme 1: Water Resources Management*

##### *Fresh Water Availability*

Fresh water availability throughout the country varies considerably. It ranges from sizeable rivers to small streams for high mountainous topography islands to rain water and underground aquifers of thin fresh water lens for small low lying atolls and islets. The importance of quantity and quality of water in human is well understood throughout the islands and the regions. However, the abundance of water from high mountainous islands had caused many to take this fragile and finite resource for granted. Evident exists in

Solomon Islands that the quality and quantity of fresh water is reducing. The rate of reduction is not very well understood because of inadequate reliable hydrological data and lack of understanding of local hydrology and water resources.

Sustainable management of water resources in Solomon Islands lies with the Water Resources Division at the Ministry of Mines and Energy.

<b>PRIORITY 1:</b>	<b>UNDERSTANDING OF WATER RESOURCES</b>
<b>Obstacle:</b>	Inadequate reliable hydrological data.
<b>Constraints:</b>	Lack of financial assistance for establishment of appropriate network for data collection.
<b>PRIORITY 2:</b>	<b>PROTECTION OF WATER SOURCES</b>
<b>Obstacle:</b>	The ownership of land and water resources.
<b>Constraint:</b>	Limited legislation Lack of appropriate funding and inadequate trained staff.
<b>PRIORITY 3:</b>	<b>ACCESSIBILITY OF QUALITY AND QUANTITY WATER TO ALL, PARTICULARLY IN RURAL AREAS.</b>
<b>Obstacle:</b>	Unsustainable and Inadequately funding project
<b>Constraint:</b>	Inappropriate skill staffed Lack financial mechanism [Tariff] and training of village technician. Lack of understanding of hydrological information

#### *Aquifer Management*

Underground water source is one of the limited water resources that can be tapped to meet the needs for fresh water. Several inhabitant islands in Solomon Islands have no streams and even areas in large islands with sizeable such as the Guadalcanal plain depends on underground water for fresh water. Underground water sources are limited. It depends mostly on precipitation for recharge. Therefore, to extract fresh water from underground sources requires a proper understanding of the local geology, soil properties, withdrawal rate, rainfall, evapo-transpiration etc.

With the increase in population, underground water source is also under threat due to human activities. The other threats that is also increasingly evident in small and atoll islands is the saltwater intrusion and sea-level rise. Any types of contamination that affects the underground water source cannot be changed.

Appropriate understanding on development and management is necessary to avoid over exploitation and contamination of the limited and restricted fresh water source.

<b>PRIORITY 1:</b>	<b>DEVELOPMENT AND UNDERSTANDING OF UNDERGROUND WATER RESOURCES</b>
<b>Obstacle:</b>	Lack the appropriate technologies and know how to extract fresh water from underground source
<b>Constraint:</b>	Lack of appropriate skill personnel. Lack of quality reliable hydrological data.
<b>PRIORITY 2:</b>	<b>AWARENESS OF VULNERABILITY OF UNDERGROUND WATER RESOURCES.</b>
<b>Obstacle:</b>	Lack of understanding of local underground water resources and adequate hydrological data.
<b>Constraint:</b>	Inadequate funds. Lack the appropriate technologies for the extraction of water Lack the appropriate training on local geology and hydrogeology.

*Water Quality*

Public Health Ordinances provide some guidelines and quality requirement on water quality. With the current population growth rate, Solomon Islands faced with new threat on water quality, to provide the quantity of water to its populace. It has to pump water from adequate quantity of water and expedient to water treatment to meet the quality of water required for drinking. Solomon Islands is currently using the international drinking water guideline for its water quality.

Water quality analysis in Solomon Islands is a major problem. Most of the existing laboratories are incapable of analyzing required analysis as specified in the International standards for water quality. SIWA Acts provides adequate protection for its water sources. SIWA is currently treating Honiara water supply with chlorine and the level of chlorine doses remains uncontrolled, such treatment of water supply has been linked with kidney problem. Attempts are now begun to analysis the possible linkage in Solomon Islands. Forest Acts and Codes of Logging Practices provides a buffer zone system for watershed. It has never been properly and effectively implemented. Deforestation had reduced the quality of water in Solomon Islands. Appropriate land management is very important for all water resources from contamination.

<b>PRIORITY 1:</b>	<b>NATIONAL DRINKING WATER GUIDELINE</b>
<b>Obstacle:</b>	Lack of cooperation and initiatives
<b>Constraint:</b>	Lack of appropriate training and skill manpower
<b>PRIORITY 2:</b>	<b>ASSESSMENT OF IMPACT OF LOGGING PRACTICES ON WATER QUALITY</b>
<b>Obstacle:</b>	Inadequate understanding and implementation of policy and regulations
<b>Constraint:</b>	Lack of Cooperation amongst government departments. Lack of funds

## *Theme 2: Island Vulnerability*

There are two folds of risk that can be caused by the water throughout the globe. These two folds have occurred in Solomon Islands. They are:

- Too much water. [Flooding, etc.]
- To little water. [Drought, etc.]

We have experienced the effect of too much water. In 1986 water completely inundated major part of Guadalcanal plain claiming more than 100 lives. In 1995 parts of Solomon Islands experienced too little water causing severe food shortages. These extreme events require an appropriate level of preparedness.

### *Disaster Preparedness*

Disaster preparedness is essential government policy in reducing the impact of any manmade and natural disasters in human lives. The rate in which the quality of fresh water availability is depleting due to unsustainable logging, major development, climate variation and other human activity needs to be assessed and the core issues addressed amicably.

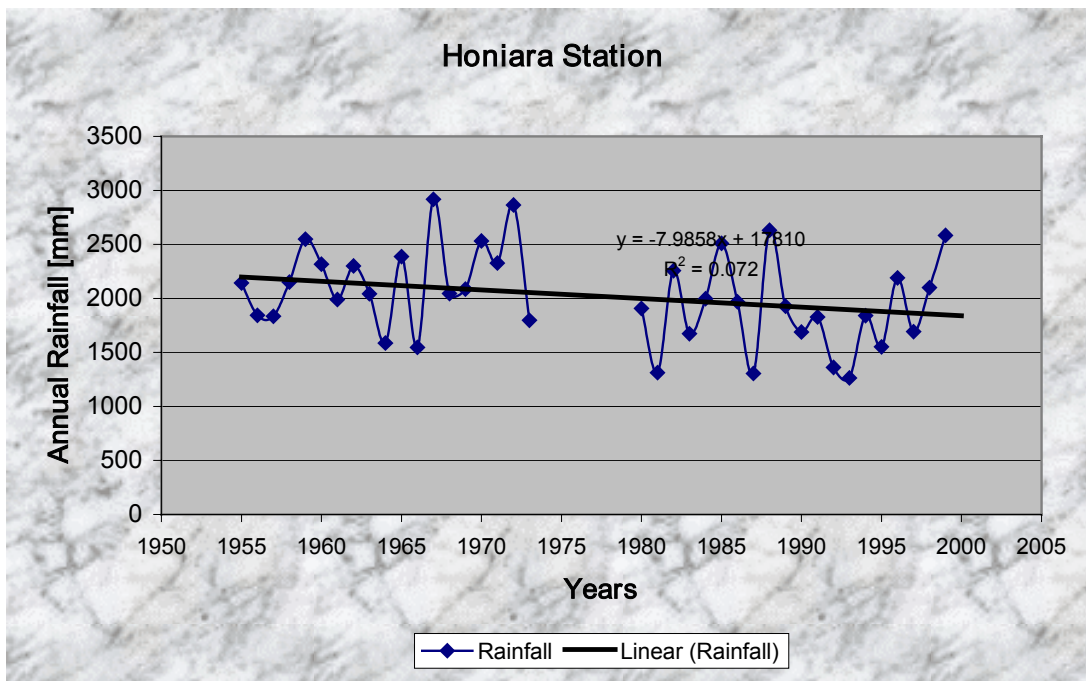
Coastal flooding is also a major problem for the small and atolls islands and coastal area of large islands.

<b>PRIORITY 1: ASSESSMENT OF ALL POTENTIAL RISKS DUE WATER RELATED NATURAL DISASTER.</b>
<b>Obstacle: Lack of adequate reliable hydrological data and historical information.</b>
<b>Constraint: Lack of appropriate hydrometric equipment</b>
<b>PRIORITY 2: DISSEMINATION OF ACCURATE AND RELIABLE INFORMATION TO GENERAL PUBLIC</b>
<b>Obstacle: Lack of appropriate information and data.</b>
<b>Constraint: Lack of skilled personnel.</b>

### *Climate adaptation*

Natural disasters on the other hand are at best of times unavoidable. However educating the public on its effects on water sources and supplies is important. With climate adaptation, the best that can be done now is to provide relevant adequate information to the general public who may be ignorant on such issues or restricted due to lack o it.

Climate Variation poses new threat to this scarce resource. The effect of variation had been seen in several part of the country. The trend of annual precipitation, the major source for recharging rivers, streams and groundwater is declining at the average rate of 8 mm per year.



**Figure 1.** Honiara Annual Precipitation and Linear Trend of annual Precipitation .

Under this trend of historical records, Solomon Islands is likely to face shortages of freshwater in certain parts and low fresh water in the rest of the country. **Figure 1** shows that trend for Honiara, it is the same trend is also experience in rainfall station through the country.

#### *Dialogue on Climate and Water*

There has been dialogue between departments and ministries on the impact of climate changes and variation to water resources. However, there has been very little efforts been done to fully understand and realize the impacts. The variation of the impact has cause for great difficulties to making it as an issue for the government. However, the presence of many low-lying atolls in the country must be acknowledged. These people even at the best of times live with the reality of shortage of water. A letter to editor in the Solomon Star, in the late 1990's complaining about Seawater intruding into their well and their drinking water now taste brackish water. Any disaster of any magnitude would have disastrous effect on their culture, traditional and livelihood.

#### *Theme 3: Awareness*

##### *Advocacy*

Awareness is an integral part of any management strategy taken to protect water resources and must be carried out on all sectors of society. Lack of information had been a cause of negligence of people to look after this resource. Perhaps very low literacy rate particularly among the rural populace seems to play a part. If this resource is to be protected, this must be an area to start because water resources are on the land owned by the people. People, particularly landowners of water sources must be made aware of the importance of water sources, and the need for protection. People must also be made aware that water is a finite resource and can also become scarce if it is not managed properly.

**PRIORITY 1: DISSEMINATION OF APPROPRIATE INFORMATION.**  
**Obstacle:** Lack of appropriate information and details for dissemination  
**Constraint:** Lack of funds and appropriate skilled staff.

**PRIORITY 2: REDUCE COMMUNICATION BARRIERS**  
**Obstacle:** High Literacy in Rural Areas  
**Constraint:** Lack of institutions strengthening and capacity.

#### *Political will*

Existing legislation relating to water resources include the Solomon Islands Water Authority (SIWA) Act 1992, the River Waters Act of 1969 (cap 96), the Environment Act (1998) and the Public Health Ordinance (1970), Forest Act (1998). Under these Acts, each government institutions has vested responsibilities to enforce activities ranging from the construction of urban reticulation systems, issue of water permits and licenses, protection of water sources in the areas of operation, protection of the environment from pollution and the supplying of potable water that meets the required health standards.

**PRIORITY 1: DEVELOPMENT OF CLEAR POLICY AND LEGISLATION TO GOVERN WATER RESOURCES**  
**Obstacles:** Lack of issues and raw evidences to convince the Politicians  
**Constraints:** Lack of qualified personnel  
Lack of funding

Efforts are made to supplement the existing River Waters Act by drafting a new one, to be called the Water Resources Act to cover all water resources in the country. This would the enable the government to draw up a water resources policy, which would be promulgated. A project has already begun in 1987 with assistance from UNDP but continuity in funding the project was the main constraint.

#### *Community Participation*

The level of community participation on project throughout the country varies considerably. With regards to Water Supply and Sanitation, the RWSS program adopts a mixture of both the "bottom up" and "top down" approaches in conducting consultations with communities. The main purpose of the involving community participation is to get the community to be part of the project.

**PRIORITY 1: REVIEW THE CURRENT STRATEGY BY RWSS ON COMMUNITY PARTICIPATION ON PROJECT**  
**Obstacle:** Lack of funds  
**Constraint:** Lack of qualified and trained personnel.

#### *Environmental understanding*

It must be realized that a water resource is dependent on and part of the environment. It cannot be isolated from it, and measure to address the issue of water must be simultaneously done with other environmental issues. Hence, to understand water, the whole environment must be understood. To protect water, the environment must be protected.

Therefore, bad development practices that are harmful to the environment must be avoided if we are to protect the water resources.



<b>PRIORITY 1:</b>	<b>Develop an Integrated Water Management and Conservation Policy</b>
<b>Obstacle:</b>	<b>Lack of appropriate guideline and policy</b>
<b>Constraint:</b>	<b>Lack of skilled personnel.</b>

*Gender balance and equity*

It is important to realize that the main users of water are the women. However, many times their views are often ignored. They must be given the chance in the decision making process in the management of water.

<b>PRIORITY 1:</b>	<b>INCREASE WOMEN INVOLVEMENT IN WATER MANAGEMENT AND DECISION MAKING.</b>
<b>Obstacle:</b>	<b>Insufficiently trained women in Water Resources</b>
	<b>Lack of awareness of opportunity in Water Resources</b>
<b>Constraint:</b>	<b>Lack of appropriate funds and training</b>

*Theme 4: Technology*

*Appropriate Technologies for Water Supply and Waste Water Treatment*

RWSS has been employing sustainable and appropriate technologies in all engagements with provision of its services. Appropriate technology for each location is site specific. That which is appropriate at one location does not have to be applicable in another situation. Three main types of water sources extraction methods employed by RWSS are; using gravity feed systems, the use of rain and roof catchments and hand dug wells using hand pumps.

<b>PRIORITY 1:</b>	<b>INCREASE THE AWARENESS OF APPROPRIATE TECHNOLOGY IN WATER TREATMENT AND WASTEWATER TREATMENT</b>
<b>Obstacle:</b>	<b>Lack of Information on the Appropriate Technology</b>
<b>Constraint:</b>	<b>Lack of skilled personnel and funds and appropriate training programme</b>

*Demand Management and Conservation*

Demand management and conservation form the basis of our water supply system designs.

It covers the following areas:

- Leakage control
- Metering and pricing
- Water saving devices

**PRIORITY 1: INCREASE AWARENESS ON WATER CONSERVATION**

**Obstacle: Lack of Information of Water Conservation.**

**Constraint:**

**PRIORITY 2: ASSESS LEAKAGE PROBLEM IN HONIARA WATER SUPPLY SYSTEM**

**Obstacle: Lack of appropriate equipment and skilled personnel.**

**Constraint: Lack of purpose and vision for appropriate assessment.**

#### *Human Resources*

Apart from RWSS, which have the human resources capacity to carry out most of its daily activities, there is a need for trained qualified and skilled personnel in the administration of policies and legislation's in other institutions.

**PRIORITY 1: DEVELOP A MANPOWER PLAN TO ADDRESS HUMAN NEEDS IN WATER SECTOR**

**Obstacle: Lack of vision**

**Constraint: Lack of appropriate funds and training**

#### *Theme 5: Institutional arrangements*

##### *Policy*

The important factor in formulating a new water resources act is to cater for the sustainable development of water resources in the country. So much has been noticed in other water stressed regions of the world whereby water resources become scarce, contaminated and destroyed due to bad development practices. It is therefore time to put in place a comprehensive legislation that will take care of future developments, which may likely to threaten the country's water resources.

**PRIORITY 1: COMPREHENSIVE POLICY OF WATER RESOURCES**

**Obstacle: Lack of coordination among governments departments.**

**Constraint: Lack of initiatives and appropriate skilled personnel.**

##### *Planning and Legislation*

The overall planning for water resources development in the Solomon Islands is done at the central government level and usually involves a number of ministries. No single body in the government formulates plans for overall water development. The Ministry of Transport, Works and Aviation for urban water supplies development and the Ministry of Health and Medical Services deals with rural water supply and sanitation aspects.

The government in trying to fulfill its aim in the field of water resources has so far identified a few basic objectives for the optimal utilization of water resources. These plans include water supply and proper sewerage disposal for all the population, assessment, proper management and conservation of the resource. Included in these plans is the requirement for training to be provided to nationals in all aspects of water resources.

**PRIORITY 1: WATER RESOURCES LEGISLATION**

**Obstacle:** Understanding of Water and Land Ownership

**Constraint:**

*Institutional Strengthening*

Due to inadequacy of current policies and legislation's institutions are fragmented and there is confusion over roles. This often led to duplication of duties, which should be done by a single institution or ministry. Also, it also led to negligence of some important duties that needs to be carried out.

The government needs to come up with clear guidelines of responsibilities to avoid confusion and better cohesion in the administration of this sector.

**PRIORITY 1: INSTITUTIONAL STRENGTHENING AND CAPACITY BUILDING**

**Obstacle:** Lack of capacity and manpower development programme

**Constraint:** Inadequate understanding and cooperation among ministries and departments.

**PRIORITY 2: EDUCATION AND TRAINING PROGRAMME**

**Obstacle:** Lack of Funds

**Constraint:** Lack of interests among students and pupils

*Theme 6: Finance*

*Costs and tariffs*

The RWSS program has had assistance from international donor communities for a number of years. The government however, needs to initiate a self-help program aimed at a slow but steady and gradual introduction of tariffs as along term strategic goal in the rural areas.

However, the general objective of finance must be the planning and management within limited available resources. The program has financial guidelines for both operation and development activities.

**PRIORITY 1: TARIFF POLICIES FOR RURAL AREAS AND URBAN CENTERS**

**Obstacle:** Assessment of rural people level of incomes and expenditures

**Constraint:** Lack of funding assistance

*Alternative models*

Rural Water Supply and Sanitation Programme adopt a program on community contribution with the villagers and communities as one of condition for construction of water supply and sanitation project at a village.

*Role of Donor Organizations and Financing Institutes*

The role of the donor communities must be to assist the government of Solomon Islands draft and implement legislation's and Policies on water if we are to protect this vital resource for our country. This should include financial assistance and manpower training to administer and carry out these legislation's and Policies.

Being the Ministry responsible for managing water resources in the country, the Ministry of Mines, Energy and Water is obliged to seek external assistance, given the acute economic situation, facing the country at the moment, and proceed with the task.

**PRIORITY 1: COOPERATION WITH DONOR AND FINANCIAL INSTITUTION**  
**Obstacle:** Lack of importance of water resources among government levels  
**Constraint:** Lack of skilled personnel to develop water resources to be an issues among the politician.

## PLAN OF ACTION

### Theme 1: Water Resources Management

#### *Objectives*

- To provide safe water to present and future generations.
- To develop appropriate understanding of the local hydrology and water resources.

#### *Actions already taken*

- Securing of appropriate equipment for hydrological data collection
- Assessment of water resources [limited]

#### *Future actions needed*

##### **National level**

- Increase awareness program on the understanding of water resources and impacts of climate variation
- Establishment of appropriate water regulation for the protection of water resources.
- Develop a water resources policy

##### **Regional level**

- Provide appropriate advice on the understanding of water resources and climate variation impacts.
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#### *International Cooperation*

#### *Means of implementation and responsibilities*

Action Plan can be implemented by Water Resources Division, Ministry of Mines and Energy in consultation with the Attorney General Chambers, MHMS, MTWC, MCTA, SOPAC and WMO

## Theme 2: Island Vulnerability

### *Objectives*

- To reduce the impacts of disaster due to climate variation and weather extremes condition in the country.

### *Actions already taken*

- Little had been done to understand the risks due to climate changes and weather extremes.
- Ad hoc response

### *Future actions needed*

- **National level**
- To fully understand the implication of climate variation and weather extremes condition
- To understand the hydrology of our Islands and be able to do proper assessment of this fragile and now vulnerable resource.
- Be able to collect and disseminate information regarding the status of water resources in the country.
  - Have strategic policies in place to address problems arising.
  - Cooperate with other nations and organizations to address common problems
- **Regional level**
- Most Pacific islands are facing a common risk, therefore proper networks with neighboring island states, to disseminate data and information on climate and water resources to be better prepared for the changes that are inevitable.
- **International Cooperation**
- The impact of climate change will affect every single person, however, the small atolls islands of the pacific are likely to be heavily hit and affected first. International cooperation must be developed, coordinated and implemented to provide assistance to reduce the impacts of the climate changes and weather extremes.

### Theme 3: Awareness

#### *Objectives*

- To improve the knowledge and understanding of people about the importance of water resources, and how vulnerable this finite and fragile resources are?

#### *Actions already taken*

Little has been done by relevant government authorities in this area, except for RWSS and non-government organization like SIDT.

#### *Future actions needed*

- *National level*
- Develop more awareness programs particularly in the rural areas where most of the water source owners are illiterate and are not aware of the effects of bad development practices that are affecting water resources.
- Establish a coordinate approaches on information collection and dissemination.
- *Regional level*
  - Provide technical assistance on developing and dissemination of information.
  - Organize regular meetings between Island states on how to effectively implement program on how to address common problems.
- *International Cooperation*
- Closer collaboration between developed countries and developing countries on the sharing of information, appropriate technologies and funding to address these issues.

#### *Means of implementation and responsibilities*

The responsibilities must lie with the relevant government authorities to take a leading role on these activities. To come up with clear policy guidelines on the institutions that implements these programs.

## Theme 4: Technology

### *Objectives*

- To acquire and develop appropriate and proven technologies on the promotion of water resources and sanitation development in the country.
- To provide appropriate training of local people on relevant technologies and develop appropriate understanding on the technologies.

### *Actions already taken*

- Very little information are available in the country. However, RWSS had been effective implementing several of the appropriate technology.
- Rural water supply was constructed using gravity fed.

### *Future actions needed*

- *National level*
- Develop s strategic planning on training and education on the appropriate technologies
- *Regional level*
  - Assist the country on the development of the strategic planning and implementation of the program.
  - Provide appropriate technologies that had been proven in other country.
- *International Cooperation*
- Develop a network for information collection and sharing.
- Provide appropriate assistance on the implementation of the program.

### *Means of implementation and responsibilities*

All relevant government departments and ministries are responsible to acquire information on appropriate technologies for the purpose of sustainability and least cost.



## Theme 5: Institutional arrangements

### *Objectives*

- To formulate clear policy guidelines for the administration of the water sector
- To have cohesion in the administration of the water sector
- Institutions must be clear on their roles and that of other institutions so as to avoid confusion and promote better communication between institutions.
- Sharing of information's between institutions on areas of common interest

### *Actions already taken*

- Work on the drafting of relevant legislation's to allow for the policies has already began but ceased due to change in government's priorities and discontinuity of funding.

### *Future actions needed*

- *National level*
- Establish an appropriate legislation for management and protection of water resources in the country.
- Develop a clear guideline on the roles and functions of each of the institutions sharing responsibilities on this sector.
- *Regional Level*
- Assist on the strengthening of these institutions should be done so that the implementation of policies can be carried out effectively
- *International Cooperation*
- . Technical assistance be sought from developed countries who had experiences in this sector to assist us strengthen our institutions.

### *Means of Responsibility*

*Water Resources Division, Ministry of Mines and Energy is responsible to take the leading and coordinating roles in implement this thematic issues.*

## Theme 6: Finance

### *Objectives*

- To develop a mechanism that will provide a sustainable and effective implementation of the project in the communities.

### *Actions already taken*

- The RWSS program has had assistance from international donor communities for a number of years. However, each project was implemented on the bases on community contribution.
- Tariff mechanism was established for urban areas.
- RWSS is initiating a self-help program aimed at a slow but steady and gradual introduction of tariffs as along term strategic goal in the rural areas.

### *Future actions needed*

#### ➤ *National level*

- Develop a self-support mechanism to finance and construct water supply and sanitation for rural areas such as users pay system.
- Seek assistance to provide initial subsidies system to capital cost for remote and distant areas.
- Develop a policy guides on the management of financial mechanism.

#### ➤ *Regional level*

- Provide assistance and advice to government on appropriate mechanism.

#### ➤ *International Cooperation*

- Develop cooperation for initial assistance and undertake pre-feasibility studies on the willingness to pay at rural level and the strategic planning for long term.

## 5.0 CONCLUSIONS

Solomon Islands is at a crucial stage, to develop a sound understanding of the water resources. We will be facing problem in the future, unless the government seriously address the trend of the changes and climate variations that is slowly affecting our water resources.

The government with the assistance of donor partners needs to address the plan of action as details above to reduce the impact of water and its related problem in the country.