DRAFT
WATER, SANITATION AND HYGIENE STRATEGIES FOR SOPAC (2001-2004)

by

Clive R L Carpenter
Head of Water Resources Unit
SOPAC

SOPAC Miscellaneous Report 444 *December 2001*

TABLE OF CONTENTS

Page

1. Introduction

The South Pacific Applied Geoscience Commission (SOPAC) is an inter-governmental organisation, mandated to provide technical advice and support to its member countries in the sustainable development of non-living natural resources and disaster management. Its membership includes fourteen Pacific Island Countries (PICs), two overseas territories, plus Australia and New Zealand. The SOPAC vision is the sustainable development of natural resources and vulnerability reduction for the Peoples of the Pacific. It is through this overall vision statement that SOPAC provides its contribution to sustainable development and reduction of poverty in the region. SOPAC has had a water resources capability since 1995, when the former UNDP Water and Sanitation Programme was transferred to the organisation.

The development of regional strategies to prioritise SOPAC's interventions in the sectors of water, sanitation and hygiene is necessary to optimise the organisation's activities in an increasingly complex operating environment. With greater recognition worldwide that adequate access to water, sanitation and hygiene has not been achieved for much of the Earth's population, there is a renewed urgency in the activities of donors, development agencies, governments and sector specialists alike to find sustainable solutions to these fundamental human necessities. SOPAC has a vital role to play in these sectors in the Pacific region, but must ensure it co-ordinates and liaises with the other major contributors to maximise its benefit to its member countries. In doing so SOPAC must also develop a long-term sustainable work programme, with associated secure funding to ensure as an organisation that it remains sustainable.

The overall goal of SOPAC's Water Resources Unit (WRU) is therefore to improve the lives of poor people in PICs by helping to increase sustainable access to water resources and environmental sanitation, through improved management of water resources and the development of adequate and sustainable water supply, improved sanitation facilities and hygienic practices for all.

The successful securing of funding from DFID for the Head of the Water Resources Unit (WRU) will improve the capacity of the WRU to support PIC counterparts, enable development of the regional strategies to prioritise SOPAC interventions, increase regional co-ordination and liaison with other organisations and allow the design, implementation and management of a work programme in accordance with donor and SOPAC priorities. The development of the regional strategies leads onto the establishment of a prioritised and focussed work programme.

2. Approach to Strategy Development

The regional strategies have been prepared based upon a needs analysis of the existing conditions and demands of the sixteen island member countries of SOPAC (i.e. excluding Australia and New Zealand), as presented by PIC representatives at various regional forums and reported by regional and global organisations.

The needs assessment has involved the following stages: information collation and review; identification of needs and constraints to achieving sustainable management; and responses to overcome the constraints. Actions to address these responses form the basis of the strategies.

The role of SOPAC in addressing these actions must however be placed within the context of the regional development environment as a whole. Other organisations and existing work programs in the region contribute to addressing the sector needs, including national governments, donors, regional development agencies, research institutes and consultants. Potential and existing partners must be identified and opportunities for co-operation discussed.

The SOPAC strategies that have been developed therefore reflect not only the capacity of SOPAC's WRU to provide technical advice and support to its Member Countries but also the integration of these activities into the current and planned initiatives in the region.

3. Information Collation and Review

This needs assessment has been carried out using the following data sources. All of the sources have had their primary input from direct consultation with the major regional, national and institutional stakeholders in the Pacific region, through national reports, briefings, correspondence and/or third parties.

i) Identified needs from reported regional consultations, studies and projects undertaken between 1994-1999, and including the following workshops which were attended by Pacific Island Nationals involved in various Water Resources sectors:

1994 Honiara. UNESCO/SOPAC/UNDDSMS Workshop on Pacific Water Sector Planning, Research and Training.
1995 Madang. South Pacific Forum 26th Regional Meeting: Forum Vision Statement
1996 Manila. ADB Regional Consultation Workshop on Water Resources Development and Management in the Pacific Region.
1996 Tarawa. SOPAC Workshop on Appropriate and Affordable Sanitation for Small Islands.
1997 Suva. UNESCO Water Resources Workshop.
1999 Nadi. SOPAC Water Demand Management Workshop.
1999 Nadi. WMO Water Resources Assessment Workshop on Reviewing National Capacities for WRA in the South Pacific.
2001 Majuro. Regional Meeting for Stakeholders in Wastewater Management (in preparation).

and reports:

Greenpeace 1996. Sewage Pollution in the Pacific and how to prevent it.
Forum Secretariat 1997. Regional Strategy Document: Development Priorities of the Pacific Island Countries.
ESCAP 1997. United Nations. Sustainable Development of Water Resources in Asia and the Pacific: An Overview.
SOPAC 1997. Sanitation for Small Islands: Guidelines for Selection and Development.
Commonwealth of Australia 1998. AusAID's Pacific Program Profiles 1998-1999 (Cook Islands, Kiribati, Niue, Samoa, Soloman Islands, and Tonga).
SOPAC 1999. Strategic Plan for the New Millennium 1999-2001.
WSSCC. 1999. Vision 21: A Shared Vision for Hygiene, Sanitation and Water Supply.
WSSCC. 2000. Vision 21: Shared Vision to Shared Action.
ADB 2000. Water for All: The Water Policy of the Asian Development Bank.
UNEP Regional Seas. 2000. Overview on Land-based Pollutant Sources and Activities Affecting the Freshwater Environment in the Pacific Island Region.
WHO/UNICEF/WSSCC 2000. Global Water Supply and Sanitation Assessment.
New Zealand Ministry of Foreign Affairs & Trade 2000. NZODA Programme Profiles 2000-2001.

ii) SOPAC completed tasks, activities and projects undertaken in the period 1998-2000, developed from member country requests.

iii) Consultations with existing WRU staff through the mechanism of a benchmarking exercise on: in-country visits and projects undertaken 1999-2001 (member country generated tasks), identified needs, data shortages, perceived country constraints to sustainable water supply, sanitation and hygiene, other known regional organisation activities, and

existing and planned activities for the 2001 work plan (developed from member country requested tasks)

iv) Discussions with other regional organisations on perceived priorities for the region including: SPREP, SPC, Forum Secretariat, World Health Organisation, UNESCO, UNEP, NZODA, Ausaid, Pacific Water Association, World Meteorological Organisation, regional NGO's (VSO, CUSO, FSP and Live and Learn), regional development consultants (e.g. Ecowise Environmental, OPUS, Meritec etc.) and direct consultation with some of the member countries.

The results of the needs assessment has identified areas of common concern throughout the region, although individual countries have different priorities and are at different stages of national capacity in the three sectors under review.

4. Areas of Technical Need

The review of available data has enabled the following technical areas to be highlighted and differentiated:

i) **Water resource management**: including assessment, development and management (including protection) of rainwater harvesting, surface water catchments (streams, rivers and lakes), groundwater systems (freshwater lenses, volcanic and fluvial terrains) and non-conventional sources (eg desalination), water quality and resource vulnerability, rural community participation, appropriate technologies and drought preparedness.

ii) **Water demand management**: including system efficiency and conservation through asset inventories, leakage assessment, detection and repair, hydraulic modelling and system improvement, water treatment and water quality monitoring, operation and maintenance issues, drought storage assessments, metering, tariff studies and public conservation awareness programmes.

iii) **On-site sanitation facilities**: including appropriate sanitation technologies (eg. dry systems, water flush, composting toilets, eco-treatment processes), community level participatory surveys, environmental pollution, public awareness campaigns, sustainable village level operation and maintenance.

iv) **Off-site sanitation systems**: including urban sewerage collection systems, treatment process works, storm overflows, sea outfalls and river disposal, deep wastewater injection systems, wastewater quality and environmental monitoring, network modelling and catchment management.

v) **Hygiene assessment and promotion**: including community participation surveys, socio-cultural assessments, water source protection, water storage and purification practices, washing and cleaning practices, use and maintenance of sanitation systems.

5. Constraints Upon Achieving Sustainable Management

The needs assessment has identified the following national constraints to achieving sustainable management of water supply, sanitation and hygiene. These constraints are not specific to these three sectors and are true of most sectors functioning in the region. The constraints can broadly be divided into three groups: institutional capacity of national agencies; governmental support; and public support.

i) **Insufficient institutional capacity**: lack of data & information systems; insufficient or inoperative equipment; poor maintenance of equipment; limited technical expertise; weak

institutional bodies; often demoralised and unmotivated staff; insufficient training opportunities; poor staff retention; lack of finances.

ii) **Insufficient government support**: lack of political will but often too much unwanted political interference; legislation inappropriate or absent; lack of regulation and no capacity for enforcement; often no coherent national policies on integrated water resource management; fragmented multiple government agency involvement resulting in poor regulatory or policy links between the various sectors; often inadequate share of the National annual budget and conflict between public service and sustainable utility.

iii) **Insufficient public support**: inadequate public awareness; insufficient community participation and involvement; and associated lack of appreciation of socio-cultural issues.

Additionally, the PIC environment itself (outside of the national capacity) results in further constraints due to the isolated and fragmented nature of multiple island states within a vast ocean expanse. These are common to most countries in the region.

These regional constraints include: restricted land area; competing land uses; small population base; increasing population density on 'capital' islands, and de-population on outer islands; isolated communities; high transport costs; limited economic development (above factors unattractive to industry); limited tax revenue generation; poor and costly communication, electricity and water supply systems (due to low economies of scale); high vulnerability to natural disasters; climate variability, ENSO and sea level rise issues; and lack of co-ordination between donors, international organisations and receiving countries.

6. Guiding Principles for Responses

The responses required to address the identified needs and constraints also have to adhere to accepted international practices for development aid in the sectors of water, sanitation and hygiene. These principles are briefly mentioned below.

The **Dublin Principles** cover four areas: 1: freshwater management must include socio-economic development at a catchment level; 2: use participatory approaches; 3: involve and empower women; 4: promote water as an economic good to encourage equity and conservation.

Rio (+10) Agenda 21: Chapter 18 'Protection of the Quality and Supply of Freshwater Resources', addresses sustainable development, promotes integrated water resources management and endorses the Dublin Principles.

Sustainable Development for Small Island Developing States (SIDS), recognises that SIDS have particularly onerous constraints upon their development and that sustainable development requires regional co-operation and coordination to improve national capacity.

The **Water Supply and Sanitation Programme Strategy** of the Forum Regional Strategy Document aims to ensure sustainable access to freshwater supplies and minimise their pollution, in order to promote socio-economic development. Effective training, policy-making and development planning are seen as integral to improve delivery through a combination of government and private sector involvement. The 'Smaller Island States' and atoll islands are identified as particularly needy.

Village Level Operation and Maintenance Management (VLOM), includes not just community management, but also the necessary support provided by local government agencies, institutional community organisations, NGO's and the private sector.

Integrated Water Resources Management (IWRM), requires a holistic approach which includes multiple types of water resource management, water supply management, water demand management, sanitation and hygiene promotion.

Sustainability (technical, institutional, financial, environmental and social), requires technical training and support, human resources training, improved cost-recovery systems and public awareness programmes to improve willingness to pay, environmental protection and community participation to take ownership and use and maintain the facilities.

Replicability and Transferability, i.e. many of the interventions are likely to take the form of pilot projects which will test specific approaches in the Pacific and be used to promote the same ideas to other communities and countries. It is therefore important that the project concept is not only reproducible and readily transferable but also relevant to other regional stakeholders.

7. SOPAC Water Resources Unit Capacity

7.1 Staffing Levels

The SOPAC WRU has an existing staffing contingent of 5 technical staff and 2 support staff. The technical areas of expertise and responsibility are given below. The staffing level is presently at the minimum which is capable of providing technical expertise to the required areas of the water, sanitation and hygiene strategies. However, SOPAC WRU does not have the capacity to support all the required actions identified in these technical areas. It is therefore essential that WRU co-ordinates its activities with the other regional organisations e.g. SPC in Public Health & SPREP in waste management and pollution issues, and other parties.

Title / Position	**Responsibilities**
Head of SOPAC WRU	Regional and national strategy development, unit administration, programme co-ordination, project management, government, donor and regional agency liaison, technical supervisor. Chief sector adviser to SOPAC Directorate.
Water Resources Specialist	Groundwater, surface water and rainwater resources assessment, development, management and protection, including field investigation supervision and monitoring network installation.
Water Supply Engineer	Water demand management and conservation, including pipe and leak detection and assessment, hydraulic modelling, water treatment, rainwater harvesting systems, conservation awareness programmes.
Sanitation & Hygiene Officer	Sanitation and hygiene needs assessments, promotion campaigns and educational material production, appropriate rural technology pilot project design, gender and socio-cultural issues.
Water Quality & Database Officer	Data capture, storage and retrieval technologies, water quality surveys and assessments, geographic information systems, regional information web site operation and maintenance.
Programme Assistant	Administrative support, liaison, unit logistics.

Equipment Technician/Operator	Maintenance and calibration of field equipment, drill rig operator.

The WRU can provide technical advice and support to the region and Member Countries in the areas of technical expertise detailed above. WRU does not presently employ an urban wastewater engineer. Depending on the experience of the existing staff, municipal wastewater engineering advice might be available.

The WRU must maintain this level of staffing and expertise as an absolute minimum to be able to provide support and advice in all areas of the regional water, sanitation and hygiene strategies.

7.2 WRU Strengths, Limitations and Additional Resources

The WRU's main strength and probable primary focus in the sectors, as with other SOPAC Programmes, is to coordinate & contribute to regional programmes (i.e. 2 or more countries) and to address national needs where no national capacity exists.

However, WRU identifies and acknowledges it cannot address and implement all of the needs in the water and sanitation sectors for the region. SOPAC is primarily a development organisation, restricted by the logistical necessity of maintaining a Secretariat located in one country as against having capacity or expertise in all its member countries. Historically it has provided technical training and support to PIC counterparts in government departments and ministries eg Public Works, Health, Natural Resources, water utilities and providers, environment protection agencies and geological surveys, and continues to be strong in this field. Each member of staff can typically carry out 4-5 missions per year. Given these constraints on its own capacity, WRU needs to maximise its collaboration with other organisations in the region, to increase technical support in the region and restrict itself to those activities it can realistically deliver. WRU therefore needs to prioritise its technical interventions and maximise the regional benefit of national activities. WRU will maintain its existing database of external consultants and government organisations (eg NIWA, BGS, USGS) to facilitate additional re-sourcing of the regions technical activities and is continuing to develop collaborative efforts with other resource centres including universities and non-government organisations within the region.

The WRU also requires additional resources to address the increasing requirement for the inclusion of socio-economic and gender issues in the work programme. Given the lack of regional capacity in these fields, it is proposed to obtain external expertise in these areas using the experience of the NGO's and other regional organisations in the Pacific.

WRU cannot be expected to commit personnel to extended periods in the field in any one country. It should not therefore attempt to be a lead implementing agency, especially in extended rural community activities. Instead WRU should concentrate on providing technical support, training and backstopping to in-country organisations, already operating in the communities (eg rural government departments and NGO's) and develop, promote and facilitate interventions through these agencies. SOPAC will take the principal role in technical demonstration projects, albeit usually with an implementing partner. However, ultimately the WRU programmes must meet the needs of its owners – the Pacific island governments.

WRU has not generally had much involvement at the senior government level, except where specifically invited to advise on policy and legislation development. A lack of clear political will and policy directions throughout the world, especially relating to sanitation and wastewater issues, has resulted in neglect in this sector for decades. WRU will seek to advise Member Country governments on more sustainable policies to water, sanitation and hygiene through national and regional consultation with relevant resource persons and collaborating with global and regional initiatives to identify appropriate policies and strategies for sustainable development.

WRU has developed strong links with other regional and global organisations in the water, sanitation and hygiene sectors. WRU is therefore in a position to co-ordinate activities between the different technical organisations including UNESCO, WHO, SPREP, SPC, UNEP, Fiji School of Medicine (FSchM), WMO etc. and facilitate regional initiatives to address the technical needs. The WRU has been active in leading public awareness campaigns on issues relevant to the water, sanitation and hygiene sectors and has developed networks for information dissemination. However WRU accepts the target audience is limited compared to the regional population, and that it does not have the capacity to increase this network or sustain the campaigns from existing resources. WRU needs to identify partners to improve the educational value of its activities and increase community outreach.

WRU has, in the past, not been sufficiently consulted or involved with bi-lateral and multi-lateral development programs for it to help co-ordinate these activities, and hence is limited at present to largely direct involvement with regional based programs. A lack of co-ordination between bi-lateral programs and the regional initiatives has often resulted in duplication of tasks and restricted dissemination of national experience to the region. WRU, as a Member Country technical advisor, is an asset to be used by both donors and MCs to better design programs. WRU will promote this role to MCs and donors alike.

The long term sustainability of the WRU is subject to the financial uncertainties that are a function of forward planning & programme management being restricted when based on ad hoc project funding. There is a need for guaranteed multi-year funding for technical assistance, support and advice. WRU needs to explore opportunities with donors, countries and other regional and global organisations to establish the potential for developing multi-year funding mechanisms.

8. SOPAC WRU Responses to the Regional Need: The SOPAC WRU Policy

It is evident from the technical needs and constraints identified above that considerable effort is required if sustainable management of the water, sanitation and hygiene sectors is to be achieved in the region. It is equally clear that SOPAC has a vital role to play in achieving this goal, but that it has limited resources and must prioritise its activities and co-ordinate closely with Member Countries, other regional organisations, donors and NGO's to be effective.

The guiding principles will be applied to the identification and design of each intervention rather than being strategies in their own right. They form an ethos which each intervention should adhere to, as far as possible. For example, it is not possible for each intervention to contain every component of IWRM, however the concept of IWRM will be used to identify where sanitation facilities are needed and the concept of IWRM will be promoted when working on water supply projects.

The following responses have been developed, which together form an overall WRU policy :

i) SOPAC will maintain its capacity to **provide technical support and advice** in the five technical fields of: water resource management; water demand management; on-site sanitation, off-site sanitation; and hygiene. This provides a holistic approach to water, sanitation and hygiene issues in the PIC's.

ii) At the national government level, SOPAC WRU will **identify existing national water policies** and legislation in the region. National water policies and legislation may be enhanced or developed where requested by MC's, using appropriately qualified resource persons. SOPAC will **facilitate regional consultation** and dialogue on national policies and strategies.

iii) SOPAC will support the national governments in **identifying and designing appropriate projects** (including substantial components to create sustainability) for funding from the

major donors (ADB, World Bank, EU Commission, AusAID, NZODA, JICA, and UN agencies) .

iv) Institutional level interventions will be focused on **increasing sustainable capacity** in the country and improving inter-agency co-operation. This will include: **training** in the technical disciplines on data collection, capture and storage, interpretation and decision-making, training of trainers, use of identified problems as on-the-job training opportunities whilst providing technical solutions, improved management and cost-recovery, providing and **developing best practice** guidelines and **technical backstopping**.

v) Community level involvement is an area where both governments and regional organisations find it logistically difficult to operate. SOPAC will identify NGO's in the region with whom collaboration can be achieved. SOPAC will provide **technical support, training, best practice guidelines and backstopping** to in-country organisations, already operating in the communities rather than attempt to implement projects itself.

vi) SOPAC will prioritise its in-country scientific interventions wherever possible to focus on **pilot projects** addressing specific areas of data shortage to develop best practice guidance. **Dissemination** of this information to other communities and countries in the region is a vital part of the role of SOPAC to creating regional sustainability from local and national activities.

vii) Public awareness raising in the water, sanitation and hygiene sectors will be continued by SOPAC, but with increased use of Civil Society (NGO's and existing in-country community based groups) to **sustain the educational message** and expand the dissemination network.

viii) Regional initiatives require close liaison with the other donor, regional and multi-lateral agencies, notably SPREP, SPC, WHO, WMO, UNESCO, AusAID, NZODA, NIWA and PWA, to prevent duplication and parallel work programmes developing, optimise interventions in the region and maximise available donor support. SOPAC will maintain and **improve liaison and collaboration** with these and other agencies on interventions.

9. SOPAC WRU Strategies for Water, Sanitation and Hygiene (2001-2004)

The prime objective of SOPAC's WRU is to increase the capacity of MC's to deliver sustainable management of water, sanitation and hygiene, as a means to contributing to poverty alleviation. Sustainability has to be achieved in the technical, institutional, financial, environmental and social-cultural areas. This will be done through prioritised interventions at the national, institutional and community level, based upon the existing needs analysis, implemented by SOPAC and relevant partners from Member Countries, regional organisations, NGO's and research institutions.

The strategies will embrace and promote the guiding principles, especially poverty alleviation, gender equity, sustainability and community participation. This is in agreement with the SOPAC philosophy and approach to poverty alleviation. SOPAC's WRU will augment its existing staff capability with the use of partners specialising in the fields of socio-economic analysis, gender equity, stakeholder analysis and rapid community appraisal, to provide additional experience and training to SOPAC's WRU staff.

The strategies are outlined below and have been grouped on a sector basis, which enables optimal staff resourcing and project funding. Each technical area includes components of technical support, capacity building through training, public awareness raising, best practice guideline development and dissemination of information. The policy areas of national government level advice, NGO involvement and regional co-ordination have been highlighted separately to acknowledge these areas need input to develop relationships prior to addressing a sectoral issue.

i) Water Resources Management

SOPAC will continue to provide technical support and training to the national institutions to increase national capacity and promote sustainable management.

SOPAC will review & promote appropriate technology solutions incorporating multiple source use (rainwater, groundwater and surface water) to reduce unsustainable demand on any one resource.

SOPAC will prioritise reducing the impact of droughts through improved water resource management as a future issue to be addressed.

SOPAC will promote water quality assessment and encourage resource protection and security.

Close liaison is on-going with UNESCO (International Hydrological Programme), UNEP (Women Participation in Rainwater Harvesting), WHO (Desalination and Water Quality), Centre for Resource and Environmental Studies (CRES) of Australian National University (Drought Vulnerability and Equitable Groundwater Management), SPC (Irrigation Failures), SPREP (Environmental Education), UNDP/GEF (International Waters project) and WMO (Hydrological Training, WHYCOS global monitoring system).

ii) Water Demand Management (WDM) and Conservation

SOPAC will improve the capacity of member countries to reduce unaccounted for water, concentrating on technical support and training.

SOPAC will include village reticulation systems in its demand reduction strategy.

SOPAC will explore the use of financial controls (metering and tariffs) as a demand reduction tool, whilst promoting improved cost-recovery

SOPAC will organise awareness programmes, particularly with schools and villages to promote water conservation and reduce water wastage.

SOPAC and the Pacific Water Association (PWA) have an on-going joint project on asset inventory and operational performance of utilities funded by the Asian Development Bank (ADB). PWA are known to be considering ongoing activities on leak detection. SOPAC will ensure all WDM activities are co-ordinated with PWA should their initiative take-off. SOPAC is liaising closely with DFID London on a major training initiative as part of the Skills For Development Programme. Public awareness co-operation includes collaboration with UNESCO, Environmental Education NGO Live & Learn and the British High Commission in Suva.

iii) Sanitation and Wastewater Management

SOPAC will organise and facilitate the Regional Strategic Action Plan (SAP) for Wastewater as part of the Global Programme of Action (GPA), with technical support from UNEP, PWA and SPREP.

SOPAC will identify prospective NGO partners to facilitate village level sanitation interventions.

SOPAC will liaise with PWA, to enable involvement with anticipated municipal level pilot projects evolving from the SAP.

SOPAC will foster research into appropriate technology for on-site sanitation pilot projects and improved community participation.

On-going collaboration exists with WHO and the Fiji School of Medicine (FSM) on research initiatives for on-site sanitation appropriate technology. The activities identified from the Regional Wastewater SAP are likely to include research, demonstration projects and water quality monitoring. SOPAC may have to recruit a wastewater engineer in the future should a substantial need for technical support in off-site sanitation arise and is not addressed by any other regional partner.

iv) Hygiene Awareness and Promotion

SOPAC will increase its activities in hygiene awareness and promotion, and include these components as integral parts of all relevant projects covering water supply and sanitation.

SOPAC views WHO as a major partner in this sector along with SPC and the Fiji School of Medicine (FSM), the latter of which also has a regional mandate.

SOPAC proposes to use NGO's to increase awareness at the community level. An MoU has been signed with the environmental education NGO Live & Learn to incorporate hygiene issues into the national curriculum in the Solomon Islands.

SOPAC will improve its relationship with Health Ministries (using Fiji as a pilot study) to promote hygiene awareness.

Specific hygiene issue co-operation exists with WHO, SPC and Fiji School of Medicine (Environmental Health Programme for the Federated States of Micronesia, Marshall Islands, Kiribati and Nauru), UNESCO/British High Commission in Suva (World Water Day 2001) and NZODA (Water Education and Awareness Kit).

v) National Policy and Legislation Advice

SOPAC will seek to increase its involvement at the national government level with Member Countries initially through a review of national policies and existing legislation.

On invitation from national governments, SOPAC will provide policy and legislation advice on improvements/amendments required in national co-ordination and regulation.

SOPAC will promote itself as a regional asset, available for consultation and provision of technical advice to governments to facilitate identification and design of sustainable multi-lateral and bi-lateral development projects.

SOPAC will encourage government support to urban and rural institutions including integrating the role of NGOs into addressing the needs of the poorer communities.

The opportunity to carry out high level consultations will be largely dependent on the willingness of recipient governments to facilitate SOPAC involvement in their national affairs. The Regional Wastewater Meeting in Majuro in October 2001 is supported by nearly all MC's and is an example of a well endorsed regional consultation.

vi) NGO Consultation, Co-ordination and Technical Support

SOPAC's WRU will identify potential and appropriate NGO and other Civil Society partners with whom collaboration can be developed.

SOPAC will provide technical support and advice to NGO partners, when the NGO is responsible for project implementation in-country.

SOPAC will look to the resources of NGO partners to increase the ability of SOPAC interventions to include appropriate socio-cultural and gender analysis.

Initial contact has been made with VSO (Regional Coordinator, Vanuatu and Papua New Guinea country directors) regarding future collaboration and SOPAC placements, FSPI (Regional Co-ordinator and Fiji field staff) on potential co-operation and community participation, CUSO (Fiji programme assistant, Vanuatu and Fiji field staff) with respect to in-country activities and SOPAC replacements, and Live & Learn (Regional Director) about partnering on World Water Day and community level education initiatives

vii) Regional Representation, Co-ordination, Resource and Information Centre

SOPAC will support the Council of Regional Organisations in the Pacific agencies (CROP) to provide technical advice for regional representation, including the Commission for Sustainable Development (CSD) and the World Summit on Sustainable Development (WSSD).

SOPAC will support the Commonwealth Science Council (CSC) in maintaining the Small Island Water Information Network (SIWIN) and SOPAC's WRU websites and use these mechanisms to facilitate data and information transfer.

SOPAC WRU will provide technical support to national institutions, co-ordinate with other regional organisations and

SOPAC will provide a major contribution to the University of the South Pacific undergraduate course in Applied Earth Sciences on hydrogeology and groundwater resource management.

10. Development of the Work Programme (2001-2004)

The future work programme will be largely based upon addressing the policy issues at the regional level, through the implementation of the strategic activities identified in the water, sanitation and hygiene sectors.

In addition to the regional issues, Member Countries identify their own national priorities and requirements. Requested national tasks will be included within the regional strategic issues, wherever possible, but inevitably, some local priorities will have to be resourced and supported outside of regional initiatives and programmes, in accordance with SOPAC's mandate to support MCs at the national level. These national level activities will complete the work programme. Priority tasks identified from the overall policy which are not sector specific are:

i) Review of national policies and legislation for the Member Countries;

ii) Identification and consultation with regional NGO's;

iii) Identification of appropriate expertise in gender, community participation and socio-economics;

iv) Recruitment and retention of staff to maintain existing WRU staff capacity.

All of these activities have been initiated since commencement of the DFID supported project in April 2001.

Within the sectoral strategy areas the following regional issues are highlighted from the needs assessment for priority intervention over the next 3 years. The expected commencement date, SOPAC input and collaborative partners are identified:

i) Water Resources Management

Rainwater Harvesting Best Practice – A two year research and demonstration project funded by UNEP. Implementation to be out-sourced to NGO or local consultant. Commenced September 2001.

Protection of the Quality of Freshwater Resources – International Waters Project (SPREP/ UNEP/GEF)) to fund 3 projects on water quality protection for 3-4 years duration. SOPAC to provide design, technical overview and evaluation only. Expected start early 2003.

Appropriate and Sustainable Desalination (as an emergency water supply option) – Priority issue to link with drought preparedness. WHO driving regional initiative. SOPAC to provide technical support and possibly logistical help. Expect regional workshop in mid-2002.

Drought Index and Vulnerability – Issue identified by MC's. Awaiting findings of Australian (CRES) research project before scoping research project (probably for NZ/Aus university). Late 2002 onwards.

Hydrological Training Programme – Training of water utility and ministry personnel in surface water and groundwater monitoring systems to improve resource management. Submitted for funding. SOPAC staff to implement with NIWA, WMO and UNESCO. 3 Year programme. Possible 2002 start.

ii) Water Demand (and System) Management

Water Demand Management and Conservation programme – Continuing activity supporting capacity building with utilities and other water providers to reduce demand through leakage reduction training. Part funded by DFID (3 years) and Taiwan (1 year). Fully resourced by SOPAC staff. September 2001 onwards.

Regional Water Quality Monitoring – Existing SOPAC expertise on drinking water quality is to be refocused into a holistic approach to water quality monitoring, through a regional initiative being led by WHO. SOPAC have been invited by WHO to partner them in this regional undertaking. SOPAC's role is to be defined. Commencing with a workshop in late 2001.

Regional Database Development – Support to water utilities, government health, environmental and geological agencies to develop data capture facilities as a pre-requisite to establishing regulatory regimes for drinking water quality and environmental pollution protection. Funding secure for 2001-2002. Fully resourced by SOPAC. On-going to 2002.

iii) Sanitation and Wastewater Management

Sanitation Park Project – A two year project with WHO and Fiji School of Medicine, to establish regional training and community participation facilities for appropriate sanitation technologies. Submitted for funding. SOPAC to provide project administration and technical support. Early 2002 start.

Regional Wastewater Strategic Action Plan – A year long consultation facilitated by SOPAC/SPREP/PWA/UNEP, resulting in the preparation and endorsement of a regional policy and strategic action plan in October 2001. Proposed actions include demonstration of appropriate technologies and the regional water quality assessment capacity (both in programme). On-going to end 2001.

Solid Waste Management/Appropriate Sanitation - International Waters Project (SPREP/ UNEP/GEF)) to fund 1-2 projects on domestic toilet waste management for 3-4 years duration. SOPAC input to be defined. Expected start early 2003.

iv) Hygiene Awareness and Promotion

Environmental Health Programme – A sub-regional initiative with SPC/WHO/ Fiji School of Medicine, to address environmental health issues in Micronesia. Proposal in development. SOPAC to provide technical support on water and sanitation related inputs. Possible start date 2003.

Regional Public Awareness Initiatives (World Water Day) – Annual regional initiative. SOPAC liaising with educational NGO Live & Learn to deliver sustainable year round message to schools in Solomon Islands, Vanuatu and Fiji. SOPAC to provide technical support only. On-going.

Water Education and Awareness Kit – Initiative with SPREP to promote good hygiene practice and wise water usage. SOPAC to provide technical support only. Commenced 2001, to complete 2002.

In addition to the prioritised regional issues identified above, the recently approved EU (EDF 8) project 'Reducing Vulnerability of the Pacific ACP States through Island Systems Management' includes a substantial water component that compliments and augments the activities in all four sectoral areas identified above.

Individual annual work plans are dependent on the annual requests from Member Country governments, the political stability of individual countries and support of donors to fund projects. No attempt is made to present proposed future annual work plans in this strategy document. The annual work plan for 2002 is reported elsewhere.