REPORT

WHO/UNDP WATER SUPPLY AND SANITATION CONSULTATIVE MEETING OF PACIFIC ISLAND COUNTRIES

Suva, Fiji
26 June - 1 July 1989

Manila, Philippines
August 1989
REPORT

WHO/UNDP SUPPLY AND SANITATION CONSULTATIVE MEETING
OF PACIFIC ISLAND COUNTRIES

Convened by the
REGIONAL OFFICE FOR THE WESTERN PACIFIC
OF THE
WORLD HEALTH ORGANIZATION
AND THE
UNITED NATIONS DEVELOPMENT PROGRAMME

Suva, Fiji, 26 June - 1 July 1989

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August 1989

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NOTE

The views expressed in this report are those of the participants in the WHO/UNDP Water Supply and Sanitation Consultative Meeting of Pacific Island Countries and do not necessarily reflect the policies of the World Health Organization or the United Nations Development Programme.

This report has been prepared by the World Health Organization for the Member States and participants in the WHO/UNDP Water Supply and Sanitation Consultative Meeting of Pacific Island Countries held in Suva, Fiji, from 26 June to 1 July 1989 and other interested parties.
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SUMMARY

An interregional meeting on water resources was held in Suva, Fiji for 200 participants from 35 countries and areas from 26 June to 1 July 1989. The meeting, which was a cooperative effort involving a number of international organizations, had two major components: an Interregional Seminar on Water Resources for Small Islands; and a Consultative Meeting of Pacific Island Countries for the Promotion of Water Supply and Sanitation. The Honourable Ratu William Toganivalu, Minister of Lands and Mineral Resources, opened the meeting which was hosted by the Government of the Republic of Fiji.

The Water Resources Seminar for Small Islands was sponsored by the United Nations Department of Technical Cooperation for Development (DTCD), in cooperation with the United Nations Development Programme (UNDP) and the Commonwealth Science Council. It was held in conjunction with the World Health Organization/UNDP Decade Consultative Meeting for the Promotion of Water Supply and Sanitation in Pacific island countries. A number of other regional agencies also participated in both meetings.

Participants came from all the South Pacific countries and areas, as well as Micronesia, Indonesia and the Philippines. Representatives from island countries in the Indian and Atlantic Oceans, the Caribbean and Mediterranean Seas also attended. Resource people and participants from Australia, Japan, New Zealand and the United States also contributed to the discussions.

The main objective of the Water Resources Seminar was to present for the first time in an international forum the currently available range of solutions to the different water problems faced by island countries. Several successful case studies were presented as tested solutions to specific problems which might apply to islands in the Pacific. Topics included surface and ground water systems, legal and economic issues and proposals for future development in the region and elsewhere. The Seminar drew on experience gained through the UNDP-UNDTCD regional project on water resources for small islands in the Pacific, based in Fiji, and earlier projects on small islands worldwide.

As the end of the International Drinking Water Supply and Sanitation Decade period (1981-1990) is drawing near, the WHO/UNDP meeting focused on identifying remaining constraints and recommending ways of overcoming them, with particular emphasis on future donor agency-WHO collaborative activities.

Many Pacific island countries and areas have water supply and sanitation (including solid waste management) programmes that depend largely on assistance from external support agencies. In the past, a common constraint to the timely execution of aid projects has been the lack of efficient communication of possible avenues of assistance between recipient and donor agencies. This meeting identified potential ways and means of overcoming these difficulties.
1. INTRODUCTION

(1) During the International Drinking Water Supply and Sanitation Decade (1981 - 1990), Pacific island countries have significantly increased their commitment to improving drinking water and sanitation facilities and extending coverage to all segments of the population. In the collaborative process between the World Health Organization (WHO) and national governments to provide potable water and adequate sanitation, the Decade programme has come to be regarded as a major factor in efforts to improve health and overall well-being.

(2) Although nearly nine years of the Decade have passed, in many Pacific island countries and areas of the Region progress in the provision of water supply and sanitation facilities lags behind national targets, and significant problems remain in achieving substantially greater coverage. As the end of the official Decade period draws near, it is desirable to assess progress in a systematic fashion, to identify remaining constraints, and to recommend ways of overcoming these constraints, with particular emphasis on future donor agency-WHO collaborative activities (i.e. the funding of specific project proposals). The need for this type of effort was recognized by the 38th session of the Regional Committee. Resolution WPR/RC38.R12 of this session, requested the Regional Director to collaborate with Member States in mobilizing sources of funds among other things.

(3) Although sometimes not emphasized as a major component of the International Drinking Water Supply and Sanitation Decade, this consultative meeting also focused on solid waste management. Deterioration of the living environment due to inadequate solid waste management is common in the urban areas of many Pacific island countries and areas, where the phenomenon has accelerated with the growth of urban poor populations. Also, the problems associated with the siting of waste disposal facilities have become increasingly complicated because of the fact that appropriate sites can no longer be found easily or economically. The associated improper disposal of solid waste can cause contamination of drinking water sources. The improvement of solid waste management to alleviate these problems is urgently needed to protect public health and the aesthetic aspect of population centres in the Pacific.

(4) Many Pacific island countries and areas have water supply and sanitation (including solid waste management) programmes that depend largely on assistance from External Support Agencies (ESAs). In the past, a common constraint to the timely execution of aid projects has been the lack of efficient communication of possible avenues of assistance between recipient and donor agencies. Because of this, some worthwhile projects remain unfunded. Also, some activities, particularly in rural and urban poor areas, are unnecessarily fragmented among several donor agencies and are not effectively coordinated. This consultative meeting was designed to bring together representatives of national governments and donor agencies in an effort to enhance the implementation of worthwhile projects; to improve coordination and cooperation; to assess progress in the implementation of Decade activities; and to explore opportunities for future collaboration.
2. THE MEETING

The United Nations Department for Technical Cooperation for Development (UNDTCD) is implementing a UNDP-funded Water Resources Assessment and Planning Project covering 16 Pacific island countries and areas. This 4 1/2 year, US$1.5 million project which began in late 1987, involves about 25 long-term and short-term staff located around the South Pacific. As part of this project, a seminar on water resources management techniques was planned for late June 1989. After discussions between WHO and UNDTCD in the latter part of 1987, it became obvious that there was an overlap between this meeting and WHO's proposed Decade Consultative Meeting (DCM) and that the two activities should be coordinated. The two meetings were then organized in parallel for the week of 26 June to 1 July 1989.

2.1 Opening session

The DCM was co-sponsored by WHO and UNDP and hosted by the Government of Fiji. The opening ceremony took place in the Grand Pacific Hotel in conjunction with the UNDTCD seminar. The two meetings were opened by the Honourable Ratu W. Toganivalu, Minister of Lands and Mineral Resources. Other speakers at the opening session included Mr N. Ringrose, UNDP Resident Representative of Fiji; Mr P. Hadwen, Director of the Water Resources Assessment and Planning Project; Dr S.K. Ahn, WHO Representative, Fiji, on behalf of Dr S.T. Han, Regional Director of WHO's Regional Office for the Western Pacific (WPRO); and Dr S. Maloma, Representative of the Commonwealth Science Council (CSC).

In his remarks, Dr S.T. Han challenged the participants to focus on the important task of more effectively and efficiently mobilizing resources to deal with constraints in the water supply and sanitation sector. He noted that this meeting was an excellent forum for improving collaboration and coordination in this regard. Both the Minister of Lands and Mineral Resources and the UNDP Resident Representative expressed their appreciation for the collaboration between the UNDTCD, CSC, UNDP and WHO in staging this joint meeting. Pointing out that the meetings could easily have been held separately, the Minister commended the agencies for pooling their resources and maximizing the benefits to the island country participants.

2.2 Participants

The two meetings were attended by some 200 participants from 35 countries, mostly representatives from island countries and areas in the Caribbean, the Mediterranean, the Indian Ocean and the Pacific. The WHO/UNDP DCM had about 50 participants, of which 25 to 30 attended all of the sessions. The participants included representatives of nine Pacific island countries (Fiji, Federated States of Micronesia (FSM), Kiribati, Marshall Islands, Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu). The Cook Islands and Palau, which were also invited, did not send representatives to the WHO/UNDP DCM; however, the Cook Island representative to the UNDTCD conference took part in some of the DCM sessions. In addition, representatives of Niue and Tuvalu attended the DCM.
and made presentations. The DCM participants also included representatives of 13 ESAs (Annexes 1(a) and 1(b)) comprise the agendas of the WHO/UNDP DCM and the UNDP/CD meeting, respectively; Annexes 2(a) and 2(b) - List of Participants of the two Meetings, respectively).

2.3 Objectives

The main objectives of the Decade Consultative Meeting were:

(a) to assess the progress of participating countries in Decade activities including water supply, excreta disposal and solid waste management;

(b) to identify and promote potential projects for external donor support;

(c) to improve coordination and cooperation between External Support Agencies and national water supply and sanitation agencies; and

(d) to explore future country activities in which WHO collaboration is required.

2.4 Activities

During the course of the meeting, participants presented country profile reports which documented progress made in Decade activities, and presented project proposals for external donor support. This information was compiled in a separate meeting document and provided to all the participating donor agencies for their consideration. In addition, several ad hoc meetings were held between individual countries and various support agencies to discuss specific project proposals.

DCM participants also strongly expressed the need for the continued support of the external support community in the 1990s and beyond, to supply all people with clean drinking water and safe sanitation facilities.

Extensive discussion at the meeting focused on improving coordination and cooperation between ESAs, between national agencies, and between ESAs and national agencies. It was concluded that collaboration between national agencies and individual ESAs was reasonably good; however, collaboration between ESAs, and between national agencies needed considerable improvement. Among the suggestions for improvement was emphasis on the importance of Pacific island country and area representation at the Asian Development Bank-sponsored Regional Consultation on Water Supply and Sanitation in June 1990 (Manila, Philippines). This meeting, involving most of ADBs developing member countries and multi- and bilateral ESAs (including nongovernmental organizations), will develop the Asia Region's input to the Global Consultation on water supply and sanitation, tentatively scheduled for New Delhi, India in September 1990. This Global Consultation is designed to develop coordinated strategies for dealing with sector problems in the 1990s and beyond.
Regarding future activities in which WHO collaboration might be required, it was suggested that the economic importance of clean water and adequate sanitation should be stressed more, both in quantitative and qualitative terms. For example, emphasizing the close link between clean water, good sanitation and growth in the tourism industry was cited as a way of raising the profile of the water supply and sanitation sector in the growth and development decision-making process. It should also be noted that some countries and areas, particularly the Federated States of Micronesia and the Marshall Islands, have not had extensive experience in dealing with external support agencies. As the historical single-donor relationship that has existed in these countries diminishes, there will be increasing interest in closer collaboration with other bilateral and multilateral agencies such as WHO.

3. MAJOR ISSUES

At the WHO/UNDP DCm, country representatives presented papers describing the water supply and sanitation (WSS) sector in their countries, pointing out issues and constraints, as well as priority areas that needed attention and required external funding. Priority project profiles were made available to the ESAs (Annex 3 - List of Priority Projects). A separate volume of country papers and project profiles was assembled and copies distributed to representatives of attending ESAs. Additional copies are available at the WHO offices in Suva, Fiji; Manila, Philippines; and Geneva, Switzerland. Information from the country project profiles will also be incorporated in the Country External Support Information (CESI) system at WHO Headquarters in Geneva. CESI is a computerized network of worldwide ESA and developing country project information. However, it should be clearly understood that neither the provision of this information to the ESAs nor its inclusion in CESI constitutes formal submission to ESAs. In this regard, each country is expected to follow its own internal procedures and those of particular ESAs.

Each country presentation was followed by a discussion session. The common problems that were highlighted throughout the discussions are summarized as follows:

(1) long-term operation and maintenance (O and M) of WSS systems, including leak detection (e.g. lack of funding for replacement parts, non-availability of spare parts, and lack of trained personnel);

(2) inadequate national management information systems;

(3) inappropriate human resources development (HRD) plans and programmes;

(4) insufficient community participation (owing to lack of motivation and training, socio-political conflicts, etc.).
(5) groundwater pollution associated with population growth and economic development, as well as overuse of groundwater, leading to seawater intrusion;

(6) insufficient groundwater in some islands;

(7) complex and lengthy donor (ESA) procedures for project evaluation, funding and execution; and

(8) ESA project interests which do not necessarily match country priorities (e.g. sanitation projects are unpopular, and tied aid leads to a diversity of equipment). Better composite information on all ESAs is needed. In this context, ESA strategy documents would be helpful.

4. CONCLUSIONS

The DCM arrived at three major conclusions:

(1) Cooperation and communication between national agencies and ESAs seems to be better on a bilateral basis than anticipated at the outset of this meeting. However, cooperation and communication among ESAs and between government agencies and ESAs as a collective group supporting the WSS Sector, are not effective. Considerable improvement is needed, possibly through country-initiated formal or informal donor meetings. Such meetings could be organized on an ad hoc basis or in conjunction with the national planning cycle.

(2) In comparison with other sectors associated with growth and development, the water supply and sanitation sector has a low profile. Raising the sector's profile or priority in the decision-making process is essential. One way of doing this is to measure the socio-economic impact of the sector.

(3) Representation of Pacific island countries and areas at the Asian Development Bank Regional Consultation in June 1990 is important. Topics of common interest to be presented might comprise the following:

(a) groundwater resources management, including groundwater pollution and excessive depletion;

(b) the long-term operation and maintenance of WSS systems, including the funding and community management of O and M;

(c) inadequate national management information systems; and

(d) complex and lengthy donor (ESA) project appraisal, funding, and execution procedures.
5. PROPOSALS FOR ACTION

On the basis of the above conclusions, the following Action Programme was drawn up in agreement with the DCM participants:

Action 1

Representatives from participating countries and areas will recommend to their governments that regional or country-level meetings with external support agencies should be initiated to discuss the funding of the water supply and sanitation sector. These meetings could be UNDP-sponsored Round Table Meetings (RTM), covering all sectors, or consultations dealing especially with the WSS sector.

Meetings could be held on an ad hoc basis, annually, biannually, or on other bases, possibly coinciding with the national planning cycle.

In preparing for these meetings, countries would be expected to seek ESA assistance.

Action 2

Delegates from participating countries and areas will recommend to their governments the strengthening of existing, or the setting up of new, national WSS sector coordination mechanisms to streamline national resources to the sector. This is also expected to enhance the profile of WSS sector projects which are presented to ESAs for funding in the context of the overall national economy.

In addition, methods of evaluating the socio-economic benefits of the WSS sector should be developed at the national level. These should consider, among other things, the reduction of water and sanitation-related disease incidence, hospital costs, labour outfall and overall social well-being. Such an evaluation would be descriptive as well as quantitative and would look at negative impacts on other economic activities (e.g. tourism) if the WSS sector is not improved.

To develop these evaluation methods, governments are expected to seek support from external support agencies which have experience in this field.

Action 3

DCM participants of Pacific island countries and areas recommend to the Asian Development Bank that one or more of the following subjects be presented and discussed at the Asia Regional Consultation, to be hosted by ADB in June 1990:
(a) groundwater resources management, including groundwater pollution and excessive depletion; and/or

(b) water supply and sanitation in small islands in the context of overall environmental sanitation (including solid and liquid waste disposal) on a limited surface with limited supply and disposal potential; and/or

(c) complex and lengthy ESA project appraisal, funding and execution procedures.

These conclusions and proposals for action were presented to and endorsed by the DCM participants at a joint concluding session of the WHO/UNDP DCM and the UNDTCD Water Resources Seminar.
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Wednesday 28 June through Saturday, 1 July

- REVERT TO UNDCD AGENDA

- Wed. 28 June 1400 - 1530

- WHO/UNDP Decade Consultative Meeting
- Working Group on issue-oriented proposal for actions
INTERREGIONAL SEMINAR ON WATER RESOURCES
MANAGEMENT TECHNIQUES FOR
SMALL ISLAND COUNTRIES
SUVA, FIJI, 26 JUNE - 1 JULY 1989

Revised Programme (26 June)

Sunday, 25 June 1989

3:00 - 6:00 Registration of participants in Room 3, Grand Pacific Hotel

Monday, 26 June 1989

8:00 - 9:00 Registration

9:00 - 10:00 Opening ceremonies

10:00 - 10:30 Coffee break

10:30 - 12:00 Session I. Surface water systems

Overview

Intake structures

Case Study: Surface water on Fiji

LUNCH

12:00 - 1:30

1:30 - 2:45 Session II. Ground water systems in small islands

Overview

Ground water exploration techniques

Abstraction by gravity

2:45 - 3:00 Coffee break

3:00 - 4:30 Modelling of the ground water lens

6:00 - 8:00 Welcome reception

Tuesday, 27 June 1989

9:00 - 10:30 Session III. Ground water systems

Infiltration galleries

Low-cost drilling techniques

10:30 - 11:00 Coffee break
Annex 1(b)

11:00 - 12:30  Case studies
Ground water in Papua New Guinea  S.S. Egara
Potable water supplies for Emae Island, Vanuatu  C.S. Cheney
Conjunctive use of surface and Ground Water on La Digne Island, Seychelles  R. Cetoupe

12:30 - 2:00  LUNCH

2:00 - 3:15  Session IV. Rainwater catchment systems
Overview  Y.S. Fok
Design and construction  D. Parish

3:15 - 3:30  Coffee break

3:30 - 4:30  Case studies
Rainwater catchments on Tuvalu  C. Reynolds

Wednesday, 28 June

9:00 - 10:45  Session V. Institutional solutions
Experience in establishing specialized information centres  D. Campbell
Regional small islands water project  F. Hadwen
Proposal for Water Resources Centre  A. Simpson

10:45 - 11:15  Coffee break

11:15 - 12:30  Training needs and programmes
Overview  W. Dale
CCOP/SOPAC  R. Howorth
ILO/INSTRAW Training Modules  M. Johnson

2:30 - 2:00  LUNCH

2:00 - 3:30  Session VI. Advanced technologies in island settings
Overview  O.K. Buros
Use of microcomputers  J. Karanjac
Desalination technologies  T. Goto

3:30 - 3:45  Coffee break

3:45 - 5:00  Case studies
Bermuda  N. Thomas
Tonga  F. Koloi
### Thursday, 29 June 1989

**Session VII. Operation and maintenance**

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<tr>
<td>11:00 - 12:30</td>
<td>Rural water supply in Vanuatu</td>
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<td>12:30 - 5:00</td>
<td>Field trip to Nukulau (Box lunch)</td>
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Speakers:
- B. Mosley
- T.R. Newton
- M. Johnson
- G. Barrowcliff

### Friday, 30 June 1989

**Session VIII. Economic and Legal Issues**

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Speakers:
- M. Brewster
- M. Solanes
- J. King
- R. Dickson

### Saturday, 1 July 1989

**Session IX. Water Quality and Sanitation Considerations**

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<td>Presentation of recommendations and conclusions by Working Group Chairman</td>
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<td>11:30 - 12:30</td>
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WHO/UNDP DECADE CONSULTATIVE MEETING
OF PACIFIC ISLAND COUNTRIES
FOR THE PROMOTION OF WATER SUPPLY AND SANITATION
SUVA, FIJI, 26 June - 1 July 1989

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<thead>
<tr>
<th>Name</th>
<th>Address</th>
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</thead>
<tbody>
<tr>
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</tr>
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</table>

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<thead>
<tr>
<th>Name</th>
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<tr>
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<td>French Embassy&lt;br&gt;Suva</td>
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<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
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<td>Embassy of Japan&lt;br&gt;2nd Floor, Dominion House&lt;br&gt;G.P.O. Box 13045&lt;br&gt;Suva</td>
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</table>

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<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
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<tbody>
<tr>
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<thead>
<tr>
<th>Country</th>
<th>Title and No. of Project</th>
<th>Executive Agency</th>
<th>Cost in US$</th>
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<tr>
<td>1) Fiji</td>
<td>1. Village &amp; Settlement Water Supplies</td>
<td>P.W.D.</td>
<td>$300,000/annum for 3 years</td>
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<td>2. Assessment &amp; Development of Water Resources on Small Islands</td>
<td>Mineral Resources</td>
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<td>5. Vatia Rural Water Supply</td>
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<td>10. Rakiraki (Vaileka) Water Supply</td>
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<td>11. Sanitary Handfill</td>
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<td>12. Rural Sanitation</td>
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<td>$650,000</td>
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<td>13. Suva Sewerage - Sub Trunk Network Study</td>
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<td>14. Suva Sewerage - Reticulation</td>
<td>P.W.D.</td>
<td>$25,000,000</td>
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<td>P.W.D.</td>
<td>$150,000</td>
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<td>16. Ba Sewerage Scheme</td>
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<td>17. Septage Handling Facilities</td>
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### Annex 3

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<tr>
<th>Country</th>
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<th>Cost in US$</th>
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<td>5. 4 Public Toilets at Markets - Rural Area</td>
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<td>1. Latrine Construction in Outer Islands</td>
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<td>6. Supply of Groundwater Assessment Survey Equipment</td>
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<td>3) Federated States of Micronesia</td>
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<td>1. Development of a Master Plan for Solid Waste Management Systems in FSM</td>
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<td>Purchase of Underground Pipe Inspection Equipment</td>
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<td>Cumulative effects of small projects</td>
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<td>Country</td>
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<td>3. Truk Rural Water Treatment Plant Improvements</td>
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<td>4. New Water Sources Development in Truk</td>
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<td>5. Truk State Atoll Island Groundwater Pumping System</td>
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<td>2. Kolonia Town Garbage Collection and Disposal Project</td>
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<td>3. Pohnpei State Rural Water Supply</td>
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<td>4. Pohnpei State Sewer Outfall Extension</td>
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<td>5. Pohnpei State Development and Implementation of Solid Waste Management System</td>
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<td>6. Seidonokawa Stream Sanitary Improvement Project</td>
<td>Pohnpei State Dept. of Public Works - Kolonia Town Govt.</td>
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<th>Country</th>
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<td>1. Solid Waste Management System, Majuro</td>
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<td>5. Sanitary Land Filling for Major Urban Centres</td>
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<td>6. Design and Upgrade Landfill Sites in Port Moresby</td>
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<td>7. Excreta and Refuse Disposal in Small Urban Centres</td>
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<td>6) Solomon Islands</td>
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<td>5. Rural Water Supply Maintenance Programme</td>
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<td>7) Tonga</td>
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<td>4. Chlorination of Rural Water Supply</td>
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<td>5. Solid Waste Management Nuku'alofa</td>
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<td>4. Study of Neiafu Water Scheme</td>
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<td>5. Study of Eua Water Scheme</td>
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<td>6. Laboratory Building</td>
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<tr>
<td>9) Western Samoa</td>
<td>1. Fellowship for Engineering Postgraduate Study</td>
<td>Public Works Department</td>
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<td>2. Water Quality Monitoring</td>
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<td>3. Health Centre Water Supplies</td>
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<td>4. Rural Sanitation</td>
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<td>5. Rural Water Supply Rehabilitation - Sector Study</td>
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<td>6. Rural Water Supply Rehabilitation Materials</td>
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<td>8. Rural Water Supply Rehabilitation - Barehole Rehabilitation</td>
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<td>9. Apia Sewerage Project Oceanographic and Environmental Studies</td>
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<td>10. Apia Sewerage Project Stage 1. Design and Construction</td>
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ANNEX 4

List of Abbreviations

ADB  Asian Development Bank
CESI  Country External Support Information
CSC  Commonwealth Science Council
Decade  International Drinking Water Supply and Sanitation Decade, 1981 - 1990
DCM  Decade Consultative Meeting
ESA  External Support Agencies
FSM  Federated States of Micronesia
GPH  Grand Pacific Hotel
HRD  Human Resources Development
O and M  Operation and Maintenance
RTM  Round Table Meeting
UNDTCD  United Nations Department of Technical Cooperation for Development
WHO  World Health Organization
WPRO  WHO Regional Office for the Western Pacific