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WATER AND SANITATION
FOR HEALTH PROJECT

Operated by
CDM and Associates

Sponsored by the U.S. Agency
for International Development

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The WASH Project is managed by Camp Dresser & McKee International Inc. Principal cooperating institutions and subcontractors are: Associates in Rural Development, Inc.; International Science and Technology Institute, Inc.; Research Triangle Institute; Training Resources Group; University of North Carolina At Chapel Hill.

PREPARATION OF A PLAN OF ACTION FOR THE WATER SUPPLY AND SANITATION COMPONENT OF THE ADB-SPONSORED RURAL HEALTH SERVICES PROJECT IN PAPUA NEW GUINEA

WASH FIELD REPORT NO. 208

APRIL 1987

Prepared for
the USAID Regional Development Office, South Pacific,
and the Department of Health, Papua New Guinea
WASH Activity No. 322

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under WASH Activity No. 322

by

Joseph Haratani
and
James K. Jordan

April 1987

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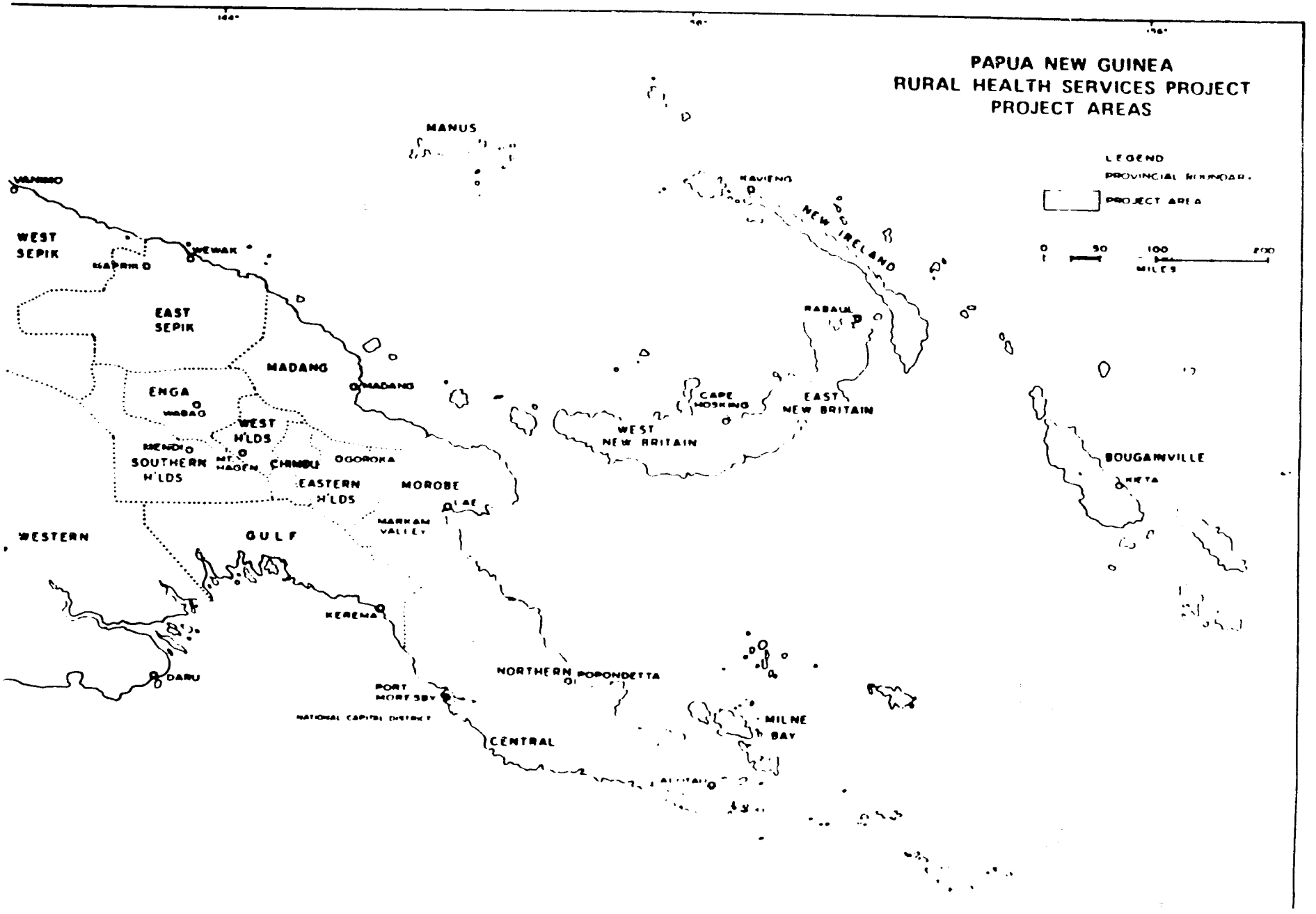
PAPUA NEW GUINEA
RURAL HEALTH SERVICES PROJECT
PROJECT AREAS
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NORTHERN
POPONDETTA
PORT MORESBY
NATIONAL CAPITAL DISTRICT
MILNE BAY
CENTRAL
ALOTAU

GLOSSARY OF ACRONYMS

ADB	Asian Development Bank
ADB-1	First Primary Health Services Project
ADB-2	Second Primary Health Services Project
APO	Aid Post Orderly
CAHS	College of Allied Health Sciences
DHI	District Health Inspector
DOH	Department of Health
DOH/EH	Department of Health/Environmental Health
DOW	Department of Works
EHS	Environmental Health Section
LGE	Local Government Engineers Section of Department of Works
NTSU	National Training Support Unit
NWS&SB	National Water Supply and Sewerage Board
OIC	Officer-in-Charge (of Water and Sanitation Component)
PHI	Provincial Health Inspector
PHO	Provincial Health Officer
PNG	Papua New Guinea
PSC	Public Service Commission
USAID	United States Agency for International Development
WASH	Water and Sanitation for Health Project
WHO	World Health Organization

CURRENCY EQUIVALENT

.90 Kina = $1.00 U.S. in March 1987
100 toea = 1 Kina

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The cooperation and assistance provided by members of the Project Implementation Unit and Asian Development Bank (ADB) and World Health Organization consultants are greatly appreciated. Special thanks go to Mr. Gary Ruiter, who also accompanied the team on its provincial visits.

The WASH team is indebted to hosts in the provinces, to each of the Provincial Health Officers, Messrs. Dio Iagata and Kambowa Kukyuwa and Drs. Likei Theo and Malcolm Bolton, and their staffs; Provincial Health Inspectors Stephen Ani, Michael Gandi, Firiepa Erinuka, and Bernard Lukara; and Officers-in-Charge of Water Supply and Sanitation Daleya Dibili, David Collin, Ebu Oangazi, and Thomas Busin.

We wish to thank our colleague, Mr. Wilbur Hoff, ADB Health Education and Training Consultant, who so kindly provided us with assistance and support in our assignment.

There are many others who were instrumental in making it possible for us to obtain vital information and insights so necessary in carrying out this truly challenging assignment. Thank you, all!

EXECUTIVE SUMMARY

ADB-1, the first Rural Health Services Project supported by the Asian Development Bank and being implemented in six provinces of Papua New Guinea, is entering its fifth, and possibly its final, year. ADB-2, the second project covering the balance of the nation's 19 provinces, is entering its second year of implementation. While the provincial health offices have made some progress in building village water systems, they have been less successful in marshaling the human resources of communities to operate and maintain them.

During the past few years, the Department of Health has increasingly stressed the need to involve communities in a manner that would help to develop their self-reliance. The recently published National Health Plan for 1986-1990 repeatedly reaffirms the Department of Health's commitment to a community-based program strategy. At the provincial level where the rural water supply and sanitation program is being implemented, health inspectors are trying various strategies to increase the involvement of villagers in the program.

In early 1986, a WASH consultant team conducted an evaluation of the rural water supply and sanitation component of ADB-1. The present WASH team has been asked to assist the Department of Health in placing the recommendations made in the evaluation into effect. In carrying out its scope of work, the WASH team visited four provincial health offices and conducted interviews and mini-workshops to determine how they were planning and implementing their programs. These visits were followed by a workshop held in Port Moresby with participants from seven provincial health offices. The purpose of this workshop was to present the WASH team's findings and conclusions and to have the participants challenge, modify, and confirm them. Through this process, the WASH team developed a model framework for initiating and implementing a village water supply project using a community participation approach. Using the model project cycle as the basic building block of the rural water supply and sanitation program and taking the stated goals and objectives of the National Health Plan as a guide, the WASH team identified specific tasks to be carried out by the central office and provincial offices to improve program implementation and, hopefully, to promote the concept of community ownership and responsibility so that villagers would properly operate and maintain their water systems. Simple procedures and forms are presented to serve as reference materials for provinces to use in developing their own programs.

In addition to describing national- and provincial-level tasks, the WASH team identified and described specific subject areas where external technical assistance is needed. The team also drafted preliminary terms of reference to be used to initiate the process of obtaining the necessary technical assistance services.

Finally, this report presents some final observations and conclusions, covering the management and operations of the rural water supply and sanitation program as well as pointing out issues which affect the health establishment as a whole.

Chapter 1

INTRODUCTION

1.1 Project History

From mid-1979 to mid-1982, Asian Development Bank (ADB) missions visited Papua New Guinea to assess the possibility of providing assistance in the health sector. In mid-1982, an ADB Appraisal Mission completed the scope, strategy, and cost of a rural health services project covering 6 of Papua New Guinea's 19 provinces. While the main purpose of this project was to increase the effectiveness of the health services in providing primary health care to the people of the project area, a significant component of the project was to install water supplies and excreta disposal facilities at government installations and in rural villages.

Project implementation began in early 1983. A sanitary engineer consultant was to be hired at the beginning of the project to work with province staff in developing a detailed plan for improving rural water supply and sanitation facilities in each of the six project provinces. A consultancy of 21 months was provided in the project to develop provincial plans and, among other duties, to provide continuous technical and management assistance in the implementation of these plans. Due to recruitment difficulties, the consultant position remained vacant for over two years.

Meanwhile, the health inspectors in charge of this project activity (designated as officers-in-charge) were left largely on their own to carry out the water supply and sanitation activity. While some health inspectors had previous experience from earlier water supply and sanitation programs, many were ill-equipped to take charge of this program.

For a number of reasons, including the traditional government philosophy of patronage and the extremely ambitious numerical targets set in the project (approximately 1,300 water supply systems and a like number of sanitary facilities), the officers-in-charge and their construction crews did their best to install as many water systems as possible. Because the major focus was on building systems, little attention was given to the crucial area of maintaining the systems.

Again, for a variety of reasons (i.e., inappropriate hardware, poor designs, and the lack of preventive maintenance), the systems began to fail at an alarming rate. These high failure rates caused the ADB Mission preparing a second rural health services project covering the 13 remaining provinces to prescribe certain community participation requirements, the establishment of maintenance activities, and the appointment and training of water system caretakers to address this problem in the second project.

One major problem was the rapid failure of handpumps. When the sanitary engineer consultant was finally recruited and hired, he focused a great deal of attention on the development of an appropriate version of the "Blair" handpump. This meant that the task of developing a detailed program implementation plan was left entirely to the officers-in-charge. As noted earlier, some of them did a creditable job in managing, if not in planning, the water

supply and sanitation activity, while others are still struggling to get on top of the program. This is basically the situation now as ADB-1 enters its fifth (and final) year and ADB-2 enters its second year of operation.

1.2 Background of the Consultancy

In mid-1985, the Department of Health (DOH) asked USAID/Suva to provide assistance in evaluating the water supply and sanitation component of the first project. A WASH team was fielded which conducted the mid-term evaluation from January 27 to March 14, 1986. The WASH team made a number of recommendations to improve project implementation. The findings were published in WASH Field Report No. 182, "Evaluation of the Water Supply and Sanitation Component of the ADB-Sponsored Rural Health Services Project in Papua New Guinea," June 1986.

In mid-1986, the Department of Health asked USAID/Suva to provide assistance in developing a plan to put the evaluation recommendations into effect. This request forms the basis for the assistance provided by the present WASH team.

1.3 Scope of Work

The WASH team is to assist the Environmental Health Section of Department of Health in developing a rural water supply and sanitation action plan. While the action plan is to be based upon the concepts and goals set forth in the "National Health Plan, 1986-1990," information obtained from a variety of sources including official documents and reports, reference publications, and interviews will be used.

As a part of its work, the WASH team will visit provincial health staff in three or four provinces to collect information and identify problem areas.

The WASH team will assist the Department of Health/Environmental Health staff in organizing and analyzing the information gathered and in using it to develop a plan of action for rural water supply and sanitation. In addition, assistance will be provided in preparing guidelines and models to assist provincial health staff in preparing their program plans. The plan of action will identify tasks to be carried out by the national and provincial offices.

1.4 Methodology

The WASH team provided assistance in identifying and obtaining reference documents and reports relating to the rural water supply and sanitation program. The team also assisted in arranging and conducting interviews with government officials and other individuals involved with, or otherwise knowledgeable about, the rural water supply and sanitation program.

A major phase of the information gathering process involved visits to selected provinces by the WASH team accompanied by a World Health Organization (WHO) consultant and, to the extent possible, by Department of Health/Environmental Health staff. A total of four provinces were to be visited. The provincial

health officer was contacted by the Department of Health/Environmental Health staff to explain the purpose of the visit, the meeting format, agenda, and the people to be involved; the provincial health officer scheduled the visit. A letter describing the purpose, format, and expected products of these meetings was sent to each provincial health officer.

Information generated from these various sources was collected, analyzed, and used in developing a plan of action for the rural water supply and sanitation program and guidelines for preparing provincial activity plans.

Following the visits to the provinces, a one and one-half day workshop was held in Port Moresby to present the findings to a group of provincial health officers and provincial health inspectors from several provinces for the purpose of reviewing, adding to, and substantiating the information collected and the interpretations made. The revised information was then used to prepare a written report to be presented to the Department of Health and USAID/Suva for review and comments prior to being published in final form.

Chapter 2

CURRENT STATUS OF THE RURAL WATER SUPPLY AND SANITATION PROGRAM

2.1 Community Participation

The Department of Health (DOH) has made progress toward its goal of providing quality water to a large percentage of the rural population of Papua New Guinea. The emphasis in implementing the program is gradually shifting from efforts to install as many water systems as time and funds will permit without the involvement of the beneficiaries to the recognition that the participation of the village people is essential if the new systems are to continue operating after they are placed in service. In most cases, villages are providing labor and local materials for system construction. In some provinces, villages are required to establish water committees and to open maintenance accounts. In addition, the DOH has employed a consultant to conduct workshops in community participation for provincial district health inspectors (DHIs). The DOH, both at national and provincial levels, is placing great importance on the role of the village to sustain the water system for the long term.

These efforts are certainly necessary for the success of the rural water supply program. However, the WASH consultants have also noted that introducing the village people to the concept of village ownership of their systems does not of itself ensure that the water system will be maintained. The villagers also need to know how to maintain their system and, equally important, where they can obtain the spare parts, materials, and tools they need to make repairs.

Currently, the DOH has not made adequate provision for villagers to easily obtain the tools and parts to maintain their water systems. Addressing this need will be one of the more important requirements for the DOH if the rural water program is to be successful.

2.2 Program Achievements

A number of positive actions have been initiated in the past 12 months which point to the shift in emphasis from hardware to community participation.

- Mr. Wilbur Hoff, an independent consultant, has been employed by the DOH to conduct a series of community development workshops in 10 provinces in 1987, with the rest of the provinces to be covered later. The community development workshop will be held for DHIs with participation by some village leaders. The goal is to improve the ability of the DHI to work together with village people.

- The National Health Plan published in 1987 places great emphasis on the role of the community in all aspects of health care. The necessary participation of

the village in constructing and maintaining its water system is stressed, as is the need for the village people to feel that they own the new water system.

- The national staff had developed a project data form which is prepared and submitted by the DHI after project completion. (See Appendix B, Water and Sanitation Project Report.) The information used to track the number of completed projects by location, type, and cost is also used to assess the involvement of the village in constructing the water system. This latter information on village contributions of funds, labor, and accommodations for the DOH work crew can help to determine if the shift to community participation is taking place.

- The World Health Organization (WHO) and the DOH appear to be working more closely than in the past to achieve the goals of the rural water program. The two groups have worked together to arrange two national workshops in the past six months, and more meetings are being held between the groups.

- A national community participation workshop, sponsored by ADB, WHO, and the DOH, was held in March 1987. The workshop enabled the participants to share experience in community participation, develop draft community participation guidelines, and reinforce DOH's emphasis on the necessity for the village to participate actively in water projects.

2.3 Program Constraints

It is clear, however, that despite these encouraging signs, constraints to the construction of sustainable water systems exist and that a long-term effort will be required to complete the shift to total village responsibility for water systems. In addition to the problems with spare parts and tools highlighted in Appendix C, there are other constraints to the success of the water program.

- Many if not most of the water projects completed are viewed by the village as government, not village, owned. The result usually is that the government is expected to maintain the water system in addition to constructing it. The feeling of government ownership is fostered by the number of systems that are constructed with virtually no village help; in fact, a number of systems are built without the village having requested a system.

- Provincial staff, particularly at the DHI level, will find it difficult to change from a policy of building water systems to one where their role is to assist the village in constructing their own system. Acquiring the ability to work with and involve village people will require training and practice.

- Many instances have occurred where high-level, non-DOH government health officials instruct DOH to provide a village with a water system. This approach makes efforts to encourage community participation very difficult and reinforces the concept of government ownership.

- The process of effectively involving the community will require more time and effort on the part of the DHIs and officers-in-charge. The benefit of reducing government involvement in maintenance and more reliable water systems will not be realized immediately. To the already burdened provincial staff, community participation activities may seem too high a price to pay. This is particularly noteworthy since the number of DOH field staff is not likely to be increased.

- The budget process is currently geared towards the construction of new water systems with less attention being paid to the sustainability of these systems. Financial managers in the DOH need to recognize that the community development approach may require more manpower in the short term as the skills needed for effective community development are being learned and with the benefits of this approach being realized later in the program.

On balance, the DOH and other interested groups are clearly moving in the right direction. The Government of Papua New Guinea will not be able to afford the maintenance of thousands of village water systems. Community participation is a key element in shifting the villagers' attitude from government to community ownership and responsibility for these systems.

Chapter 3

WASH TEAM ACTIVITIES

Upon arrival in Papua New Guinea, the WASH team leader was involved in a one-week workshop on community participation held in Goroka, Eastern Highlands Province. The workshop was sponsored by the Asian Development Bank and the World Health Organization. The key participants were the officers-in-charge (OICs) of water supply and sanitation from the nation's 19 provinces. Other participants included provincial health inspectors (PHIs), the Senior Health Inspector for Water Supply and Sanitation of the Department of Health (DOH) as well as the Assistant Secretary for Primary Health Services, and several expatriate consultants. The program for Wednesday was changed to provide time for participants to process information generated in the Monday afternoon regional sub-group activity, listing problems in eliciting community participation. (See Appendix D, Community Participation Workshop Program.)

During the following week, the team leader prepared an updated work plan which took into account the training provided for the PHIs and OICs in planning and managing rural water supply and sanitation systems, as well as the previous week's workshop on community participation. Rather than conducting two week-long workshops as originally planned, a series of staff interviews and mini-workshops was planned at four provincial health offices. These interviews and workshops were to be followed by a one-and-one-half day workshop to be held in Port Moresby with provincial health officers (PHOs) and PHIs representing seven provinces and selected Department of Health staff and consultants as participants. (See Appendix E, Program for Mini-Workshop.) These changes were made due to travel constraints and to involve the maximum number of staff in the data gathering and action planning process. (See Appendix F, Schedule of Provincial Visits.)

The purpose of the provincial interviews and mini-workshops was to gather information regarding the implementation of the ADB-sponsored water supply and sanitation program. This information was then used in describing the goals, objectives, and tasks established by each province in its rural water supply and sanitation activity. Additional information was gathered and processed to develop the village water supply project cycle used by the individual provinces. The project cycle is a chronological sequence of events and actions taken by each province in initiating and implementing a village water supply project.

The provincial visits were followed by the workshop held at the DOH in Port Moresby. The purpose of the workshop was to present the results of the mini-workshops for review and comment to the broader audience for confirmation of the processes described in the project cycle, to prioritize national and provincial level tasks, and to review and revise budget and program planning procedures. These products from the provincial visits and the DOH workshops comprise the substance of the plan of action.

Chapter 4

VILLAGE WATER SUPPLY PROJECT CYCLE

4.1 Introduction

One of the purposes of the interviews and workshops held in 4 of the nation's 19 provinces was to have the rural water supply and sanitation staffs describe the process used in each of these provinces for initiating and completing a village water supply project. Based on the information provided by provincial health inspectors (PHIs), officers-in-charge (OICs), and district health inspectors (DHIs), the WASH team outlined village water supply project cycles for each of the four provinces visited--Central, Western Highlands, Morobe, and East New Britain. (See Appendix G for forms currently being used in the provinces during project execution.) The team found that outlining the project cycles serves three purposes. First, the process requires the rural water supply and sanitation staff to think through the steps in initiating and completing a village water supply. Second, the activities described in the project cycle, especially those to be taken by the community, provide insights as to the extent to which health staffs are applying the community participation strategy. Performance of these actions by the community can become the basis for measuring village interest and commitment to the project. Third, the provincial project cycles provide the framework for developing a model project cycle which can be used by provinces as a reference in establishing their own project cycles.

4.2 Model Project Cycle

The major elements of the three provincial project cycles were combined and modified to construct a model project cycle (Exhibit A). The purpose of constructing a model project cycle is to provide provincial health staff with an example to use as a reference in preparing their own project cycles.

As indicated in the model project cycle, there are two basic ways in which a village water supply project is initiated. It is initiated by a request from a representative of the village or from a person outside of the village. This is shown in Event 1.

In either case, this request generates a visit to the village by the DHI or OIC. The purpose of this visit is for the DHI or OIC to get a first-hand look at the village and its environs to determine if a reliable source of water is available and to make a preliminary socio-economic diagnosis. It also presents an opportunity to explain how the provincial water supply program operates and to leave a copy of the request for assistance form (Exhibit B) to be signed by the village leaders if the village decides to build a water system.

When this decision is made and the form signed, the village representative informs the DHI or OIC and a second visit is arranged. This is shown as Event 2.

Next, the initial public meeting with village leaders and villagers in attendance is held. Here the OIC or DHI explains the concept of village ownership and responsibility. He explains the villagers' responsibility not only for building the water system, but also for operating and maintaining it. He also explains the role of the health office in the project. The villagers are informed of certain actions they are to take such as forming a water committee (See Appendix H, Membership and Duties--Village Water Committees) and setting up a maintenance fund account. This is shown as Event 3.

When the OIC or DHI is notified that the committee is formed and the maintenance fund set up, he will visit the village to verify the existence of the committee and maintenance fund and to perform the technical survey and complete the socio-economic diagnosis. The OIC or DHI will explain and leave a copy of the construction agreement form (Exhibit C) for review and approval by the villagers. This is shown as Event 4.

When the OIC or DHI completes the design of the system, he notifies the villagers of the specific amounts of local materials and labor required and sets a date for a third meeting. This is shown in Event 5.

At the third meeting, the OIC or DHI completes the construction agreement and both parties sign the agreement. He will then conduct a community development workshop to further involve the village leaders and water committee members in the process of taking ownership and responsibility for the project. The OIC or DHI will also explain the role of the water committee and the duties of its members. The villagers are asked to notify the OIC or DHI when they have completed the collection of funds and stockpiled local materials in order to schedule the start of construction. This is shown as Event 6.

Upon receiving this information, the OIC or DHI schedules construction start and begins to deliver materials to the construction site. He can verify the stockpiling of local materials at this time. This is shown as Event 7.

Finally, when all materials and workers are on site, construction is started. During construction at least two caretakers are identified and trained to maintain the water system. This is shown as Event 8.

When construction is completed, a dedication ceremony is held and the ownership certificate (Exhibit D) is signed and presented to the committee. A follow-up visit is also scheduled during the ceremony. These actions are shown as Events 9 and 10.

Exhibit A

MODEL WATER SYSTEM PROJECT CYCLE

EVENT	EXPLANATION
1. Request for water supply comes to DHI/OIC.	The request may come directly from a village, from an APO or HEO, from political sources or as a result of a DOH survey.
2. OIC or DHI visit village.	This visit has two purposes. The first is to gain first hand knowledge of the village including potential water sources, population, sanitation practices and other general data. It is very important to determine if a reliable water source is available to the village before any offer or commitment to the villagers is made. The second is to explain the request for assistance form (Exhibit B to a villager leader/elder and leave a copy for the village people to review and agree to. The village is instructed to notify the DHI when request for assistance form is signed and a meeting with the village and DOH representatives is arranged.
3. Initial meeting - village and DHI/OIC.	The primary purpose of this meeting is to explain the concept of village ownership to the villagers, to explain their responsibilities for the water system and for the village to return the signed request for assistance form to the DOH representative. The DOH representative explains the health benefits of the water system and the role that the government will play in the project. The villagers are informed that they need to form a water committee, set up a water fund and collect a set amount from each family to open the water system maintenance fund account.

4. Second meeting with village.	After receiving notification from the village that they have set up the water committee and fund, the DOH representative will meet with the village to verify the existence of the water committee and fund, review the village responsibilities, and complete the technical survey and social diagnosis. The DOH representative also leave with and explain to the village water committee a copy of the construction agreement form (Exhibit C) for their review. The committee will be informed of the specific requirements for local materials and labor after the DOH completes detailed planning for the systems. The need for and role of the caretakers is explained.
5. DOH system planning.	The DHI/OIC complete the detailed design of water system including the material and labor requirements and cost. The village is notified of the amount of their contribution in this respect.
6. Third meeting with village.	The purpose of this meeting is to complete the construction agreement by filling in the amounts of the village contributions and for the water committee and DOH representative to sign the agreement. The DOH representative will conduct a community development workshop (1-2 days) for the water committee and, possibly, other village leaders. The village is informed that they should notify the DOH when they have gathered their contributions in order that construction can be scheduled.

7. Delivery of material by the DOH.	After receiving notification from the village that they have gathered their contribution, the DOH schedules construction, notifies the village of the date and begins to deliver material. The DOH should affirm that the village has assembled their contribution.
8. Construction	The DOH team and the village construct the system. During construction, the DOH construction foreman and the village water committee will identify 2-3 candidates for water system care-takers and the DOH teams will train them to maintain the water system.
9. Completion of System.	A completion ceremony is held and a certificate of ownership (Exhibit D) is formally signed and presented to the water committee or village leader by the DOH. The OIC or DHI should carry out this function.
10. Follow-up Visit.	A follow-up visit should be arranged during the completion ceremony by the DHI or OIC.

Exhibit B

DRAFT REQUEST FOR ASSISTANCE FORM

We, the undersigned, representing _____,
(Name of village)
have decided to build a water supply. We therefore are requesting assistance from the Division of Health of _____ Province.
(Name of province)

In reaching the decision, we have conducted meetings with the community and have obtained their commitment and support for this undertaking.

We understand that we are responsible for the decisions we will make in proceeding with this project.

In accepting full responsibility and ownership of the project, we understand that we must organize ourselves in a way to carry out our responsibilities. The organization (committee) will maintain continued involvement and support of the villagers in deciding on and undertaking all of the work involved in this project. Some of the main activities we will be responsible for are:

1. Forming a Water Committee to represent the village, call meetings, and direct project activities.

2. Provide information about local water and sanitation customs and practices.

3. Provide information about traditional and alternative water sources.

4. Assist in carrying out a technical survey.

5. Obtaining and supplying cash, labor and materials for the project.

6. Nominating candidates to become trained as caretakers of the system.

7. Arranging for any compensation needed to support the caretaker.

8. Providing accomodations for construction team during construction.

9. Establish and make regular contributions to a maintenance fund to support the costs of a maintenance system.

10. Accepting ownership and responsibility for operating and maintaining the system.

We understand that to the extent possible the Division of Health will provide us with technical advice, guidance and support throughout the process, provided that a reliable source of water is available.

On _____, 1987, we held a meeting with the villagers and obtained a consensus and their commitment to contribute within their ability the time, energy and money necessary for this project.

We, the undersigned, make this request for assistance in the name of the people of _____ village.
(Name)

_____ Signature

_____ Signature

_____ Signature

_____ Signature

_____ Signature

_____ Signature

Date of this request _____.
(Date)

Exhibit C

VILLAGE WATER SUPPLY CONSTRUCTION AGREEMENT

PROVINCE: _____ DATE: _____

DISTRICT: _____ LOCATION: _____

Part 1:

We, the undersigned, members of the _____ (Name of Village) Water Committee in the name of the said village, hereby agree to the terms of this agreement as described below.

Section 1:

As duly elected members of the water committee, we will, to the best of our ability, promote and maintain village interest and support for our water supply project.

Section 2:

We will be responsible for organizing and providing voluntary labor and local materials as specified below.

Section 3:

We will arrange for and provide accomodations for _____ (number) members of the Province Health Divisions construction supervisors during the construction period.

Section 4:

We will nominate _____ (number) candidates for water supply caretakers who will receive on-the-job training during construction.

Section 5:

We will provide the necessary tools, spare parts and financial support to the caretaker(s) to operate and maintain the water system properly.

Section 6: Volunteer Labor:

We will provide _____ person/days of volunteer labor
(number)
beginning on or about _____ and ending on about
(date/month/year
_____ .
(date/month/year)

Section 7: Local Materials:

We will obtain and stockpile at the construction site
_____ of clean sand and _____ of
(tonnes/yards) (tonnes/yards)
clean gravel by _____.
(day/month/year)

_____ signed	_____ date	_____ signed	_____ date
_____ signed	_____ date	_____ signed	_____ date
_____ signed	_____ date	_____ signed	_____ date

Part 2: Provincial Health Division Assistance.

We, the undersigned, representing the _____ (Province) Heaith Division, agree to provide the technical assistance, advice and construction supervision necessary for the successful execution of the _____ (village name) water supply project.

_____	_____	_____	_____
signed	date	signed	date
_____	_____	_____	_____
signed	date	signed	date

Part 3: Termination

Either party to this agreement may terminate its participation if conditions stipulated herein are not met by the other party.

Exhibit D

VILLAGE WATER SUPPLY OWNERSHIP CERTIFICATE

LOCATION: _____ DATE: _____
DISTRICT: _____
PROVINCE: _____

We, the undersigned, members of the _____ (village) Water Committee, do hereby accept on behalf of the people who are the rightful owners of the _____ (village) Water System, all rights and responsibilities relating to the management, operation, maintenance and repair of said water system.

The _____ (village) Water System consisting of the following components: * _____
_____
_____
_____

has been duly inspected and found to be complete and in good working order. This water system which was built by the residents of _____ village with the assistance of the _____ Provincial Health Division is for the benefit of the whole community, therefore we as members of the water committee on behalf of the people accept full responsibility for properly operating and maintaining the water system.

_____ signature	_____ date	_____ signature	_____ date
_____ signature	_____ date	_____ signature	_____ date
_____ signature	_____ date	_____ signature	_____ date

* Dug well, borehole, handpump, rainwater catchment and tank, spring box or dam, transmission and reticulation pipelines, public taps and showers, etc.

Chapter 5

ACTION PLAN TASKS

5.1 Introduction

Under the decentralized form of government, the role of the central office of the Department of Health (DOH) is largely one of providing direction and monitoring health sector activities. Although the central office is ultimately responsible for practically all aspects of health services, the provincial health offices actually implement health programs. Thus, the provincial health offices are responsible for planning and implementing the rural water supply and sanitation component of the ADB Rural Health Services Project.

The role of the national Environmental Health Section (EHS) is one of policy formulation and of providing guidance and support to provincial health offices in the planning, implementing, monitoring, and evaluation of its health programs. To carry out its role, the EHS has set goals and objectives which are stated in the National Health Plan.

GOALS

1. To improve water supplies, sanitation, and related health education activities in a combined program.

2. To increase the self-reliance, awareness, and responsibility of communities and private owners in the construction, operation, and maintenance of water supply and sanitation facilities.

OBJECTIVES

1. By 1990, to provide a regular supply of safe drinking water within 15 minutes walking distance of 80 percent of the non-urban population.

2. By 1990, to provide functioning sanitary latrine facilities for 80 percent of the non-urban population.

3. By 1988, to review and revise the curriculum of the existing health inspector training program in water supply and sanitation.

4. By 1988, to complete surveys of the water and sanitation needs and requirements of all provinces.

5. By 1990, to ensure that all provinces implement water quality monitoring and surveillance programs.

6. By 1990, to standardize all water supply and sanitation designs and equipment in all provinces.

7. By 1987, to prepare and distribute to all provinces for community use, education materials about water supply, sanitation, and personal hygiene.

8. By 1987, to develop guidelines for community participation in water supply and sanitation.

9. By 1988, to implement water supply and sanitation schemes only if levels of community participation as defined in the water and sanitation community participation guidelines are met.

5.2 National-Level Tasks

In order to reach these goals and objectives, the EHS will be required to carry out specific tasks. The major tasks identified during this consultancy are described below. These tasks should be carried out in consultation with provincial health offices.

1. The EHS should prepare a draft delegation-of-authority paper which will form the basis of a meeting between the National Water Supply and Sewerage Board (NWS&SB, also referred to as the National Water Board) and the DOH. Other participants in the meeting may include representatives of the Department of Works, Department of Finance and Planning, and Local Government Engineers (LGE) Section. The meeting may be preceded by informal discussions between the EHS and the National Water Board.

   The delegation-of-authority from the National Water Board would be channeled through the DOH to provincial water supply committees. This delegation would legitimize the formation and operation of provincial water supply committees. These committees would be charged with the responsibility of establishing provincial policies and guidelines for rural water supply and sanitation activities. These policies and guidelines should reflect both national and provincial goals and strategy. A major function of the committee would be to act as a clearinghouse for the review and approval of all government-sponsored rural water supply and sanitation projects. (See Appendix I, Role of the Provincial Water Committee.)

2. The EHS should prepare and distribute an explanation of the National Health Plan's policy on community participation. This explanation would include a definition of the concept as it relates to the process

of building a self-reliant population through involvement in participatory activities. At present there exists among many health workers the idea that community participation begins and ends with villagers making contributions to the construction of a government project. There is a need to promote a better understanding among health workers that community participation involves first the building of positive human traits such as self-awareness, personal confidence, responsibility, and ownership. The building of water systems or any other infrastructure is only a by-product of the process of building a self-reliant population.

3. The EHS should prepare and distribute a further explanation of the "kina-for-kina" policy. It should explain that while the policy is to be applied equitably, there is a need to have a good understanding of the socio-economic status of each village and to use good judgment in setting the amount of contribution to be made.

   Impoverished villagers should not be penalized because they cannot contribute cash on a "kina-for-kina" basis.

4. The EHS should distribute the model project cycle to provincial health offices for review, comments, revisions, and use as a reference in preparing their own project cycles. The model describes in sequence the various events and actions which take place in initiating and carrying out a village water supply project. It also describes specific actions for which the villagers are responsible and provides milestones for measuring the level of village interest and commitment to the project.

5. The EHS should develop and distribute model outlines whereby provincial officers-in-charge (OICs) and district health inspectors (DHIs) can become more involved in the budget formulation and program planning process. (See Appendices J and K for draft outlines.) These draft outlines should be reviewed and revised by the EHS and sent out to the provincial health offices for further review and modification to suit their own special needs.

6. The EHS should develop and distribute standard water supply designs for each major type of water system, i.e., hand-augered and hand-dug wells with handpumps, rainwater catchment and storage, and spring-fed or surface water-fed gravity reticulation. Each design will include engineering drawings of typical system

components such as spring boxes, diversion dams, collection and storage boxes, transmission and reticulation pipelines, public spigots and showers, hand-augered and hand-dug wells, and wastewater drainage installations. The designs will be accompanied by a standard list of materials required and recommended list of spare parts. Approximate capital costs will also be provided for each system as well as a list of suppliers and price lists. The EHS should obtain the services of the NWS&SB, the LGE Section, and/or the appropriate staff of the University of Technology in Lae to assist in the preparation of this material.

7. The EHS in conjunction with the College of Allied Health Sciences (CAHS) Madang staff, the National Training Support Unit (NTSU) staff, and a health inspector training specialist should revise the CAHS health inspectors' training curriculum to make it responsive to the skills needed by health inspectors in performing their job. A cursory review of the present curriculum indicates that there are many hours spent on developing skills which are not needed by most health inspectors.

   As examples, skills relating to taking temperature and pulse, counting respiration, dressing sores, dispensing aspirin and chloroquine tablets, first aid, clinical calculations, taking blood and sputum slides, and identifying sickness would seem to be more appropriate in the training of aid post orderlies than health inspectors. Consideration should be given to the idea of encouraging third-year students to choose one or two specialty areas in which to concentrate their education. The third-year curriculum could identify several specialty tracks, such as food sanitation, vector control, quarantine, and water supply and sanitation, and offer greater depth instruction in these major subject areas.

   Serious consideration should also be given to extending the training to a four-year course. In addition to providing the time needed to produce better qualified health inspectors, a four-year course would qualify graduates for higher Public Service Commission ratings, ratings equivalent to health extension officers.

8. The EHS, in conjunction with the NTSU staff and a health education audio-visual consultant, should develop and distribute health education materials relating to rural water supply and sanitation subjects.

9. The EHS should collect and distribute information regarding alternative methods for excreta disposal.

10. The EHS should develop and distribute guidelines for monitoring water supply and sanitation systems and for monitoring water quality.

11. The EHS should develop and distribute water system operations and maintenance guidelines and procedures.

12. The EHS should provide guidelines and procedures for conducting rural water supply and sanitation surveys.

5.3 Provincial-Level Tasks

Provincial-level authorities play an important role in implementing the rural water supply and sanitation program by carrying out national government initiatives and supporting the lower eschelon DOH offices and workers who are directly responsible for the construction of water systems. The role of the national DOH office is to provide general guidelines to the provinces in various aspects of the water supply program while the role of the provinces is to adapt these guidelines to the particular conditions of the province.

The tasks that should be carried out at the provincial level are listed below.

1. Community-Based Project Cycle. Each province should establish a standard procedure for initiating and implementing village water supply and sanitation projects using a strategy based on community ownership. The WASH team, after consulting with members of the provincial and national DOH staff, has prepared a model of a project cycle that may be used by provincial staffs to develop community-oriented project cycles tailored to the needs of the province. Exhibit A in Chapter 4 shows the model project cycle. The provinces will nave to take its own special organizational structure, budget, and administrative procedure into consideration in establishing a project cycle that fits into the province's administrative system and, at the same time, provides a strategy that promotes self-reliance in rural communities.

   This exercise should be a team effort led by the OIC using his program experience and having the full participation of DHIs who have the detailed knowledge and understanding of villages and villagers in each district. This effort requires the active guidance and support of the provincial health inspector (PHI), the provincial health officer (PHO), and other provincial staff.

2. Water Supply and Sanitation Budget Preparation. Each provincial health division should make arrangements with the provincial finance offices and Bureau of Management Services to provide the PHI and OIC with

budget information and to explain the annual budget preparation process. As the OIC becomes familiar with this process and institutes the necessary reporting systems in his program, the OIC should be delegated more responsibility for preparing annual (and quarterly) budgets for the rural water supply and sanitation program. The OIC should, as he becomes more confident in preparing the budget, involve the DHIs in the process since they are in the best position to provide the OIC with detailed cost information on the individual projects in their districts.

3. Rural Water Supply and Sanitation Planning Procedure. Each provincial health division should provide guidance and support to the OIC in the preparation of quarterly and annual implementation plans.

   Using the newly instituted village water supply reporting form (Appendix B) as a framework, the OIC should receive instruction in methods for developing average costs, manpower, material, and time requirements for each major type of water supply system constructed in rural Papua New Guinea. The national staff has been asked to develop this information as one of its tasks in the action plan, and the provincial staff should use this data to develop costs and other data specific to its own province.

   Further instruction should be given to the OIC in using this information to prepare a time-based implementation schedule by quarters for each succeeding year.

4. Provincial Water Committee. Each province should consider the establishment of a provincial water committee according to the guidelines that will be established by the national office. The primary purpose of the committee is to set rural water supply and sanitation policies for the province and to coordinate the activities of governmental agencies and private organizations that may be installing rural water systems in the province.

   The national office is in the process of obtaining approval from the National Water Board to establish such water committees which would have the authority to coordinate rural water supply and sanitation in a province.

5. Rural Water Supply and Sanitation Program Policies and Guidelines. Each province should prepare policies and guidelines for the execution of its rural water supply and sanitation program. This should be the first

order of business of the provincial water supply committee or other body responsible for rural water supply and sanitation activities in the province. In the absence of such a body, the provincial health division should establish its own policies and guidelines.

The policies should reflect the overall goals of the National Health Plan as well as those for the rural water supply and sanitation program. The policy statement should emphasize the importance of using a community participation strategy. The guidelines should provide additional information describing the manner in which the program is to be implemented. (See Appendix L for sample policies and guidelines.)

6. Village Water System Maintenance Procedures. The national office will be formulating guidelines with respect to the maintenance of rural water supply projects. These guidelines (see Appendix C) will list preventive maintenance tasks and required spare parts for each type of water system normally constructed in rural Papua New Guinea. The role of the province will be to insure that village caretakers and water committees are provided with this information and that village caretakers either have or know where to obtain the spare parts and tools they need to repair their systems.

   In some cases, the province may also include provision for technical assistance to villages which need to make major repairs.

7. Warehousing and Issuance Procedures. Provincial staff were introduced to material control procedures at a national conference held in Papua New Guinea in September 1986. However, it does not appear that procedures for accounting for material stored at the provincial warehouses have been implemented.

   The PHI should assist the OIC in developing a system for tracking material at the warehouse. The system should enable the OIC to easily determine how much material he has at the warehouse and how much is issued for each water project. An annual stocktaking procedure should be carried out by the OIC to assure that all material purchased by the province for the water supply and sanitation program is accounted for.

8. District Health Inspector Training. It is clear that DHIs are lacking in certain technical skills needed to support the rural water supply and sanitation program.

The provinces should take the lead (as some provinces have already) to arrange training for selected DHIs in technical topics and practices such as basic hydraulics, concrete theory and practice, hydrologic cycles, and alternative excreta disposal systems.

Chapter 6

EXTERNAL ASSISTANCE NEEDS

There are several areas where the rural water supply and sanitation program requires the assistance of qualified and experienced professionals. First of all, the WASH team believes that the Department of Health/Environmental Health (DOH/EH) staff is not receiving the day-to-day guidance and support it needs to carry out its difficult role of providing direction for the rural water supply and sanitation activities being performed by the provinces. Due to budget constraints and personnel limits now being imposed on the DOH, this technical assistance gap will have to be filled from external sources.

The type of skills required can be provided by an experienced environmental health administration specialist having strong qualifications in the execution of rural water supply and sanitation programs using a community development strategy. The period of assignment should be for two years. The terms of reference will include the following functions:

1. Provide daily and continuous professional assistance to the DOH/EH in managing the rural water supply and sanitation sub-sector.

2. In conjunction with DOH/EH staff, travel to each province to assist provincial health staff in preparing short- and long-term rural water supply and sanitation programs based on a community participation strategy.

3. In conjunction with DOH/EH staff, establish a viable communications link between the DOH/EH and the provinces. The main purpose of this linkage is to provide a two-way flow of information whereby the DOH/EH will be kept abreast of major events and will be able to address problems as they arise.

4. In conjunction with DOH/EH staff, assist in obtaining professional engineering services on a regular basis from the Local Government Engineers Section and/or other official bodies.

A second area of need identified by provincial staff is the job of revising the training curriculum for health inspectors at the College of Allied Health Sciences (CAHS) in Madang. This task requires the special skills of a professional educator having specific experience in designing, conducting, and evaluating training courses for health inspectors in developing countries. The period of assignment would be four months. The terms of reference will include the following functions:

1. Observe and become familiar with the main types of work performed by health inspectors in the provinces.

2. Observe and become familiar with the teaching methods used by the teaching staff.

3. Review and assess the present curriculum with regard to the content and the length of the course.

4. In conjunction with the CAHS and National Training Support Unit (NTSU) staffs and pertinent consultants, prepare a revised curriculum which is designed to provide the types of knowledge and skills needed by health inspectors to do their job well.

A third area of need is the job of developing and producing educational materials to be used by health inspectors and other health workers in carrying out health education in rural villages. At the present time, no usable materials are available. Provincial health staff have identified this as a top priority need. Since the DOH has abolished its health education office, it no longer has the capability of producing these educational materials. The skills needed to carry out this task can be provided by a professional public health educator specializing in the development and production of audio-visual materials on rural water supply and sanitation subjects. The period of assignment would be four months. The terms of reference will include the following functions:

1. Become familiar with the staff and functions of the NTSU.

2. Spend time in representative areas of the country to become familiar with water and sanitation practices, traditions, taboos, and attitudes of rural villagers.

3. In conjunction with the NTSU staff, design, test, and produce visual health education materials including "flash cards," flannel boards, posters, etc.

The fourth area of need is an extension of the work now being carried out by the health education and training consultant, Wilbur Hoff. The period(s) of his consultancy needs to be increased to 18 months and his terms of reference expanded to include the task of training trainers to carry on the job of training health inspectors and others in skills needed to achieve community involvement. The terms of reference would include the following:

1. Develop visual aids to be used in conjunction with the training manual.

2. Develop and conduct a training-of-trainers workshop for persons who have responsibility for training health inspectors and other health workers in the rural water supply and sanitation sector as well as other related community health programs.

3. Assist health inspectors in using appropriate methods for training village caretakers and other villagers who are responsible for the successful operation and maintenance of water systems.

4. In consultation with the environmental health staff, establish standards and procedures related to community involvement which can be used to assess the feasibility of implementing successful water supply and sanitation projects.

5. Periodically return to provide reinforcing support to DOH staff who will continue to conduct workshops developed by the consultant.

Chapter 7

IMPLEMENTING THE ACTION PLAN

7.1 Introduction

Of the many tasks described above, some were identified by provincial staff to be more urgent than others. Therefore, it would appear reasonable for the Environmental Health Section (EHS) to give priority attention to these tasks. Before turning to these priority tasks, we would be negligent if we did not stress the seriousness of the problem of communication between the central office and the provinces and also among the provinces themselves. The central office can and should play an active and even an aggressive role in promoting better and more responsive communications among the various offices.

7.2 Immediate Actions

There are a number of priority tasks which the national office can carry out currently.

- Distribute copies of the model project cycle and relevant exhibits to each province for review and comment. A cover memorandum should be drafted describing the background to the preparation of the model project cycle; its intended use as a guide or reference for provinces in preparing their own project cycle; and feedback in the form of comments, revisions, or completely new models for further consideration.

- Prepare a draft delegation of authority from the National Water Board to provincial water committees to serve as a discussion paper in the meeting with the National Water Supply and Sewerage Board.

- Begin the process of developing standard water system models by reviewing provincial reports and data available in central office files. As a start, there already is fairly good information on costs, materials, and spare parts for the PNG handpump, hand-augered and hand-dug well. Prices for galvanized steel tanks, guttering, and downspouts should be available from the local market.

  Prices for PVC and galvanized iron pipe as well as fittings and spigots should also be readily available. Probably the best source of information on the ferro-cement tank would be those provinces where they are being built on a regular basis, e.g., East New Britain and North Solomons.

- Begin compiling a list of suppliers for commonly used equipment, materials, and spare parts. Also, obtain catalogs and price lists for these items.

- Enlist the support of Local Government Engineers Section, University of Technology, and consultants in developing a manual on maintenance procedures for each type of water system and lists of spare parts including quantities and costs.

7.3 Longer-Term Actions

Other priority tasks identified will require more time to carry out. These include revising the health inspector training curriculum, developing a special short-term training course for previous graduates in rural water supply and sanitation skills, and the preparation and distribution of health education materials. The WASH team believes that these tasks will require the assistance of experts not presently available in Papua New Guinea. Therefore, the EHS should begin the process of identifying possible sources of technical assistance as well as preparing the necessary paperwork needed to recruit these experts.

7.4 Lower-Priority Actions

At a second level of national priority are the following tasks:

- Preparing an instruction manual for monitoring water quality and distributing the manual and necessary materials and chemicals to the provinces.

- Preparing guidelines and forms for provincial water supply and sanitation surveys.

- Preparing guidelines for monitoring the operation, utilization, and maintenance of water supply and sanitation systems.

- Preparing guidelines for the judicial application of the "kina-for-kina" policy.

- Preparing a "white paper" on the community participation program strategy.

- Collecting and distributing information on alternative excreta disposal systems.

- Preparing guidelines for provincial-level budget review and program planning.

7.5 Provincial-Level Tasks

At the provincial health office level, there are again a number of priority tasks to be carried out. Of those listed in Section 5.3, several are dependent upon the completion of tasks by the national office. However, there are other tasks which can be initiated immediately by the provincial health office.

- The development of a preliminary outline of procedures to be followed in obtaining and reviewing line item expenditures to form the basis for making inputs in the quarterly budget review and adjustment exercise. (See Appendix J for sample outline.)

- Using the information obtained and analyzed for the budget review exercise, develop a preliminary outline of procedures to be followed in planning quarterly and annual program plans. Information collected for the recently distributed "water and sanitation project report" form (see Appendix B) could serve as a basis for developing project costs for each village system and for calculating average costs for each major type of system installed. By gathering information from office reports and other documents such as travel schedules, camping allowances, and field trip reports, the duration of each village water system construction period can be calculated or estimated and the average construction period calculated for each major type of water system. These average construction periods can then be used in planning quarterly and annual programs (see Appendix K).

- As soon as the model project cycle is received from the central office, the provincial health office can begin developing its own project cycle. (See Exhibit A, Chapter 4, Model Water System Project Cycle.)

7.6 Other Provincial Tasks

Although it may take some time for the central office to develop and distribute guidelines on various subjects, the provincial health office can take the initiative in several areas. Some of these are described below.

- The provincial health office can also initiate discussions with pertinent agencies concerning the need to form a water supply committee. Several provinces have already formed water committees; but, in some cases, the committees have not been active. In these cases, the provincial health office should reassess the role of the committee and the relevance to and interest of its membership.

- Using the National Health Plan as a guide, the provincial health office should begin to develop policies and guidelines for planning and implementing its rural water supply and sanitation program. (See Appendix K for sample policies and guidelines.)

- The provincial health office can also develop its own materials warehousing and issuance system and procedures.

There is no doubt that additional provincial-level tasks will be identified in the future; and these should also be defined, prioritized, and acted upon.

Chapter 8

CONCLUSIONS

The rural water supply and sanitation program is at a crossroads. The experience of the past several years has delivered the unmistakable message that a continuation of a government program of giving handouts was self-defeating. There has been a general recognition among health officials that an alternative program had to be developed and implemented.

While the appraisal report for ADB-1 noted that the government encouraged communities to participate in the construction of water and sanitary facilities, specific participatory actions by villages were not incorporated in the program until they were included in the ADB-2 appraisal report. The twin problems of the villagers' failure to maintain systems and the rapid failure of the systems themselves fueled a growing concern with the rural water supply and sanitation program within the health establishment. This concern began to be acted upon largely through individual attempts by provincial health officers, provincial health inspectors, officers-in-charge, and district health inspectors in promoting greater participation by villagers in project implementation. In the majority of cases, both the health worker himself as well as the villagers continued to see the installation of water systems as a government responsibility. In essence, villagers were being urged to make greater contributions to a government project. Only in isolated cases was the concept of village responsibility and ownership understood and accepted.

There now exists widespread understanding and support for adopting a program based on the concept of village ownership and village responsibility. This strategy is being applied and tested to varying degrees by provincial health staff. What is of utmost importance during this period of transition in strategy is to give to the health inspectors the full understanding and support of the health establishment. The adoption of a community-based program carries with it the enormous task of re-educating villagers to stop relying on government handouts and to begin taking responsibility for their own lives. This process can proceed only as fast as villagers are able to change their life-long attitudes about government patronage.

In program implementation terms, the adoption of the community-based program requires a concurrent shift of focus in the total health establishment away from counting the number of systems installed each year to monitoring the degree or rate of acceptance of responsibility and ownership by villagers for the project. In the long run, the success of the strategy will be measured by the extent to which villagers have taken control of their water supply needs. Measuring the number of operating water systems rather than the number built would be more indicative of success in obtaining community ownership and responsibility. To this end, the DOH Project Implementation Unit for ADB-1 and ADB-2 should ask the provinces to include in their reports the number of systems built under the project which are still operating satisfactorily.

At the national level, while it is understood that there is a need to establish a baseline from which to measure progress in the rural water supply and sanitation program, continued emphasis toward achieving high numerical

goals would be counterproductive at this time. The program implementation experience of the past several years has made it patently clear that goals such as those set in the United Nations International Drinking Water Supply and Sanitation Decade, laudable as they are, are totally unrealistic and can damage the fledgling rural water supply and sanitation program in Papua New Guinea. Rather than setting or applying impossible targets, what the program desperately needs now is sufficient time, perhaps four or five years, to explore, mature, and institutionalize its community-based program.

In addition to the innate difficulties in implementing a community-based program, there are other overriding issues. Although, by their very nature, they fall outside the WASH team's scope of work, we believe that they deserve immediate attention from the highest levels of the Department of Health.

Among provincial health staff, there appears to be widespread frustration with the day-to-day operation of the central offices of the Department of Health. Provincial staff are discouraged by the lack of response to requests for information or services made from the field. They feel that the central office has its own separate agenda to carry out which has little to do with providing guidance and support to provincial health offices. Although this should not be the case, the provincial perception is that the central office is quick to make demands of the provincial health offices (in the form of preparing reports, submitting basic data and statistical information, and completing more and more forms) and is slow to respond or even to acknowledge receipt of provincial submissions and requests for assistance. The WASH team believes that the central office staff should take active measures to improve communications with provinces in a substantive manner by providing tangible evidence of interest in and service to them.

One specific area of concern is that of the budget allocation process. There appears to be a feeling that the central office often ignores the wishes of the provincial health offices in determining annual budget allocations and especially in setting line item amounts. While efforts have been made by the central office to explain the intricacies of the government's fiscal and financial system and procedures, it appears that additional efforts must be made to clarify the situation.

An area of special concern is the continued under-use of the technical engineering resources available locally, especially those of the Local Government Engineers Section headquartered in Madang. While it is generally recognized that much of the work of health inspectors in implementing the rural water supply and sanitation scheme is largely a matter of using common sense, there is disturbing evidence, such as the use of questionable sources of water for village water projects, that indicate a serious need for professional engineering input. There is also a problem with lack of adequate controls in the planning, design, and construction of gravity reticulation systems.

As a first step toward obtaining engineering services on a regular basis from the Local Government Engineers Section, the Environmental Health Section should ask the LGE Section to review and comment on all rural water supply projects involving gravity flow reticulation. The Environmental Health Section also should ask the LGE Section to name a representative to serve as a member of the committee which is to be formed in response to the formal delegation of authority from the National Water Board to the Department of

Health for rural water supply and sanitation and also for the formation and operation of provincial water committees. While these steps may appear to be of little consequence now, in the long run, they can lead to a close and mutually beneficial relationship which will serve to protect the health of the rural population.

Another general problem is the lack of enthusiasm for and commitment to the work at hand among health workers. While this may not be a serious problem in other health worker categories, there seems to be general agreement that the problem exists among health inspectors. There also was general agreement as to its main cause--the lack of a challenging and rewarding career ladder. Reportedly, this issue has been raised in the past; but, so far, no action has been taken to correct or ameliorate the situation. There is no doubt about the difficulties involved in bringing about structural changes in the health establishment; the fact remains that a change for the better must be made or the Department of Health and provincial health offices will be burdened with what might be a dispirited corps of health inspectors.

Despite the seriousness of these problems, the WASH team sensed a growing groundswell of hope and commitment to achieving further improvements in the health status of the rural population. We see the health establishment leading the way in carrying out the national government's community-based program for building a self-reliant population. In balance, we believe that the Department of Health has accepted the challenge of making community participation work and is gathering the momentum needed to successfully execute its charge.

REFERENCES

1. Asian Development Bank. Appraisal of a Second Rural Health Project in Papua New Guinea. October 1985.

2. Asian Development Bank. Appraisal of the Rural Health Services Project in Papua New Guinea. September 1982.

3. Ministry of Panchayat & Local Government. A Policy for Maintenance, Kathamandu. November 1982.

4. Papua New Guinea. Department of Health, Central Province. Proposed Rural Water Supply and Sanitation Programme for Central Province, Papua New Guinea. March 1985.

5. Papua New Guinea, Department of Health, National Health Plan. Port Moresby. 1987.

6. Papua New Guinea, Department of Health, Environmental Health Section, official records and files.

7. Papua New Guinea. Department of Health, Madang. College of Applied Health Sciences Curriculum for Health Inspectors. 1985.

8. Pineo, Charles S., et al. Environmental Sanitation and Integrated Health Delivery Programs, American Public Health Association. Washingtion, DC. 1981.

9. WASH Technical Report No. 35. Assessment of the Operations and Maintenance Component of Water Supply Projects. Arlington, VA. WASH Project, June 1986.

10. WASH Field Report No. 182. Evaluation of the Water Supply and Sanitation Component of the ADB-Sponsored Rural Health Services Project in Papua New Guinea. Arlington, VA. WASH Project, June 1986.

APPENDIX A

List of Persons Contacted

LIST OF PERSONS CONTACTED

James Aiam	Health Inspector, East New Britain
Stephen Ani	Officer-in-Charge, Central Province
Mandon Bomi	Health Inspector, Morobe
Irish Boroba	Health Inspector Trainee, Morobe
Munden Bray	Economist, Morobe
Thomas Busin	Officer-in-Charge, East New Britain
David Collin	District Health Inspector, Tambul
Warrick Davidson	Department of Health, Project Implementation Unit for ADB-1 and ADB-2
Eli Dekel	World Health Organization, Papua New Guinea
Daleya Dibili	Officer-in-Charge, Central Province
Elanga Ekanayake	Department of Health, Project Implementation Unit for ADB-1 and ADB-2
Joseph Enman	Department of Works, East New Britain
Firiepe Erinuka	Public Health Inspector, Morobe
Kaoga Galowa	Senior Health Inspector, Department of Health
Michael Gandi	Public Health Inspector, Western Highlands
Will Guthrie	Local Government Engineers Section, Madang
Wilbur Hoff	Consultant
Dio Iagata	Public Health Officer, Central Province
Salome Ilat	Health Inspector, Morobe
Raphael Kababa	Health Inspector, Morobe

LIST OF PERSON CONTACTED (cont'd)

Tim Kahata	Rural Improvement Program, Morobe
Kambowa Kukyuna	Acting Assistant Secretary, Western Highlands
Anna Lamis	Health Inspector, East New Britain
Flemming Larsen	Public Health Officer, Enga
Michael Leggett	Principal Engineer, Operations, NWS&SB
John Lewis	Projects, Central Province
Patrick Lowry	USAID/Suva
Bernard Lukara	Public Health Inspector, East New Britain
Patrick Malamut	Health Inspector, East New Britain
Wesley Malisa	Public Health Officer, Western Province
Simon Merire	Health Inspector, Morobe
Coleman Moni	Department of Health
Paul Montford	Manager, Operations, NWS&SB
Mark Nakgai	Public Health Inspector, East Sepik
Maran Nateleo	Planner, East New Britain
Ebu Oangazi	Officer-in-Charge, Morobe
Lindsay Piliwas	Assistant Secretary, Environmental Health, Department of Health
Ian Powell	General Manager, NWS&SB
Isimel Pupui	Planner, East New Britain
Quentin Reilly	Secretary for Health, Department of Health
Gary Ruiter	World Health Organization, Papua New Guinea

LIST OF PERSONS CONTACTED (cont'd)

Gunther Seidel	Department of Health, Project Implementation Unit for ADB-1 and ADB-2
Levi Sialis	Deputy Secretary, Department of Health
Peter Siunai	Public Health Inspector, North Solomons
Simeon Terina	Health Inspector Trainee, Morobe
Junias Tenaen	Health Inspector, East New Britain
Jane Thomason	Project Coordinator, Department of Health, Project Implementation Unit for ADB-1 and ADB-2
Robin Tiotam	East New Britain
Israel Towanamai	Health Inspector Assistant, East New Britain
E. S. Webber	Manager, Engineering, NWS&SB
John Winfield	Associate Director, Peace Corps, Papua New Guinea

APPENDIX B

Water and Sanitation Project Report

DIVISION OF HEALTH

_____ PROVINCE

WATER AND SANITATION PROJECT REPORT

==========

1. Location: _____

2. District: _____

3. Type of Scheme. _____

4. Population Served: _____

5. Cost: a) Materials: K _____
   b) Labour: K _____
   c) Transport: K _____
   d) Other: K _____

   _____

   Total: K _____

6. Funding: a) Government: K _____
   b) Community: 1) financial contribution: K _____
   2) labour
   3) food/accomodation

7. Design:

   Designed By: _____

   Design Checked By: _____

8. Project Staff Assigned: _____

   _____

9. Date of Implementation:

   Date Started: _____

   Date Completed: _____

   Comments: _____

   _____

   _____

   _____

   _____

   _____

APPENDIX C

Rural Water Supply Maintenance Program

RURAL WATER SUPPLY MAINTENANCE PROGRAM

Background

Many of the water systems installed in villages in Papua New Guinea have failed due to lack of maintenance, and it is clear that the provincial and central governments do not have the resources to maintain all of these village water systems. One of the major tenets of the Department of Health's National Health Plan is that the villages, not the government, own their water system. One of the responsibilities of ownership is that of maintaining and repairing the water system. However, it should not be assumed that the village people have the capability to maintain their water system even if they have the intention of doing so.

Village Water Supply Maintenance Program

One of the elements of the action plan is that the government will offer technical assistance to the village as they plan and execute their water project. In order for the village to effectively maintain their water system, they must:

* know what maintenance tasks need to be done and when;
* have access to spare parts and material;
* possess the tools needed to service their type of system;
* establish the duties and responsibilities of the caretakers;
* know which records should be kept and how to keep them;
* be able to identify contractors and technicians who can make those repairs to the systems that the caretaker cannot make;
* collect sufficient funds to purchase spare parts/supplies, replacement tools and to pay for contractor work.

The provincial and national staffs have the responsibility and experience to assist the villagers gain the skills and information they need to carry out a maintenance program. With respect to items listed above, the government staff can provide help to the village in the following ways.

1. Knowledge of what maintenance tasks need to be done and when

   * National staff can prepare information on maintenance tasks that should be done regularly for each type of water system normally constructed in Papua New Guinea. The list should identify each task and specify its frequency.

   * Provincial staff, particularly during the construction phase of the project cycle, can train village caretakers to handle most of the repairs that will be needed for rural water systems in Papua New Guinea.

2. Be able to obtain spare parts and supplies

   * National staff should prepare lists of spare parts used for the systems constructed in Papua New Guinea for distribution to the village.

   * Provincial staff can provide the village with a list of locations where they can obtain spare parts/supplies.

   * The Province can provide a stock of commonly used spare parts to the village as the construction work is completed.

   * The province can maintain a stock of spare parts/supplies not usually available in the province and sell them to the villages as needed.

3. Possession of Tools

   * National staff should prepare a list of tools that the village should acquire for their type of water system.

   * Provincial staff should advise the villagers as to where they can buy the tools if they do not have them already. An alternate approach is for the DHI to keep a set of tools which can be borrowed by the village as needed.

4. Duties and Responsibilities of the Caretaker

   * National staff should prepare a description of the typical job duties of the caretakers.

* Provincial staff should give this information to the water committee members and caretakers during the community development workshop (CDW) and be prepared to assist in the resolution of any questions that arise during the CDW with respect to caretaker duties.

* Provincial staff should be prepared to discuss the question of payment to the caretakers during the community development workshop.

5. Record Keeping

* National staff should advise the provincial staff and, through them, the villagers on the data and information they need to record with respect to maintenance.

* National staff should develop record-keeping techniques suitable for use at the village level. This could include pictorial displays and checklists.

* Provincial staff should explain the use of and need for records during the community development workshop.

6. Identification of Suitable Contractors and Technicians

* Provincial staff should prepare a list of contractors and technicians for each village who are able to assist the village undertake major repairs to the water system.

7. Collection of Funds

* Provincial staff should advise the village water committee on techniques to collect, save and use water system maintenance funds. This is an appropriate subject for the community development workshop.

* Provincial staff should provide the village with an estimate of the cost per family per month to maintain the water system. This estimate should be provided to the village by the first or second meeting between the village and provincial staff.

APPENDIX D

Community Participation Workshop Program

PROGRAM FOR WORKSHOP ON COMMUNITY PARTICIPATION IN WATER SUPPLY PROJECTS
March 2-6
At the NATIONAL SPORTS TRAINING INSTITUTE, GOROKA

Sponsored by the World Health Organization and the Asian Development Bank in cooperation with the Papua New Guinea Institute of Medical Research
ProgramOrganizer: Carol Jenkins

OBJECTIVES: To promote better utilization of community participation in rural water supply projects; to develop national policy guidelines suitable for Papua New Guinea

PARTICIPANTS: Senior Health Inspectors from all provinces; Bill Labai, East Sepik Primary Health Care Project; Dr. Levi Sialis, First Assistant Secretary, Primary Health Services; Lindsay Piliwas, National Environmental Health Office; Ali Dekel, Gary Ruiter and John Mills, World Health Organization; Walter Hoff, Joe Haratani and Jane Thomason, Asian Development Bank; Issac Leva, Coordinator APO Training; David Rowsome, Local Government Section, National Department of Works; Kagua Galowa, National Water Supply Office; Carol Jenkins, Michael Alpers and Peter Howard, Papua New Guinea Institute of Medical Research; Hon.John Dawa, Minister for Health, E.H.P.; Anna Kinbagi, East Sepik Women's Association; Bernard Lukara, Health Department,E.N.B.; Representative, Youth Production and Training Program; Raun Isi Theatre Company, East Sepik.

PROGRAM
Monday, March 2,1987
8:00-8:30 Introductory Remarks, Hon. John Dawa and Dr. Michael Alpers
8:30-9:30 Raun Isi Play
9:30-10:00 Discussion
BREAK
10:30-11:30 Slide presentation, social problems in rural water supplies, Carol Jenkins
11:30-12:00 Distribution and discussion of results of survey on community participation in rural water supplies
LUNCH
1:00-1:15 Convene for discussion of afternoon's aims: to re-group into regional sub-groups and draw up prioritized list of problems in eliciting community participation
1:15-2:15 Regional Group Discussions
2:15-2:30 BREAK
2:30-4:00 Presentations of Problem Lists by Region (with overhead projection transparencies)

Tuesday, March 3,1987
8:00-9:00 Water Supplies and Health Promotion, Peter Howard
9:00-10:00 The Primary Health Care Approach-East Sepik Experience, Bill Labai
BREAK
10:30-11:30 Community Participation in East New Britain, Bernard Lukara
11:30-12:00 Discussion
LUNCH
1:00-2:00 The Role of Youth Groups, Representative, Youth Production and Training Program
2:00-3:00 The Role of Women's Groups, Anna Kinbagi
3:00-3:15 BREAK
3:15-4:00 The Role of the APO, Isaac Leva

TUESDAY EVENING - OUTDOOR BARBECUE

Wednesday, March 4,1987
Morning presentation on approaches to community participation in other nations- Bill Huff
LUNCH
Afternoon presentation on effective community organizing, Joe Haratani

Thursday, March 5, 1987
8:00-8:30 Introduction to Case Study Work: each regional sub-group will be given a scenario appropriate to the region; the problems presented by the scenario are to be solved by the participants during morning discussion groups; solutions are to be presented as small plays during the afternoon; an actor from Raun Isi will be assigned to help for each regional sub-group
8:30-10:00 Case Study Work
BREAK
10:30-12:00 Case Study Work Continued
LUNCH
1:00-1:30 Islands Solution
1:30-2:00 Papua Solution
2:00-2:30 Highland Solution
2:30-3:00 BREAK
3:00-3:30 MOMASE Solution
3:30-4:00 Discussion and distribution of Draft Policy Guidelines

Friday, March 6, 1987
8:00-10:00 Guidelines Development concerning the Kina-for-Kina Policy
10:00-10:30 BREAK
10:30-12:00 Guidelines Development concerning Organizational Requirements for Committment on the part of Villagers
LUNCH
1:00-2:00 Guidelines Development concerning Maintenance
2:00-3:00 Guidelines Development concerning Promotional Activities
3:00-3:15 BREAK
3:15-4:00 Guidelines Development concerning Sanitation and Health Education

APPENDIX E

Program for Mini-Workshop for
Department of Health Staff

DEPARTMENT OF HEALTH

WORKSHOP SCHEDULE

THURSDAY 2 APRIL

8.30	Introductions
8.40	Review of Provincial Workshop
	National Health Plan - Community Participation
	Village Project Cycle
	Budget Process
	Implementation Plan & Schedules
9.00	"Community Participation"
	Promoting Community Self-Reliance
10.00	Break
10.20	Village Level Project Cycle
11.30	Initial Village Meeting
12 00	Lunch
1.00	Review of Provincial budget Process
	Role of OIC & D H I's in Rural Water Supply & Sanitation budget Preparation.
2.00	Provincal Water Committee (Role)
2.45	Break
3.00	Provincial Rural Water Supply & Sanitation Program Planning
4.00	Close

FRIDAY 3 APRIL

8.00	Review previous days activities
8.30	Role of DOH Environmental Health Office
10.00	Break
10.20	External Technical Assistance
11.00	Setting priorities for actions at:
	. The National L ~l
	. The Provincal Level
12.00	Comments & Suggestions
12.30	Close

APPENDIX F

Schedule of Provincial Visits

MARCH SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURSDAY
15	16	17 Central Province meet with PHO Planner PHI	18 Central Province meet with OIC, DHI	19 Data Analysis Provincial Action Plan Format Prep.	20	21
22 Travel to Mt Hagen	23 Meet with PHO, Planner, PHI, OIC	24 Meet with DHI round table meeting	25 Travel to Lae	26 Meet with PHO, Planners, PHI, OIC	27 Meet with DHI. Round table meet -ing	28 Travel to Rabaul
29	30 Meet with PHO, Planner, PHI, OIC	31 Meet with DHI Round table meeting	APRIL 1 Travel to Port Moresby	2	3	4
5	6	7	8	9	10	11

12th March 1987
JH/tga

APPENDIX G

Forms Used by Provincial Department of Health Staff
for Water Projects

Form W & S 1

EAST NEW BRITAIN PROVINCIAL GOVERNMENT

RURAL WATER AND SANITATION APPLICATION FORM

PART 1: (To be filled by the applicants for project)

1. Name of Village where project is to be constructed
_____ District _____

2. Type of Project _____

3. Number of People the project is to serve _____

4. Number of Person Incharge of the project _____

5. Estimate cost of project _____

6. Amount of Money you wish to pay _____

7. Cash or Passbook (No) _____

8. How was this money raised? _____

_____

_____

9. We agree to provide free labour, accommodation and transport in this project.

.....
Person In Charge

....

PART 2: (To be filled by Chariman or Clerk of Community Government, where project is to be constructed).

I the Chairman or Clerk of _____ Community Government endorse the application for this project.

.....
Chairman/Clerk

....

PART 3: (To be completed by DMC, DM, DHI or Technical Officer)

This project is approved, disapproved.

Signed: _____

RURAL WATER SUPPLY & SANITATION PROGRAMME

DIVISION OF HEALTH, P.O. BOX 129, MOUNT HAGEN WHP.

REF: 20-18-20

COMMUNITY PARTICIPATION IN ALL WATER SUPPLY CONSTRUCTION AND MAINTAINANCE.

This is to advice you that before any kind of water supply can be provided at your village, the village Community must agree to do the following and actually do it practically.

1. Contribute part of the cost of the project. The Community will have to contribute not less than 15 percent of the total cost of installing the water supply system.

2. The community must provide free labour during the construction. The whole community will be involved in carrying sand, gravel, cement bags, dig drains and clear bushes for pipe lines.

3. The community must provide transport when needed.

4. The community must set up village water supply community to monitor it after construction. The Community must agree to meet the cost of repair when damage or broken down.

5. The community must open a water supply maintainance account and must be shown to this office before the construction work begins.

All these five points must be agreed upon by every single member of the community. It must not be a one man decission on behalf of the community. If all these are not agreed on water supplies will not be provided at your village.

For your appropriate action.

DAVID COLLIN
Officer In-Charge
Rural Water Supply & Sanitation
Western Highlands

FORM W & S 1

DEPARTMENT OF WESTERN HIGHLANDS
DIVISION OF HEALTH
P O BOX 129
MT HAGEN

RURAL WATER AND SANITATION APPLICATION FORM

PART 1 (To be filled by the applicants for project)

1. Name of village where project is to be constructed

_____ District _____

2. Type of Project _____

3. Number of People the project is to serve _____

4. Name of Person Incharge of the project _____

5. Estimate cost of project _____

6. Amount of Money you wish to pay _____

Cash or Passbook (No) _____

7. How was this money raised? _____

_____

_____

8. We agree to provide free labour, accommodation and transport in this project.

_____
Person In Charge

PART 2 (To be filled by Village Leader or clerk of community government, where project is to be constructed)

I the Village Leader or Clerk of _____ Community Government endorse the applicaiton for this project.

_____
Chairman/Clerk

PART 3 (To be completed by P.H.I., DM, DHI or Technical Officer) this project is approved, disapproved.

Signed: _____

Form W & S 2.

DEPARTMENT OF WESTERN HIGHLANDS
DIVISION OF HEALTH
P O BOX 129
MT HAGEN

WATER SUPPLY AND SANITATION PROJECT PROPOSAL FACT SHEET

PROJECT DESCRIPTION PROJECT NAME: _____

DETAILS:

IMPLEMENTATION:

POPULATION TO BE SERVED:

COST ESTIMATE:	K	FUNDING BREAKDOWN	K
Materials	.....	Self help funds	.....
Labour	.....	Self help labour	.....
Transport	.....	Comm. Govt.	.....
P.T.A. Hire	.....	Other _____	.....
Other _____	.....	Govt. Crant	.....
Contingencies	.....		
TOTAL:		TOTAL:	

Project Design By: .....
Design checked and approved by: ..... date .....
District Management Committee approved ..... date .....
DMC Comments:

Kina for Kina Committee Approval ..... date .....
Comment:

Committee Member Responsible .....
Implementing Officer .....
Expected completion date .....

DEPARTMENT OF WESTERN HIGHLANDS
DIVISION OF HEALTH
P O BOX 129
MT HAGEN

WATER AND SANITATION PROJECT COMPLETION CERTIFICATE

1. NAME OF THE PROJECT: _____
2. TYPE OF PROJECT: _____
3. POPULATION SERVED: _____
4. NAME OF THE VILLAGE: _____
5. NUMBER OF HOUSES: _____
6. TOTAL EXPENDITURE OF THE PROJECT: _____
7. MONTH PROJECT COMPLETED: _____
8. DISTRICT IN WHP: _____

THIS AUTHORITY CERTIFY THAT THE ABOVE MENTIONED WATER SUPPLY PROJECT FUNDED UNDER THE NPEP WATER SUPPLY AND SANITATION SECTORAL PROGRAMME IS TO DATE COMPLETED TO THE SATISFACTION OF OUR ENVIRONMENTAL HEALTH OFFICE HERE AT MT HAGEN.

DATE: _____
OFFICER IN CHARGE: _____
DESIGNATION: HEALTH INSPECTOR (WATER SUPPLY)

APPLICATION

FOR

A

RURAL WATER SUPPLY PROJECT

ENGA PROVINCE

Brief For Communities Applying For A Water Supply Projects

From 1986 and onwards the Rural Water Supply Projects administered by the Health Division Enga are funded by the Asian Development Bank Project in PNG.

The Asian Development Bank have made it clear that only Communities that actively will participate in the construction and maintenance of their Water Supply Systems are to be selected.

Therefore, to qualify for selection, communities must formally agree to provide some portion of the labour (ALWAYS all unskilled labour needed) and materials for the construction of their Water System as well as form a Health Committee to deal with the Project from the beginning, and to be fully responsible for the operation and maintenance of the system after its completion. One of the Health Committee Members must be willing to become "The Community Water System Caretaker" responsible for the daily maintenance of the system after being trained during the Construction of the system.

The following information sheet serves as a standard application form, that clearly stipulates which participation the community have agreed upon to undertake as their contribution, making it possible for the District Water Boards and the Provincial Water Board to evaluate if the community qualify for selection.

Community Information and Agreement

(1) (a) Name of Community or Clan

(b) District

(2) Type of Water Supply Requested

- ☐ Reticulation System
- ☐ Water Tank
- ☐ Other .....

(3) Number of people/housholds to be served by the system.

(4) (a) Health Committee Members Names And Their Designations

(b) Name Of Member Appointed To Be The Caretaker By The Health Committee

(c) Briefly state why do you apply for a Water Supply and Sanitation Project. Give your reasons please.

(5) (a) Offered Community Participation In The Project

- Number of unskilled labourers (Names)
- Materials
- Transport
- Cash

Free Accommodation For Health Assistant Workers On Project.

5. (a) Briefly Explain How Will The Community Organize And Carry Out Work On This Project.

6. (a) Will The Community Participate In Construction Of A Demonstration Pit Latrines. Yes/No

(b) If yes, Where Should be Pit Latrines Be Located

We the Members of ..... Health Committee Hereby Certify by our Own Signature that

1. Above given information are correct.
2. That the stipulated Community Contribution and participation will assured to the best of our ability.
3. That we will be solely responsible for the function and maintenance fo the system after its' completion.
4. We understand that the Provincial Water Board have the right to stop the Project at anytime, if we do not adhere to above agreement

Be signed by the Health Committee Members

(Name) (Signature) (Date)

I ..... hereby - by my signature - certify that
name Block letter and address.

I have been elected as "The Community Water System Caretaker" and that I agree to carry out this responsibility to the best of my abilities.

Signature Date

I ..... HEREBY certify I have
HIS Name in Block letters

Carefully gone through above information with the signee's and have witness the above signatures.

HIS Signature Date

HEALTH INSPECTOR'S INFORMATION

7. (a) Is Preliminary Survey carried out?. Yes..... No.....

(b) State your findings on the existing Water Supply in the Community.
(Distance, Source, Location, Pollution etc.)

(c) Health Inspectors Recommendation for type of Water System

..../6.

7. (d) Give rough estimate in Kina - Material Cost .....
- Labour Cost .....

(e) Duration of Projects for Completion .....

(f) Assessment of Community Environment Health Situation. (Condition of pit latrines, disposal of refuse, hygiene and presence of bowl and skin diseases.

(g) HIS Recommendation. (If recommended for District Water Board' approval, attached. Plan and material estimate.

8. District Water Board Information

(a) DWB Sitting Date ..... Time .....

Place : _____

(b) Application Approved ☐ Not Approved ☐

(c) If Approved/Not Approved, Give Reasons : _____

8 (d) District Water Board's Remarks/Comments : _____

(e) District Water Board Members Signed

- CHAIRMAN .....
- MEMBER .....
- MEMBER .....

(NAME (SIGNATURE)

9. PROVINCIAL WATER BOARD INFORMATION

(a) PWBs SITTING: DATE ..... TIME
Place : .....

(b) Application Approved ☐ Not Approved ☐

(c) If Approved/Not Approved Give Reasons :

(d) Provincial Water Board's Remark/Comment : _____

9. (e) PROVINCIAL WATER BOARD MEMBERS SIGN _____

APPENDIX H

Membership and Duties--Village Water Committees

APPENDIX H

MEMBERSHIP AND DUTIES--VILLAGE WATER COMMITTEES

Members of the Water Committee and their Function:

The committee should consist of a minimum of four members: President, Treasurer, and Secretary. The Health Inspector should be the fourth member who would be responsible for advising the other members about the various aspects of the program. The Health Inspector would have no vote.

The committee will be responsible for providing clean water to all of the villagers and in order to operate the system efficiently, the committee will see that the water is used correctly. To maintain the system in good operating condition, the committee is authorized to purchase necessary materials, spare parts, and labor for the routine operation and maintenance of the system.

The members of the committee have the following duties:

A. The President will:

1. Represent the committee in contacts with the Health Division or other persons or institutions.
2. Together with the Treasurer, be responsible for the management of the water fund.
3. Authorize the hiring of necessary personnel for the operation and maintenance of the systems and, jointly with the other members of the committee, agree on the amount of payment of the caretaker.
4. Authorize the purchase of necessary materials and services and countersign the purchase orders.
5. Call and preside over the meetings of the committee.
6. Supervise the work of the treasurer and the secretary.
7. Review and approve the inspection reports made periodically by the Health Inspector.

B. The Treasurer will:

1. As his main duty, have the responsibility for managing the maintenance funds for which he/she will maintain proper accounts and supporting documents.

2. Collect payments into the maintenance fund.

3. Make payments for expenditures made by the water committee and having prior approval of the President.

4. Together with the Secretary, manage and be responsible for the receipt, storage, and utilization of materials and supplies.

C. The Secretary will:

1. Assist the Treasurer in collecting the payments for the maintenance fund.

2. Monitor the operation and maintenance of the system.

3. Assist the Treasurer in managing the receipt, storage, and utilization of materials, supplies, and spare parts for the system.

4. Be responsible for recording the minutes of committee meetings.

5. Notify committee members of meetings and also the villagers for community meetings as instructed by the President.

D. The Health Inspector will:

1. Assist the Secretary in monitoring the operation and maintenance of the system.

2. Monitor the functions of the Treasurer with regard to keeping the maintenance fund accounts and managing the procurement, storage, and utilization of materials, supplies, and spare parts.

3. Provide guidance and support to the committee in carrying out its functions and making periodic inspections of the system.

4. Participate in committee meetings and community meetings called by the water committee.

APPENDIX I

Role of the Provincial Water Committee

APPENDIX I

ROLE OF THE PROVINCIAL WATER COMMITTEE

1. To establish provincial rural water supply policies and guidelines for the planning and execution of projects.

2. To coordinate the rural water supply activities of the various government agencies involved.

3. To establish selection criteria which all rural water supply projects must meet.

4. To receive, screen, and approve or disapprove all rural water supply project requests.

5. To manage the use of political influence in the rural water supply program.

APPENDIX J

Example of Outline for
Provincial Budget Expenditure Review

APPENDIX J

EXAMPLE OF OUTLINE FOR PROVINCIAL BUDGET EXPENDITURE REVIEW

1. Obtain copies of 301 vote for rural water supply and sanitation expenditures from the Bureau of Management Services.

2. Classify expenditures by budget line items.

3. Where possible, relate expenditures to specific village projects.

4. Where not possible, e.g., bulk purchase of materials, estimate quantity utilized by village project.

5. Calculate total project costs for each separate village water project.

6. Calculate average cost for each type of system.

7. Calculate per capita costs for each village system.

8. Calculate average per capita costs for each type of village system.

9. Based on average costs of systems (by type) calculate the number of systems (by type) which can be funded by the budget allocation.

APPENDIX K

Example of Outline for
Planning Provincial Rural Water Supply Program

APPENDIX K

EXAMPLE OF OUTLINE FOR PLANNING PROVINCIAL RURAL WATER SUPPLY PROGRAM

1. From previous year's annual report obtain the total number of water systems installed for each major type of system, i.e., handpumps with hand-augered or hand-dug wells, rainwater catchment and storage, and spring or surface water-fed gravity reticulation system.

2. From travel, camping, and attendance records, calculate the number of person/ days expended for each village system.

3. For each type of system, calculate the average number of person/days expended.

4. Make an estimate, based on the mix of system types requested, of the number of each type of system you will be able to construct using your projected staff strength for the following year.

5. Prepare a bar chart indicating the starting and ending project dates for each succeeding quarter of the year.

6. Using the average cost of each type of system calculated in the provincial rural water supply and sanitation budget expenditure review process, calculate your annual budget requirements for your program.

APPENDIX L

Sample Provincial Rural Water Supply and Sanitation Policies and Guidelines

APPENDIX L

SAMPLE PROVINCIAL RURAL WATER SUPPLY AND SANITATION POLICIES AND GUIDELINES

The following policies and guidelines will be used in planning, implementing, and evaluating all rural water supply programs in _____ Province.

POLICIES

1. All rural water supply programs will use a community-based strategy design to develop self-reliance through the application of methods that promote community ownership and responsibility.

2. All rural water supply programs will require cash contributions (kina-for-kina) from villagers as partial payment for the cost of the water supply or sanitation system.

3. All rural water supply programs will attempt to provide water supply services to the community as a whole rather than for selected individuals.

4. All rural water supply projects whose estimated cost is more than K5,000 will be submitted to the Department of Health for review and approval.

GUIDELINES

1. Prior to making any offer or commitment to villagers about providing assistance, the DHI or OIC should determine if in fact water supply is a bona fide top priority of the village and if there is a reliable source of water which is not in dispute and is available for use by the village.

2. The kina-for-kina policy should be applied in all projects. However, the actual amount of funds from a village may be reduced where a strict kina-for-kina contribution would result in unwarranted hardship on an impoverished population.

3. Prioritization of villages resulting from a rural water supply and sanitation survey should be used only for internal province health division planning purposes. The community-based program strategy should

not be compromised by using survey-generated priorities as the justification for installing water systems.

4. Villagers will be informed from the beginning of their responsibility and right to make all decisions concerning the project and of their ownership obligation for operating and maintaining their water system. Villagers will be required to participate in the planning as well as in the construction of their water system.

5. Villagers will be expected to organize themselves in a manner to be able to take charge of the project and maintain community involvement and support for both the short-term construction effort and the long-term operation and maintenance requirements of the water system.

6. Villagers who are not ready to take control of and responsibility for the project should be assisted by the DHI and the OIC in developing their self-awareness and confidence in becoming more self-reliant prior to initiating a water supply project.