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DEVELOPMENT OF A NATIONAL POLICY FOR THE MAINTENANCE OF RURAL WATER SUPPLY SYSTEMS IN SOLOMON ISLANDS

WASH FIELD REPORT NO. 234

MARCH 1988

Prepared for
the USAID Mission to the South Pacific
WASH Activity

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DEVELOPMENT OF A NATIONAL POLICY FOR THE MAINTENANCE OF RURAL WATER SUPPLY SYSTEMS IN SOLOMON ISLANDS

Prepared for the USAID Mission to the
South Pacific under WASH Activity No. 418

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and
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March 1988

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NATIONAL POLICY FOR MAINTENANCE OF RURAL WATER SUPPLY SYSTEMS IN SOLOMON ISLANDS

EXECUTIVE SUMMARY

In 1978, the Solomon Islands Government (SIG) initiated the Rural Water Supply and Sanitation (RWSS) Program to construct improved water supply and sanitation facilities for rural communities. The water systems have been well received by rural people, and the RWSS Program has resulted in a significant increase in the number of rural people who have access to improved water supplies.

In 1986, consultants from the Water and Sanitation for Health (WASH) Project carried out an evaluation of the RWSS Program, and one of the team's principal findings was that the success of the RWSS Program in providing improved water supplies was seriously threatened by the lack of system maintenance. Furthermore, plans to implement an effective maintenance program had not been drafted.

Environmental Health Division (EHD) managers who are responsible for the implementation of the RWSS Program recognized the need to establish a consistent approach to water system maintenance. To achieve this objective, the EHD requested assistance from the WASH Project to develop a national policy for the maintenance of rural water supply systems. The basis for the policy manual is the concept of community management of water supply systems. The WASH evaluation team had concluded that while villagers were, in general, willing to take responsibility for their water systems, they did not have the knowledge or hardware needed to do so.

The policy is designed to address the need for:

- village water committees,
- maintenance funds,
- caretakers,
- tools, and
- spare parts.

The manual also discusses the role of the EHD in community preparation and major maintenance activities. The WASH visit was scheduled to coincide with a national conference on the RWSS Program. A draft of the policy was presented to the environmental health inspectors who participated in the conference. The participants who have the responsibility for carrying out the RWSS Program in the provinces were given the opportunity to review and discuss the proposed policy.

The purpose of this report is to document the national maintenance policy for rural water supply systems in Solomon Islands.

Chapter 1

INTRODUCTION

1.1 The Rural Water Supply and Sanitation Program

In 1978, 24 percent of the rural population in Solomon Islands had an adequate water supply. By 1986, after the introduction of the Rural Water Supply and Sanitation (RWSS) Program, approximately 60 percent of the rural people had been provided with an improved water supply.

The Environmental Health Division of the Ministry of Health and Medical Services has the responsibility to implement the RWSS Program and has generally constructed systems that are easy to maintain. These are:

- gravity-fed systems piped from springs or streams,
- rainwater catchments,
- handpumps, and
- systems using hydraulic rams.

The latter two are selected only if springs or streams are not practical and rainwater is inadequate.

These systems are relatively easy to maintain, yet a WASH team that carried out an evaluation of the RWSS Program in 1986 identified lack of maintenance as the major problem that the RWSS Program managers must overcome if improved water supplies are to be provided to all of the rural people. There are two reasons why the systems are not maintained. First, the communities themselves do not feel responsible for their water system and, further, do not possess the skills, tools, or spare parts to carry out system maintenance. Second, the Environmental Health Division and the Solomon Islands Government (SIG) do not have the resources to maintain the hundreds of rural water supply systems that have been or will be constructed under the RWSS Program.

The Environmental Health Division is acutely aware of the maintenance problem and has concluded that the rural water supply and sanitation will be effectively maintained only if communities themselves take a leading role in the management of their water systems. The EHD also recognized that they had not formulated a consistent policy for the maintenance of rural water systems.

1.2 Purpose of WASH Consultancy

The Environmental Health Division requested WASH assistance to develop a national policy for the maintenance of rural water supply systems. In response, two WASH consultants visited Solomon Islands for four weeks, February 1-27, 1988. Their objective was to work with Environmental Health Division personnel to develop the national maintenance policy and to present the policy to the health inspectors of the Environmental Health Division who

participated in a national conference on the RWSS Program. The inspectors have responsibility for implementing the RWSS Program in the provinces and would need to take a prominent role in carrying out the national maintenance policy.

A copy of the scope of work is given in Appendix A.

Chapter 2

THE MAINTENANCE POLICY

2.1 Methodology

The methodology employed by the WASH team to prepare the policy manual was based on two factors. The first, and most important, was the need to gain the support of Environmental Health Division personnel by including them in the development of the policy. The second factor was the ability of the WASH team to utilize the experience they gained during the 1986 evaluation of the RWSS Program. The strategy adopted by the team was organized as follows:

1. The team leader interviewed senior health inspectors from four of the provinces prior to preparation of the first draft of the manual. The questions given in Appendix B were used to guide the meeting.

2. Using the results of the interviews and their previous experience in Solomon Islands, the team prepared the first draft of the national maintenance policy.

3. The first draft was reviewed by the RWSS Project manager, Robinson Fugui, and his recommendations were incorporated into the second draft of the manual.

4. The second draft was presented to the participants at the RWSS Project conference where they had an opportunity to review and make suggestions for modifying the manual. The final version of the manual incorporated, to the extent possible, the recommendations made by the conference participants.

2.2 Conference Participation

The Environmental Health Division had planned a two-week training course for the health inspectors from the seven provinces. During the activity planning visit to Solomon Islands in October 1986, WASH offered to make a presentation to the group on water system maintenance and the role of the village in water projects. The WASH team was allotted one and one-half days during the conference to discuss the national maintenance policy. With this time constraint, the team decided to concentrate its efforts on introducing three major topics to the participants:

1. The model project cycle which describes a water project from initial village request through construction and follow-up visit. The cycle emphasizes the need for proper community preparation activities prior to Environmental Health Division commitment to assist with construction of the water system.

2. The role of the community in managing its water supply project including a discussion of actions that the community must take, e.g. establishment of a water committee, prior to construction. The primary purpose of these actions is to enable the village to effectively carry out its responsibilities for the water systems.

3. The technical requirements for water system maintenance. These include division of responsibility for various maintenance tasks between the Environmental Health Division and the village, and methods whereby the village caretakers will have access to tools and spare parts.

In each of these major sessions, small group discussions followed by presentations by a spokesperson for each group allowed the participants to present their ideas and recommendations.

A list of participants at the conference is given in Appendix C.

2.3 The Policy Manual

The conference presentation and subsequent policy revisions were the last steps taken prior to the preparation of the final draft of the national maintenance policy. The second part of this report is a complete copy of the policy manual presented to Environmental Health Division management prior to the team's departure from Solomon Islands.

2.4 Implementation Schedule

The WASH team also prepared an implementation schedule for the RWSS project direction. The team did not feel that the schedule should be part of the manual. It was transmitted to the Environmental Health Division via memorandum and a copy is given in Appendix D.

REFERENCES

REFERENCES

Haritani, J.; Baker, J.S.; and Jordan, J.K. 1986. Evaluation of the Water Supply and Sanitation Component in Papua New Guinea. WASH Field Report No. 182. Arlington, VA: Water and Sanitation for Health Project.

Haritani, J., and Jordan, J.K. 1987. Preparation of a Plan of Action for the Water Supply and Sanitation Component in Papua New Guinea. WASH Field Report No. 208. Arlington, VA: Water and Sanitation for Health Project.

Jordan, J.K., and Capul, R.R. 1986. Rural Water Supply and Sanitation Program in the Solomon Islands. WASH Field Report No. 179. Arlington, VA: Water and Sanitation for Health Project.

APPENDIX A

Scope of Work

APPENDIX A

Scope of Work

Solomon Islands: National Maintenance Policy for Rural Water Supply Systems

Background

In 1978, the government of the Solomon Islands (SIG) began the Rural Water Supply and Sanitation (RWSS) Program. The goal of the program was to substantially raise the numbers of rural communities with access to adequate water supply and sanitation. By 1985, a large number of water supplies had been constructed, and the SIG deemed it appropriate to evaluate the progress of the RWSS program. Consequently, the SIG requested assistance from the U.S. Agency for International Development (USAID) Mission for the South Pacific Region to carry out the evaluation. In response to a subsequent request from USAID, the WASH Project sent a two-person team to the Solomon Islands to perform an evaluation of the RWSS Program. The WASH team spent six weeks in-country, and among the team's major findings were:

- The water systems were not being maintained properly, and this situation threatened the accomplishments of the RWSS Program.
- While the communities receiving the new water systems did contribute labor and local materials and, in some cases, funds for materials, they were not being adequately prepared to take care of the new systems once the systems were placed in service.
- The sense of community cooperation in the Solomon Islands is generally good, and the WASH team concluded that the village people would take responsibility for minor WS maintenance, if a program of community participation, as it relates to water supply systems, was introduced to the village prior to system construction.

As a result of this evaluation, the SIG sought USAID and WASH assistance to follow up on these findings and resulting recommendations.

WASH Assistance

Specifically, the Principal Health Inspector (PHI), who has primary responsibility for implementing the RWSS Program, concluded that timing was appropriate to introduce a national policy on the maintenance of RWSS systems. The purpose of the policy is to establish a uniform approach for handling the

maintenance of water systems. The maintenance policy would emphasize participation by the village in the maintenance of their water system and include recommendations to Environmental Health Division personnel regarding actions they should take prior to construction, to increase the probability that the villages will carry out their responsibilities with respect to maintenance. The PHI requested assistance from USAID and WASH to prepare a manual detailing the national policy for maintenance of rural water supply systems.

In addition, the Environmental Health Division is planning for a national conference on the Rural Water Supply and Sanitation Program. The conference is scheduled to be held in February 1988, and the PHI and WASH have concluded that it would be appropriate for WASH to participate in the conference by presenting information on community participation and the maintenance of rural water supply systems.

In response to this request from the SIG and USAID/SUVA, WASH will send a two-person team to the Solomon Islands. The specific responsibilities of the WASH team are to:

1. Review pertinent documents relating to the RWSS Program.

2. Interview national level Environmental Health Division personnel to determine their views on rural water supply maintenance, particularly with respect to community participation.

3. Travel to four Solomon Islands provinces to conduct mini-workshops with Environmental Health Division health inspectors who are responsible for rural water supplies. The purpose of these visits is to solicit the views of the inspectors regarding possible approaches to the maintenance of water supply systems.

4. Prepare a draft manual detailing a national policy for the maintenance of rural water systems. The manual will be based on the attached draft outline and reflect the views of national and provincial Environmental Health Division personnel.

5. Review the draft manual with the PHI and revise as necessary.

6. Prepare a presentation for the national conference on rural water supply systems. The topics will include (at least):

   - Community participation
   - Technical component of RWSS maintenance
   - The national policy for maintenance.

7. Deliver the presentation at the conference.

8. Revise the national policy based on the views of the conference attendees.

9. Present a final draft of the national policy to the Environmental Health Division prior to departing the Solomon Islands.

10. Prepare a brief report for USAID detailing the actions taken and outcomes of the WASH visit.

11. Finalize the report and manual and submit to the WASH office within 20 days after departing the Solomon Islands.

APPENDIX B

Questions for Health Inspectors

APPENDIX B

Questions for Health Inspectors

1. What is the size of your current staff?
2. Did you undertake any maintenance or rehabilitation work in the last 12 months?
3. Do you feel that inadequate maintenance is a problem in this province?
4. The Department of Health is proposing the preparation of a National Policy for Maintenance?

   a. Do you think such a policy would be useful?
   b. Would the provincial government support the policy?
   c. What information should the policy contain?

5. How do you currently prepare a community to receive a new water system?
6. If it is considered essential from a community preparation standpoint, would it be possible to schedule three visits with the village prior to any construction activities?
7. What is your concept of community participation in water supply projects?
8. Would villages be willing to form water supply committees to manage the water system?
9. Do you think such committees would be effective in helping to sustain the operation of the system?
10. Who should be a member of the committee?
11. Do you think women should be on the committee?
12. If a water committee was formed, could the committee

    a. collect funds for maintaining the water supply system?
    b. appoint one or more caretakers to maintain the water supply system?

13. Should caretakers be paid?
14. Could women be trained as caretakers?

15. Could villagers be required to buy tools and contribute a small amount from each family to establish a maintenance fund as a condition for construction of the water supply system.

16. What is your opinion of written agreements?

    a. Request for assistance
    b. Construction agreement
    c. Ownership certificate

17. Is is practical for you to give one of your assistants responsibility for water supply maintenance and rehabilitations?

18. What maintenance tasks should the villagers be responsible for?

    a. Reticulated systems
    b. Handpumps
    c. Rainwater catchments
    d. Other

19. Where would the villagers get spare parts?

20. Do area councils have a role to play in water projects? If so, what is their role?

21. Should the communities notify you of major water supply problems directly or through their area representatives? Does it matter?

22. How can the maintenance of existing systems be incorporated into the policy?

APPENDIX C

Conference Participants

APPENDIX C

Conference Participants

Group 1

1. M. Harisimae - SHI, Malaita
2. F. Manu - AHI, Isabel
3. F. Naphtali - HI, Western
4. R. Williams - AHI, MHMS
5. J. Rizu - AHI, Central
6. S. Kapukese - HI, Honiara TC
7. E. Inomae - AHI, MHMS
8. J. Moli - HW, Malaita
9. K. Ghuenah - plumber, Western
10. D. Sogilo - HW, Central

Group 2

1. B. Apusae - HI, Western
2. J. Siwainao - AHI, Malaita
3. L. Olivera - HI, Isabel
4. C. Bisafo - HI, Central
5. J. Sully - AHI, Temotu
6. P. Dagi - AHI, Guadalcanal
7. C. Ropohaia - AHI, MHMS
8. M. Horokali - HW, Malaita
9. D. Taurikeni - HW, Mbinu
10. D. Goregeto - plumber, Western

Group 3

1. P. Theodi - SHI, Guadalcanal
2. E. Rarumae - AHI, Malaita
3. W. Nuba - AHI, Western
4. S. Seni - AHI, Central
5. S. Osikana - AHI, Makira
6. C. Forau - AHI, Honiara TC
7. S. Walemae - AHI, Temotu
8. J. Sake - HW, Isabel
9. S. Mona - HW, Temotu
10. S. Ladoomea - HW, MHMS

Group 4

1. A. Leaga - HI, Temotu
2. G. Leve - SHI, Honiara TC
3. T. Nanau - AHI, Guadalcanal
4. P. Bobby - AHI, Western
5. J. Lui - SHI, Western
6. A. Nixon - student, MHMS
7. R. Ginn - AHI, Honiara TC
8. R. Suia - HW, Marau
9. R. Alatala - HW, MHMS
10. B. Milipoma - HW, Temotu

APPENDIX D

Implementation Schedule

WASH Operations Center
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WATER AND SANITATION
FOR HEALTH PROJECT

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for International Development

8 March 1988

ACT 418

Mr. Robinson Fugui
Chief Health Inspector
Environmental Health Division
Ministry of Health and Medical Services
PO Box 349
Honiara

Dear Robby:

Dodong and I have concluded that section 6.0 that was included in the first draft of the national maintenance policy should not be part of the final version. We felt that the manual should be limited to the policy itself and the actions required for implementation.

However, since we believe that the schedule in section 6.0 could assist you to track progress on implementing the policy, I decided to transmit it to you formally by including a copy in this letter.

Best regards,

James K. Jordan
Operations and Maintenance
Specialist

Enclosure

cc: Tom Lolomae

JKJ/sw

Camp Dresser & McKee International Inc. | International Science and Technology Institute, Inc. | Training Resources Group
Associates in Rural Development, Inc. | Research Triangle Institute | University of North Carolina at Chapel Hill

Implementation of Policy

Full implementation of the national policy for maintenance of rural water supply systems will take time, particularly those tasks that require approval of the provincial government. A number of actions, however, can and should be undertaken immediately. A suggested timetable for carrying out the actions required to implement this policy is given below.

National Office

	TASK	INITIATION*	TIME TO COMPLETE
1.	Distribute copies of maintenance policy for provincial comment	immediate	2 weeks
2.	Confirm tools needed for basic tool set for each system type	immediate	4 weeks
3.	Direct the provincial Environmental Health Division staff to formulate plans to set up a spare parts stock area	immediate	2 weeks
4.	Direct the provincial staff to recommend method to implement tool policy for their province	immediate	2 weeks
5.	Meet with each Environmental Health Division provincial office to finalize maintenance policy appropriate for province	after 8 weeks	4 months
6.	Work with provincial officials to gain policy approval	after 12 weeks	6 to 12 months
7.	Direct Environmental Health Division offices to prepare semi-annual maintenance report	after 16 weeks	continuing

* From date of adoption of policy by the Chief Health Inspector and the Ministers of Health and Medical Services and Home Affairs

Provincial Offices

	TASK	INITIATION*	TIME TO COMPLETE
1.	Review model project cycle and recommend changes for your province	after 2 weeks	4 weeks
2.	Review policy and recommend changes	after 2 weeks	10 weeks
3.	Meet with provincial officials to gain policy approval	after 12 weeks	6 months
4.	Develop list of spare parts needed by villages and begin preparation of stock area and gathering of parts	after 10 weeks	1 year
5.	Begin submittal of report on maintenance activities to national office	after 6 months	continuing
6.	Instruct* staff on policy provisions and requirements for implementation	after 12 weeks	4 weeks
7.	Implement policy for a new water project	after provincial approval of policy	as scheduled
8.	Monitor progress of village and staff in carrying out policy	as projects are completed	continuing

* by senior or lead health inspector in province

NATIONAL POLICY
for
MAINTENANCE
of
RURAL WATER SUPPLY SYSTEMS
in
SOLOMON ISLANDS

Prepared by
Environmental Health Division
of the
Ministry of Health and Medical Services,
Solomon Islands,
and the
Water and Sanitation for Health (WASH) Project
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FOREWORD

The Environmental Health Division of the Department of Health is making good progress in providing water systems to the people in rural Solomon Islands. Since the beginning of the Rural Water Supply and Sanitation Program, emphasis has been placed on construction of these systems. However, insufficient attention has been placed on the development of a program that would insure the sustainability of these water systems. Inadequate maintenance was identified as the major problem with rural water systems in the Solomon Islands by an evaluation team that visited the country in February 1986. The Division has concluded that it must now turn its attention to the development of maintenance programs for existing and new water supply systems in rural villages. The first step in this process is to develop a consistent approach to water system maintenance. The methodology that will be employed to reach this goal is detailed in this manual.

Section 1

INTRODUCTION

1.1 The Rural Water Supply and Sanitation Program

In 1978, 24 percent of the rural population in the Solomon Islands had an adequate water system. By 1986, the RWSS Program has reached 60 percent of the rural population with improved water systems. The water systems have proven to be very popular, and the government is aggressively pursuing the goal of providing satisfactory water systems to the entire rural population. The Environmental Health Division, responsible for carrying out the RWSS Program, has been constructing four types of water supply systems.

- gravity-fed systems piped from springs or streams
- rainwater catchments
- handpumps
- hydraulic rams

Compared to more technically complex systems, these water systems are relatively easy to maintain in proper operating condition and to repair when breakdowns occur. Yet, it is apparent that a program to provide proper maintenance of these water systems has not been established. As new systems are built and existing ones grow older, the problem of effective maintenance of water systems in the Solomon Islands will increase significantly. It has also become clear that the Environmental Health Division cannot by itself maintain the water systems built under the RWSS Program. The communities themselves must accept major responsibility for water system maintenance if our efforts of the past ten years are not to be wasted.

The Government of Solomon Islands has established general guidelines regarding community responsibilities towards the improved water systems:

1. The community, not the government, is the owner of the improved water system.

2. The community must contribute, at a minimum, local materials and labor towards the construction of the water system.

3. The community is responsible for the operation and minor maintenance of the water system.

These guidelines with the exception of item no. 2 have not, however, been successfully carried out, particularly with respect to maintenance. The reasons for this lack of success are three-fold. One, the policy statements are not specific enough to enable the Environmental Health Division to

implement them. Two, the villagers are not made aware of their responsibilities early enough in the water project cycle. Three, the villagers do not have the technical capability, i.e. training, tools, and spare parts, to carry out their responsibilities.

The Environmental Health Division has prepared the policy manual to provide specific approaches for resolving these concerns.

1.2 The Maintenance Policy for Rural Water Supply Systems

The purpose of preparing a national maintenance policy is to establish a consistent approach to water system maintenance that can be followed by each of the provinces. The policy contained in this manual is based on the concept of community responsibility for the maintenance of its water system. The role of Environmental Health Division personnel is also identified. The manual is divided into 5 sections consisting of:

1. Introduction
2. The method used by Environmental Health Division personnel to present the concept of community responsibility for the water system prior to construction
3. The concept of community management of water supply projects and an explanation of village responsibilities for the design, construction, and maintenance of the water system
4. Technical requirements for the maintenance of water systems
5. Responsibilities of the government in construction and maintenance of rural water supply systems.

This policy has been adopted by the Environmental Health Division so that the water supply systems under construction or constructed in the past will still be providing water to villages in the Solomon Islands for many years in the future.

For the future success of the RWSS Program, each provincial government must take the steps necessary to adopt and implement the maintenance policy.

1.3 Adaptations of Maintenance Policy to Provinces

The Environmental Health Division in Honiara recognizes that some sections of the policy may need to be modified to reflect a particular situation in a province. Provincial officials and Environmental Health Division officers are encouraged to review this policy carefully and add or delete provisions as necessary. However, any modifications must be consistent with existing provincial policies. For example, those provinces that require that villages raise funds to pay part of the cost of construction materials may decide to purchase tools (see Section 4.4.2) for the village from the village contribution.

However, since this policy is based on village management of the project, some provisions of this policy should not be substantially changed if it is to be effective. These provisions are:

1. Village responsibilities must be explained and the village must agree to carry them out before the province agrees to construct or rehabilitate the water system. Village responsibilities include setting up a water committee, collecting funds for maintenance, providing local materials and labor, and selecting caretakers. In general, villages will be expected to be responsible for the management of their water system.

2. The water system project cycle adopted by each province should include sufficient visits by Environmental Health Division staff to the village. During the visits, the Environmental Health Division personnel must explain the villagers' responsibilities to them, provide training for the water committee, and verify that the village is fulfilling its pre-construction responsibilities.

3. Provision for the villages to buy tools or have access to tools must be included.

4. The province must establish a method for villages to obtain spare parts and inform them of the procedures.

1.4 Financial Responsibility for Maintenance

One of the primary purposes of this manual is to address the problem of funding for maintenance work. Villagers currently pay very little, if anything, to have their water system repaired. This policy requires that villagers purchase tools and spare parts to carry out minor maintenance; however, major maintenance work remains the responsibility of the Environmental Health Division.

In the future and as villages take more responsibility for governing themselves, it is likely that they will be required to provide additional funds to support the operation and maintenance of their water system. They may, for example, be required to contribute all or part of the cost of materials needed to carry out major maintenance work.

Section 2

WATER PROJECT DEVELOPMENT CYCLE

2.1 General

For the purpose of this manual, the water project development cycle describes a water project from the time the village first requests an improved water supply system through a follow-up visit by an Environmental Health Division representative after the water system is constructed. It is not possible to have 100 percent assurance that a village will carry out its responsibilities towards the maintenance of its water systems. However, it is possible to introduce the new water system to villagers in such a way that they are fully aware of and agree to carry out their duties to care for the water supply system before its construction actually begins.

2.2 Current Method

While the specific steps for providing improved water systems for rural Solomon Islands differ somewhat from province to province, the basic approach is common and can be described as follows:

1. A village requests an improved water system.
2. The health inspector assigned to the province does an initial screening of the proposed project.
3. Those not deleted will be surveyed by the provincial Environmental Health Division staff. This includes on-site evaluation and preparation of a design plan. Some projects may be rejected at this time due to technical problems.
4. The lead health inspector in the province prepares a final list of projects and a master list of materials needed. The master list is submitted to the Principal Health Inspector.
5. After determining the amount of funds and materials available, the Principal Health Inspector will inform the provincial Environmental Health Division office.
6. The lead health inspector in the province prepares a list of projects that can be completed during that fiscal year and plans the construction schedule.
7. If a village is required to provide labor and local materials, it is advised of its contribution.
8. When materials are received from Honiara and the village has gathered its contribution in local materials, the construction of the water systems begins.

The primary difficulties with this method are two-fold. First, the village still perceives, in most cases, that the water system is owned by the government and that the village is not responsible for maintenance, and second, in instances where the village accepts its responsibility the villagers do not possess the skills, tools, and spare parts needed to take care of the water system.

The approach laid out in this manual requires procedural changes in the water project development cycle to assure that the water systems will be properly operated and maintained.

2.3 Proposed Model Cycle

The proposed cycle requires that the provincial Environmental Health Division personnel spend more time before construction to make villagers aware of their responsibilities and for the villagers to take steps, including forming a water committee and collecting funds, to demonstrate their commitment to the project. Two visits to the village are required. These visits serve two purposes: (1) to determine if the proposed water system is technically feasible and to carry out the survey of the system, and, equally important, (2) to carry out community preparation activities.

This method also includes the use of written agreements between the Environmental Health Division and each village. The agreements help to define the role of the Environmental Health Division and to insure that the water system is a village project, not a government one.

The model project cycle is outlined in Figure 1 and is described as follows:

The first step is a request from a village for an improved water system. The next step (Event 2) is the first visit to the village by Environmental Health Division staff. The purposes of this visit are to:

1. Describe the RWSS Program.
2. Insure that the village understands that the water project and system is its own.
3. Inform the village of its responsibilities towards the system.
4. Describe and leave with the village a copy of the Request for Assistance (RFA) form (Figure 2) for the village leaders to read and sign.
5. Carry out the technical survey of the water system.
6. Instruct the village to form a water committee before the second meeting and advise them of the composition and duties of the committee.

Event 3 is the detailed water system design and preparation of material list. After the village notifies the Environmental Health Division staff that it has decided to continue with the project, has signed the RFA form, and formed a water committee, the Environmental Health Division schedules the second visit (Event 4).

The purpose of this visit is to:

1. Insure that the village has signed the RFA form and formed a water committee.

2. Prepare the construction agreement (Figure 3) for signature by the village water committee and the Environmental Health Division representatives.

3. With respect to community preparation activities, inform the committee of the steps they must take (see Section 3 for details) before construction is scheduled and advise them on methods for carrying out these tasks. The tasks include:

   - raising funds for maintenance
   - selecting caretakers
   - arranging for tools

4. Instruct the committee to inform the Environmental Health Division when the required tasks are completed.

Upon receiving notice from the village that the pre-construction tasks are completed, the Environmental Health Division schedules construction and arranges for delivery of government-provided material to the construction site (Event 5).

Construction (Event 6) is then carried out. During construction, the water system caretakers identified by the water committee are trained by the construction crew. When construction is completed, a dedication ceremony (Event 7) is held and the ownership certificate (Figure 4) is signed and presented to the water committee. A follow-up visit to insure that the village is properly carrying out its responsibilities should also be scheduled during the ceremony. This is shown as Event 8.

While the Environmental Health Division staff in Honiara recognizes that this process may take more time and is a different approach than we are accustomed to, we believe that these steps must be followed if our problem with water system maintenance is to be solved.

Figure 1

MODEL WATER SYSTEM PROJECT CYCLE

	EVENT	EXPLANATION
1.	Request for water supply comes to EHD	The request may come directly from a village or from an area council representative.
2.	EHD representative visits village	This visit has three essential purposes. The first is to inform the village of its responsibilities and leave a copy of the RFA form. The second purpose is to carry out the technical survey for the water system. The third is to direct the village to form a water committee before the next EHD meeting.
3.	EHD system planning	The EHD staff completes the detailed design of the water system including the material and labor requirements and cost.
4.	Second meeting with village	This visit has three purposes. One, to make sure that the RFA form is signed and the water committee formed. Two, to discuss the construction agreement and obtain signatures. Three, to continue community preparation activities. The water committee is instructed to inform the EHD when the pre-construction tasks are carried out so that construction can be scheduled.
5.	Delivery of material by the EHD	After receiving notification from the village it has gathered its contribution, the EHD schedules construction, notifies the village of the date, and delivers material.
6.	Construction	The EHD team and the village construct the system. During construction, the EHD foreman will train the caretakers to maintain the water system.

7.	Completion of system	A completion ceremony is held and a certificate of ownership is formally signed and presented to the water committee. The EHD representative should carry out this function.
8.	Follow-up visit	A follow-up visit should be arranged during the completion ceremony by the EHD representative.

Figure 2

DRAFT REQUEST FOR ASSISTANCE FORM

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

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

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

As owners of this water system, 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. We will be responsible for the following activities:

1. Form a Water Committee to represent the village, call meetings, and direct project activities.
2. Provide information about local water customs and practices.
3. Provide information about traditional and alternative water sources.
4. Assist in carrying out a technical survey.
5. Secure agreements from landowners whose land will be used to install the water system.
6. Obtain and supply cash, labor, and materials for the project.
7. Nominate candidates to become trained as caretakers of the system.
8. Arrange for any compensation needed to support the caretaker.
9. Provide accommodations for the construction team during construction.
10. Establish and make contributions to a maintenance fund to support the costs of a maintenance system.
11. Accept responsibility for operating and maintaining the system.

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

On _____, 19 ___, 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)

Figure 3

VILLAGE WATER SUPPLY CONSTRUCTION AGREEMENT

PROVINCE: _____ DATE: _____

DISTRICT: _____ LOCATION: _____

Part 1: Village Commitment

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 accommodations 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:

We will provide sufficient volunteer labor beginning on or about _____ (day/month/year) and ending on about _____ (day/month/year) in order to adequately support water system construction.

Section 7:

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

Section 8:

We will obtain approval from any landowner affected by construction of this system to use their land for the new water systems without compensation from the government.

Signed	Date	Signed	Date
Signed	Date	Signed	Date
Signed	Date	Signed	Date

Part 2: Provincial Health Division Assistance

We, the undersigned, representing the _____ (Province) Health 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.

Figure 4

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.

_____ Signed	_____ Date	_____ Signed	_____ Date
_____ Signed	_____ Date	_____ Signed	_____ Date
_____ Signed	_____ Date	_____ Signed	_____ Date

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

Section 3

COMMUNITY WATER SUPPLY MANAGEMENT

This policy will be effective only if it is accepted by villages and enforced by the Environmental Health Division staff. As currently practiced by Environmental Health Division staff, community participation generally means that the village contributes local material, labor, and, in two provinces, funds for the construction of a water system. The evaluation report prepared by consultants from the WASH Project concluded that while the villages were, in virtually all cases, carrying out the responsibilities given them by the Environmental Health Division staff, they did not feel a sense of ownership and responsibility for their new water system. In general, the villages do not have the knowledge and experience needed to properly manage their water systems to insure continued operation.

Experience from other countries indicates that unless a community accepts responsibility for its water supply system and shows commitment by carrying out certain actions such as forming a water committee before the construction of the water system, it will not take care of or maintain the water system. Extra effort should be made to made the village realize that the water project is its own undertaking and that the government role is to provide technical assistance and materials to assist with the project.

This section of the manual discusses the requirements for proper management of the water supply system by the community and should be considered along with development of the model project cycle given in Section 2. The role of the Environmental Health Division in promoting and supporting the concept of community water supply system management as proposed in this manual is also discussed.

3.1 Village Responsibilities in Water System Maintenance

The basic responsibilities of the village in the maintenance of the water system are:

a. Regular inspection and monitoring of the entire system;
b. Carry out minor repair and maintenance tasks;
c. Report major maintenance problems to the Environmental Health Division.

The village will carry out these responsibilities through a water committee which will serve as the local body to coordinate and supervise the various village actions for the proper operation and maintenance of the water system.

3.2 Water Committees

Each village is required to form a water committee whose responsibility is to insure that the water system is operated correctly, inspected regularly, and maintained as needed, so that clean water is provided continuously to the villagers. The committee may be a sub-group of the village committee or it could be independent. The village will need to decide this. For big water systems that serve several villages, each village covered by the system will be required to organize its own water committee.

The specific responsibilities of the Village Water Committee are to:

1. Represent the village in contacts and negotiations with the Environmental Health Division regarding the water system

2. Make sure that the village meets its responsibilities in constructing the water supply system such as obtaining land rights and village contributions of labor and material.

3. Raise and maintain funds needed to carry out water supply maintenance requirements.

4. Authorize the purchase of spare parts as needed.

5. Select and supervise caretakers for water supply inspection and maintenance.

6. Maintain records of water supply maintenance and funds authorized for spare parts.

7. Report major problems to the Environmental Health Division staff and monitor progress on repairs.

8. Be responsible for the safekeeping of water supply repair tools and spare parts.

9. Decide if water system extensions are acceptable and how they should be paid for. They should also contact the Environmental Health Division to determine the technical practicality of any plan for expanding the system.

Committee Members

The choice of villagers who will serve on the water committee should remain with the village. Depending on the type and size of the water system, the committee should have 4 to 8 members with a president, secretary, and treasurer. One member will be needed to manage the maintenance fund, one to keep written records of maintenance work and other matters relating to the water system, and one to insure that the caretakers are carrying out their work. Appendix A indicates the composition of a village water committee and duties of specific members.

Any adult villager should be eligible to serve on the committee. Potential candidates include village elders, chiefs, teachers, members of women's groups, religious people living/working in the village, and younger men and women from the village.

3.3 Maintenance Funds

The village water committee will be required to manage the water supply maintenance fund. A small initial fund, about $2 to $5 per family, should be established before the water system is constructed. The actual amount will need to be determined by the central and provincial Environmental Health Division offices and will depend on the type of system that will eventually be constructed.

As this fund is used, the maintenance fund will need to be replenished by the village. Two methods are appropriate. The committee treasurer can collect a set fee from each family on a regular basis, such as every three months. The second method for raising funds is for the village to hold a bazaar or similar function periodically or as needed with the funds collected dedicated to the maintenance fund. One danger to this second approach is that if the village does not raise funds until needed, the purchase of needed spare parts may be delayed. The funds should be kept in a passbook account or by any other method chosen by the village that will insure the security of the fund. The water committee should see that ready cash is available when tools or spare parts are needed.

3.4 Tools for Maintenance

Depending on provincial policy, villages may be required to purchase the basic tool sets described in Section 4.4. In any case, the village water committee must be able to demonstrate to the Environmental Health Division staff that either it has its own tools or has access to tools when needed.

3.5 Written Agreements

The Environmental Health Division believes that written agreements between a village and the government are valuable. Such agreements will reinforce the villagers' understanding of their responsibility for and ownership of the water supply. They will also spell out the role of the Environmental Health Division in providing technical assistance and materials for constructing the water system.

Three types of agreements are proposed for consideration in Section 2:

- Request for Assistance Form
- Construction Agreement
- Completion Certificate

The first of these is the most important since it states village responsibilities for construction and maintenance of water systems and requires the village to commit itself in writing that it will carry out its role. The construction agreement establishes the village's ownership of the system since it clearly states the role of both village and Environmental Health Division and requires both to sign the agreement. The completion certificate is valuable since it provides a formal completion of the government's role in the routine operation and maintenance of the water system.

3.6 Water System Caretakers

The village water committee will need to select one or more water system caretakers whose duties are to carry out minor maintenance and periodic inspection of the water system. Those appointed should live in the village and be able to carry out the duties detailed in Section 4.2 of the manual. The Caretakers must also be available during construction in order to familiarize themselves with the water system and receive maintenance training from the Environmental Health Division work crew.

The village will need to decide the number of caretakers needed. One alternative is to designate two caretakers - one as primary, the second a back-up or in training. They will maintain the entire system. A second alternative is for the water committee to appoint a caretaker for each tapstand or handpump installed plus one to inspect the source and main pipe-line. This second method has the advantage of delegating responsibility for maintenance to the few families that use a particular tapstand, but it will be more difficult for the committee to monitor the operation of the water system and to supervise the caretakers.

Incentives have to be provided to the water caretakers in order to motivate them in their work and make them accountable for any defect or malfunction in the system. Each village and water committee will have to devise its own way of remunerating the caretakers, either in cash or kind, for services rendered. One way of doing this is to pay the caretakers for every repair job performed out of the maintenance fund. Another would be to exempt him/her from payment of user fees if such payments are collected regularly by the water committee. The caretaker can also use the repair and maintenance activities performed as his or her contribution to the regular community work days prescribed by many villages.

3.7 Land Rights

The Environmental Health Division staff completes the technical survey and determines the best source of water and the land where pipes are to be laid (reticulated system). At this point, the village water committee has the responsibility to talk with landowners affected by the installation of the system and obtain their agreement, preferably in writing, for use of their land. This must be done before the Environmental Health Division ships construction materials to the village.

3.8 Village Contribution to Construction

Villages are expected to contribute to the construction of the water system as currently required by provincial regulations. This includes local materials, labor, and, in some provinces, funds for construction materials.

From the standpoint of water system maintenance, these requirements need to be retained since, along with the village responsibilities detailed above, they reinforce the idea of village ownership of the system.

3.9 The Role of Women

Since they are the primary users of the water system, women should be included in the planning and management of the water project. While villages elect or appoint their own water committee, they should be encouraged by Environmental Health Division staff to include women in the committee membership. The possibility of appointing women as caretakers should also be recommended to the committee.

3.10 Community Preparation

The emphasis on community management of water supply projects requires that villages be adequately prepared to assume their roles as owners and managers of their water supply systems. The concept of community preparation does not stop at merely informing the villages about their responsibilities in the maintenance of the systems, but also includes development of skills to carry out these responsibilities.

A series of community preparation activities will be undertaken during the various visits that the Environmental Health Division representative will make to the village in connection with the preparation of the technical plans of the system to be constructed. The purpose of the community preparation activities is to inform the village of its responsibilities in the operation and maintenance of the water system, and to provide instructions on how to carry out their tasks, such as the setting up of a maintenance fund, managing these funds, selecting caretakers, acquiring tools and spare parts, and other responsibilities laid out in this manual. The specific community preparation topics to be taken up by the Environmental Health Division in each visit to the village during the project development phase are detailed in the model project development cycle in Section 2.3.

During follow-up visits to the village for whatever purpose, the Environmental Health Division staff should check on the progress that the village is making in managing and maintaining the water system and advise the water committee on matters of concern.

3.11 Adaptation of Policy to Provinces

The provinces may formulate their own guidelines for the implementation of the policy on community management of water supply systems. However, provinces should require that the following community preparation activities be undertaken before or during the construction of the water supply system:

1. Villagers are informed of their responsibilities, as owners of the water system, in the construction, maintenance, and management of water supply systems.
2. A water committee is organized.
3. Land rights are secured.
4. Water caretakers are selected and trained.
5. A maintenance fund is established.
6. Tools and spare parts are procured.
7. Written agreements are signed.

Section 4

TECHNICAL REQUIREMENTS FOR MAINTENANCE

4.1 Introduction

In order for a village to carry out its responsibilities towards the maintenance of a water system, three issues need to be resolved:

1. What maintenance tasks is the village responsible for?
2. Where will the village obtain spare parts?
3. Where will the village obtain tools needed to repair the water system?

4.2 Village and Environmental Health Division Maintenance Tasks

The villagers have three major responsibilities with respect to maintaining their water system. The first is to carry out minor maintenance tasks, the second is to inspect the entire system regularly, and the third is to report major maintenance problems to the Environmental Health Division. For technical aspects of water supply system maintenance, the Environmental Health Division is responsible for repairing major faults with the system, for training the village caretakers to carry out minor maintenance, and for providing follow-up technical assistance to the village as needed.

Village Maintenance Responsibilities

a. Gravity-fed systems

- maintain standpipes
  - repair/replace taps
  - replace washers
  - tighten threaded connections and nuts
- replace damaged pipes up to the main feed line
- clean drainage channels and pipes
- remove silt from behind the dam
- measure the flow of water from standpipes to determine if the flow-rate is the same as when the system was constructed. This should be done semi-annually.
- inspect the complete system every two weeks or when a problem is detected.

- report major problems to the province's Environmental Health Division office

b. Rain catchment systems

- clean rain catchment tanks at least twice annually
- clean and repair/replace gutters and pipes as needed
- repair/replace taps
- replace washers
- replace damaged pipe if reticulated water supply system
- clean drainage channels and pipes if existing
- inspect the system weekly
- report major problems to the province's Environmental Health Division office

c. Handpumps

- repair all components for SI Mark II handpump
- for imported handpumps
  - tighten nuts
  - lubricate bearings, chain, etc.
- measure flow-rate semi-annually
- clean drainage channels and pipes
- report major problems with imported pumps to the Environmental Health Division

d. Systems using hydraulic rams

- same as for gravity-fed systems
- add inspection of the ram

e. Solar-powered systems (Solar systems are not yet installed but will be in the future.)

- same as gravity-fed systems
- add inspection of solar array and water pump

Provincial Responsibilities

a. Gravity-fed systems

- repair damage to main water line
- repair/replace defective valves
- repair damaged spring boxes and dams
- repair damaged storage tanks

b. Rain catchment systems

- repair damaged storage tanks (if system is serving entire village)

c. Handpumps

- repair/replace imported handpumps
- no responsibility for SI Mark II handpumps

d. Hydraulic ram

- same as for gravity-fed systems
- add repair and replacement of the ram

e. Solar powered systems

- same as for gravity-fed systems
- add repair/replacement of components of solar array and pump

In all cases, the Environmental Health Division should provide technical assistance to the village water committee and caretakers if they ask for help.

4.3 Spare Parts

For the next five to ten years, villages requiring spare parts will be able to get them only from the Environmental Health Division stores in the provinces. Retail businesses in the majority of the provinces will not be stocking all of the parts needed by the villages to repair their water systems.

The Environmental Health Division believes that the villages should be required to pay for spare parts rather than be given them. We have adopted the approach given below to insure that villagers can obtain spare parts to repair their water systems as they need them.

1. Each provincial Environmental Health Division office will set up a stock of spare parts that will be needed by the villages to make the minor repairs to their water supply system as described in Section 4.2. The first step is for the Environmental Health Division health inspector to prepare a list of the types and numbers of parts needed. The next step is to fill the list from excess materials from water projects, by requesting funds from the province to purchase spares or by requesting a stock of spares from central stores in Honiara.

2. When a villager requests a spare part, he will pay for the part from the village maintenance fund. The village will be charged the same price that the province paid for it.

3. The money received from the village will be deposited either in a special spare parts fund or into general provincial funds.

4. The provincial Environmental Health Division staff will restock the spare parts stores either semi-annually or annually depending on how fast the stores are depleted.

5. The provincial Environmental Health Division staff will keep a written record of each transaction made with the villages and of all parts that are purchased to restock their stores.

Eventually, as sub-posts of the Environmental Health Division provincial offices are established, an appropriately sized stock of spare parts should be kept at the sub-post to reduce the distance a villager needs to travel to obtain spare parts.

4.4 Provision for Tools for Villages

4.4.1 Tools Needed

Each village with an improved water supply must have access to the basic tools its caretakers will need to make minor repairs to the system. The types of tools needed by the village will depend on the type of system as described below.

System Type	Basic Tools Needed	Quantity
Gravity Feed Rainwater Catchment Hydraulic Ram Solar	Adjustable pipe wrench - 2" jaw opening	2
	Adjustable spanner - 1 to 2" opening	1
	Long handled spade	1
	Trowel with pointed tip	1
	Hacksaw	1
	Wire brush	1
	5-Liter Container	1
	Tape measure (30 m)	1
	Hammer	1
	Supplementary Tools	
	Screwdriver - approx. 18" length	1
	Trowel - rectangular shape	1
	Crowbar	1
	Pick	1
	Cold chisel	1
	Basic Tools Needed	
Handpump	Hacksaw	1
	Adjustable pipe wrench - 2"	1
	Adjustable spanner - 1 to 2"	1
	Trowel - pointed	1
	Long handled spade	1
	5-liter container	1
	Hammer	1
	Supplementary Tools	
	Trowel - rectangular shape	1

The basic tools given above are the minimum needed by the village to make minor repairs and checks on their systems. The supplementary ones will make the village maintenance work somewhat easier.

4.4.2 Obtaining Tools

The approach recommended by the Environmental Health Division office in Honiara is that villages requesting new water systems or whose system requires major rehabilitation be required to purchase* the basic tools needed before construction or rehabilitation work begins. The provincial Environmental Health Division staff would not have materials delivered to the village until the village had either obtained the basic tool set or had gathered the funds needed to purchase tools.

Some provincial governments may decide to provide tool sets to their area councils or require the area councils to buy the tool sets. The villagers would then borrow tools from their area council as needed. This method would only be effective if an area council represented no more than 10 to 20 villages and could raise or obtain sufficient funds to purchase tools. Since this manual is based on community participation and responsibility, the area council approach should be used only if provincial officials conclude that villages in their province cannot raise funds within their village for this purpose.

4.5 Maintenance Information Systems

One of the most important components of a maintenance program is provision for monitoring the status of the program. The Principal Health Inspector in Honiara and the provincial Environmental Health Division offices need to keep informed about whether the maintenance policy is being carried out effectively at all levels to be able to make adjustments to the policy if needed.

Information transfer takes two forms. One, the principal health inspector and the provincial health inspectors should discuss on a regular basis progress being made towards policy implementation. This is particularly important during the first year or two as the policy is being established. Problems and issues should be discussed and timetables set for their resolution. During this implementation period, monthly contacts should be made.

Two, each provincial Environmental Health Division office should submit a semi-annual report on maintenance activities including:

- major maintenance tasks carried out by the Environmental Health Division provincial staff
- the number of requests for spare parts from villages

* The village may already have some of the tools needed. In this case, the village would obtain only those needed to complete the basic set.

- types and numbers of spare parts issued to villages
- amount of funds received for spare parts
- any problems and issues that require resolution

The principal health inspector should review the provincial reports and discuss any data or information that is out of the ordinary.

Section 5

GOVERNMENT RESPONSIBILITIES

This policy manual is proposing a method of maintaining water supply systems which places strong emphasis on the role of the village in maintaining its water supply system. The national and provincial governments must make significant contributions if this policy is to be implemented successfully. The Environmental Health Division staff and government policy-makers need to act quickly and forcefully to formalize the adoption of the maintenance policy and to establish procedures appropriate for each province to carry out the intent of the policy.

5.1 National-Level Tasks

In order to reach the goals and objectives of this policy, the national Environmental Health Division office has the responsibility to:

1. Distribute the draft policy manual to the senior health inspector in each province with directions to review the manual regarding its feasibility and propose any modifications.

2. Review recommendations from the Environmental Health Division provincial staff to insure that any suggested changes conform to Section 1.3 of this manual.

3. Complete the policy manual and submit to Ministry of Health and Medical Services and Ministry of Home Affairs for approval and adoption as the national policy manual for maintenance of rural water supply systems.

4. Work with the provincial staff to gain the support of appropriate provincial officials to insure the acceptance and implementation of the maintenance policy.

5. Direct the provincial Environmental Health Division staff to set up a spare parts stock consistent with the requirements of this manual and provincial policies.

6. Insure that each province has taken action on the requirement for each village scheduled for a new or rehabilitated water supply system to obtain tools for their own use or have access to the required tools.

7. Support provincial requests to provide spare parts if necessary to establish an inventory of spare parts in each province. This should be limited to a one-time requirement for each province.

8. Develop guidelines for use by provincial staff to advise villagers on the amount they need to collect from each family in the village for the initial maintenance fund (as required in the model project cycle), according to type of system.

9. Require each Environmental Health Division office to submit a semi-annual report of maintenance in accordance with Section 4.5 of this manual.

5.2 Provincial-Level Tasks

While the role of the national office is to provide general guidelines to the provinces with respect to implementing a maintenance policy, the role of the provinces is to adapt these guidelines to the particular conditions of the province. The provincial staff has the responsibility to execute the provisions of the policy in their province. Specific responsibilities are to:

1. Review the national policy, discuss recommendations for changes with the principal health inspector, and gain the approval of provincial officials to carry out the policy.

2. Set up a spare parts stock consistent with this policy.

3. Insure that each provincial health inspector informs each village requesting a new or rehabilitated water system of its responsibilities before the province agrees to assist the village in constructing the water system.

4. Insure that construction foremen provide satisfactory training to village caretakers in the maintenance of their water system.

5. Execute any written agreements (Section 2.3) between the village and provincial government that are adopted by the province.

6. Prepare reports on maintenance activities as required by the national Environmental Health Division office.

7. Insure that policies approved by the province with respect to accessibility of tools to villages are carried out.

APPENDIX A

Membership and Duties --
Village Water Committees

APPENDIX A

Membership and Duties--Village Water Committees

Members of the Water Committee and their Function:

The committee should consist of a minimum of four members including a President, Treasurer, and Secretary. The Health Inspector, the fourth member, would be responsible for advising the other members about the various health 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 material, 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. Be responsible for managing the maintenance funds; maintain proper accounts and supporting documents.

2. Collect payments and deposit into the maintenance fund.

3. Make payments for expenditures authorized 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; notify the villagers of 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 the maintenance fund accounts and 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.