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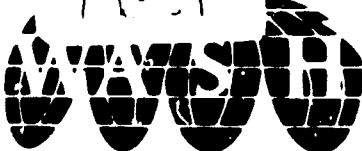
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**APPROPRIATE TECHNOLOGY FOR
RURAL WATER SUPPLY AND
SANITATION IN EL SALVADOR
A Brief Review and Bibliography**

WASH FIELD REPORT NO. 26

SEPTEMBER 1981

**Prepared For:
USAID, Mission to El Salvador
Order of Technical Direction No. 17**

WASH FIELD REPORT No. 26

EL SALVADOR

APPROPRIATE TECHNOLOGY FOR
RURAL WATER SUPPLY AND SANITATION
IN EL SALVADOR

A Brief Review and Bibliography

Prepared for USAID Mission to El Salvador
United States Agency for International Development
under Order of Technical Direction No. 17

Prepared by:
Charles S. Pineo

September 1981

Contract No. AID/DSPE-C-0080
Project No. 931-1176

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Chapter 1

INTRODUCTION

In December 1980 the USAID Mission in El Salvador requested WASH assistance in the development of a potable water supply and sanitation project using appropriate technologies. This request resulted in Order of Technical Direction No. 17 issued by the AID Office of Health on 23 December 1980. Following discussions with the USAID Mission and the Office of Health in July 1981, Mr. Charles Pineo, consultant, was engaged to prepare this report on the technical information and training needs of El Salvador and the resources available for meeting those needs.

While technology appropriate for rural water supply and sanitation needs in El Salvador is important to the success of programs and projects developed for those sectors, there are other factors which are as important, possibly even more so. A few of these are mentioned below:

1.1 Organizational and Administrative Structure

It is essential that the organizational structure permit national agencies responsible for water and sanitation programs to efficiently reach regional offices and through them local communities in order to assist villagers in solving their own problems. This process requires that planners and standard setters at the national level work closely with implementers at the regional level who in turn must work with promoters and health educators at the village level. In this way local communities will be assisted to install, operate, and maintain needed water supply and sanitation facilities. Continuing supervision and adequate transportation are musts at all levels.

1.2 Trained Personnel

Trained personnel are basic to the success of any program. This means not only trained professionals at the national and regional levels, but also a trained intermediate staff reaching from the regional level to the community. Equally important for the success of the programs are trained personnel at the village level such as system and pump operators, local committee treasurers, secretaries and others. Training should be a continuous process using refresher courses and on-the-job training.

Staff should be supplied with manuals specific to their assigned duties. The manuals should include standard designs, where applicable, and step-by-step procedures illustrated with simple sketches for the tasks to be carried out by the staff members.

These manuals should be developed as part of the training materials, and each staff member should have his own assigned manual.

1.3 Sanitation Programs

Every effort should be made to assure that the sanitation phases of the programs keep pace with the water supply activities. Full benefits from an adequate water supply cannot be realized without sanitary excreta and waste disposal, a continuing health education program, and an efficient operation and maintenance program. Much of the sanitation program should focus on women.

Chapter 2

TECHNICAL ASSISTANCE

USAID/San Salvador, AID/Washington and the WASH Project can offer assistance in some of the areas mentioned above. Specific reference is made to the problem of training. WASH can assist in evaluating the manpower and training needs of the rural water supply and sanitation programs, and in developing required courses, course material, and manuals.

2.1 Observation Trip

In addition to in-country training, key personnel would benefit from a brief supervised observation trip to a water supply and sanitation program in another Latin American country. The country to be visited should be selected carefully to provide the best examples for the observers.

The following two-week program for the observation trip is suggested:

- | | |
|--------------------------------------|---|
| Sunday: | Travel from San Salvador to country to be visited. |
| Monday: | Orientation at USAID office. |
| Tuesday and
Wednesday: | Meet with various agencies and departments of the host country involved in water supply and sanitation. |
| Thursday and
Friday: | Visit communities with typical installations and programs. |
| Saturday,
Sunday and
Monday: | Visit regional office with free day (Sunday) in that area. |
| Tuesday and
Wednesday: | Visit communities. |
| Thursday,
Friday and
Saturday: | Discussions in various departments, debriefing, writing reports of observations and applicability to conditions in El Salvador. |
| Sunday: | Return to San Salvador. |

2.1.1 Preparation for Observation Trip

Preliminary preparation would require:

Selection of Participants

Participants should include key personnel in:

- a. Planning and organization.
- b. Sanitary engineering (study and design).
- c. Economics and financing.
- d. Promotion.
- e. Health education.
- f. Social anthropology.
- g. Construction.
- h. Operation and maintenance.
- i. Training.

Review of Existing Manuals

The participants should have read the several manuals which the Ministry of Public Health and Social assistance have developed on rural water supply and sanitation. They should carry the manuals with them for revision in the light of their observations.

Review of Appropriate Technology Documents

The participants should have read the documents on technology appropriate for rural water supply and sanitation in El Salvador, which are attached, and should adapt them to the needs of El Salvador.

Preparatory Visit to Host Country

A consultant should make a preliminary visit to the country to be visited to discuss the program with the USAID Mission and to arrange the program and schedule with the relevant national agencies and people participating in the observation program. It is estimated that one week would be required to arrange all the details including transportation.

Role of Consultants

At least two consultants should accompany the participants on their observation visit--one knowledgeable about the technical aspects of rural water supply and sanitation programs with some knowledge of promotion and community participation requirements and one with a background in economics, financing, organization, warehousing, etc. If at all possible, a consultant in training should also accompany the group, preferably the same consultant who will be the adviser for training activities in El Salvador.

Financial Arrangements

The financial and other obligations of the national government, USAID, and WASH should be clearly understood.

2.2 Appropriate Technology for El Salvador

The following remarks are concerned with technology which may be appropriate for the rural water supply and sanitation programs in El Salvador.

2.2.1 Existing Manuals

It is understood that the Ministry of Public Health and Social Assistance has a series of manuals developed for use with its rural water supply and sanitation programs. Unfortunately these have not been seen. However, it is assumed that the document "Tecnologia Empleada en los Abastecimientos de Agua Potable para Comunidades Rurales", which has been seen, is based on the Manuals. A Project Paper has also been seen. The following comments are based on those documents.

1. Obviously, the sketches included as annexes to the Salvadoran document are indications of the approaches to be used in various situations and are not intended to be standard drawings which can be used as they are. Some detail is shown but much is missing.
2. In Annex 1 and 2 the masonry walls appear excessively thick. No attempt has been made to check structural details but in this case two-foot thick walls do not appear necessary.

Although it may appear be superfluous, it is suggested that a note be made in the text or on the sketches that areas around springs, infiltration galleries and lateral collectors should be protected to avoid pollution of the water being collected.

3. In Annexes 5 and 6 much more detail is necessary. Careful attention must be given to the protective slab on which the pump is mounted to assure that water which is spilled runs away from the pump area in order to avoid its infiltration into the well and to keep it from standing in a stagnant pond where pump users walk. A reinforced concrete apron is needed with a rim around the edge and drainage away from the pump to a nearby ditch or field.

Protection should be provided down to the bottom for the well shown in the second Annex 5 with openings at the aquifer level.

4. Annex 12 should mention the possibility of using the Robovalve. In some locations two faucets or outlets may not be necessary. Where water is scarce, consideration should be given to using the Fordilla. Again the importance of a rim around the watering point apron and adequate drainage away from the area is stressed.
5. For annex 14 the same comments apply as were made for Annex 12 (see 4 above). Also a lip is needed at the entrance to the shower stalls. Obviously 12 laundry trays may not be required for some locations.
6. No comment will be made on the sketch for the rapid filter other than to wonder why a sketch was not included for a slow sand filter installation.

2.2.2. Additional Documents

In order to supplement the technology covered in the Tecnologia Empleada mentioned above, a number of documents and excerpts from others have been gathered to give additional examples of simple approaches which should be considered for use in El Salvador, if they are not being used already. The compilation is not exhaustive but gives an idea of the alternatives which are available and details additional to those shown on some of the examples in the Tecnologia Empleada.

The examples included have been confined to simple approaches which have been used successfully in other developing countries, most of which are labor intensive, use local materials, require little energy to operate, and are easy to maintain. Some of the equipment may be manufactured locally. No attempt has been made to include the more sophisticated technologies.

Rather than include simply a list of the publications as possible sources of information, complete articles and, in a number of cases, complete publications are attached. A number are in Spanish.

The complete packet should be furnished each of the participants on the observation trip well in advance of the trip and he/she should be urged to study the material.

The following is a list of the attached articles and documents, which are divided into three categories as follows:

- A. General
- B. Sanitation
- C. Water Supply

ATTACHMENTS

TECHNOLOGIES APPROPRIATE FOR RURAL WATER SUPPLY AND SANITATION PROGRAMS IN EL SALVADOR

A. GENERAL

- A-1 Kalbermatten, J.M., D.S. Julius, and C.G. Gunnerson, A Summary of Technical and Economic Options, Volume 1. Appropriate Technology for Water Supply and Sanitation, World Bank, Washington, D.C., December 1980.
- A-2 UNICEF, People, Water and Sanitation, Volume 45/46 Assignment Children, Geneva, Spring 1979.
- A-3 Economic Development Institute of the World Bank, Syllabus for a Course on Water Supply and Waste Disposal, Washington, D.C., April 1975.
- A-4 International Development Association of the International Bank for Reconstruction and Development (World Bank), Observations of Rural Water Supply and Sanitation Programs in Eight Developing Countries, P.U. Report No. PUN 42, Washington, D.C., September 1978.
- A-5 World Bank, Eight Case Studies of Rural and Urban Fringe Areas in Latin America, P.U. Report No. RES 23, Washington, D.C., May 1979.
- A-6 Annis, S., Water and Health in Rural Guatemala, Centro de Investigacion Regional de Mesoamerica, Antigua, Guatemala, August 1980.
- A-7 Annis, S., and S.Cox, Integration of Small Scale Irrigation and Village Potable Water Systems in Guatemala (Draft), November, 1980.
- A-8 Pinoo, C.S., Incentive Plan (Mimeo), May 29, 1975.
- A-9 WHO International Reference Centre for Community Water Supply, Participation and Education in Community Water Supply and Sanitation Programs: A Selected and Annotated Bibliography, IRC Bulletin No. 13, The Hague, July 1979.
- A-10 Elmendorf, M., Women, Water and the Decade, WASH Technical Report No. 6, Arlington, Virginia, June 1981.
- A-11 Elmendorf, M. Women, Water and Waste: Beyond Access (Draft), April 1980.

- A-12 U.S. Agency for International Development, The Impact of Interventions in Water Supply and Sanitation in Developing Countries: Proceedings of a Seminar held at the Pan American Health Organization March 25-26, 1980, Washington, D.C., April 1981.
- A-13 World Bank, Poverty and Basic Needs, Washington, D.C., September 1980.
- A-14 World Bank, Meeting Basic Needs: An Overview, (Poverty and Basic Needs Series), Washington, D.C., September 1980.
- A-15 World Bank, Water Supply and Waste Disposal, (Poverty and Basic Needs Series), Washington, D.C., September 1980.
- A-16 Agency for International Development, Water Supply and Sanitation for the Decade (1980-1990): A Panel Report, Washington, D.C., July 1979.
- A-17 World Health Organization, World Health Statistics Report, Volume 29, No. 10, Geneva, 1976.
- A-18 Caribbean Basin Water Management Project, Instructor's Manual and Planning Guide for Training of Trainers. A Series of three 20-hour workshops, Joint Venture of Caribbean Governments and the Pan American Health Organization, Bridgetown, Barbados, October 1978.
- A-19 University of Oklahoma, Appropriate Methods of Treating Water and Wastewater in Developing Countries, Norman, Oklahoma, 1978 (Sponsored by the U.S. Agency for International Development).
- A-20 Universidad de Oklahoma, Metodos Apropriados de Tratamiento de Aguas y Aguas de Desecho en los Países en Desarrollo, Norman, Oklahoma, 1978 (Patrocinado por Agencia Internacional de Desarrollo de Los Estados Unidos)
- A-20a Universidad de Oklahoma, Catalogo de Procedimientos en el Tratamiento de Aguas y Aguas Negras, con Materias y Fabricantes, Norman, Oklahoma, 1978. (Patrocinado por Agencia Internacional de Desarrollo de Los Estados Unidos).
- A-20b University of Oklahoma, Manufacturing Resources for Appropriate Technology, Part 1: Aerators -- Mixers, (Selected Manufacturer's Catalogs of Water and Wastewater Treatment Processes and Equipment), Sponsored by the U.S. Agency for International Development, Washington, D.C. (no date).

A-20c University of Oklahoma, Manufacturing Resources for Appropriate Technology, Part, 11: Package Units/Systems -- Valves, (Selected Manufacturer's Catalogs of Water and Wastewater Treatment Processes and Equipment), Sponsored by the U.S. Agency for International Development, Washington, D.C. (no date).

B. SANITATION

- B-1 Secretaria de Salubridad y Asistencia, Letrina Sanitaria, Mexico, 1972.
- B-2 Instituto Ecuatoriano de Obras Sanitarias, Letrina Royo Seco, Ecuador, 1975.
- B-3 Karlin, B., Thailand's Water Seal Latrine Privy Program: A Procedural and Technical Review, USOM/Korat, Thailand (no date).
- B-4 Plastic Water-Seal Latrine Pan, Malaysia (no date)
- B-5 Wagner, E.G., and J.N. Lanoix, Excreta Disposal for Rural Areas and Small Communities, World Health Organization Monograph Series No. 39, Geneva, 1958.
- B-6 Ross Institute, Small Excreta Disposal Systems, Ross Bulletin 8, London, January 1978.
- B-7 Kalbermatten, J.M., D.S. Julius, and C.G. Gunnerson, A Sanitation Field Manual, Volume 11, Appropriate Technology for Water Supply and Sanitation, World Bank, Washington, D.C., December 1980.
- B-8 World Bank, Alternative Sanitation Technologies for Urban Areas in Africa, P.U. Report No. RES 22, Washington, D.C. February, 1979.
- B-9a University of Texas, Ponds as a Wastewater Treatment Alternative: Water Resources Symposium No. 9, eds. E.F. Gloyna, J.F. Malina, Jr., and E.M. Davis, Austin, Texas, 1976.
- B-9b Central Public Health Engineering Institute, Waste Stabilization Ponds: Design, Construction and Operation in India, Nagpur, India, 1970.
- B-11 World Bank, A Planners Guide, Volume 2, Appropriate Technology for Water Supply and Sanitation, Washington, D.C., December 1980.
- B-13 Rybczynski, W., Chongrak Polprasert, and M. McGarry, Low Cost Technology Options for Sanitation: A State-of-the-Art Review and Annotated Bibliography, Inter-

national Development Research Centre, The Hague, and the World Bank, Washington, D.C., 1978.

C. WATER SUPPLY

- C-1 Wagner, E.G., and J.N. Lanoix, Abastecimientos de Agua en las Zonas Rurales y en las Pequeñas Comunidades, Organizacion Mundial de la Salud Serie de Monografias No. 42, Ginebra, 1961.
- C-2 Organizacion Pan Americana de la Salud, Manual de Operacion y Mantenimiento de Instalaciones y Equipos en un Acueducto. Documento No. ES-7, Enero 1970.
- C-3 Centro Regional de Ayuda Tecnica, Agencia Para el Desarrollo Internacional, Manual de los Pozos Pequeños, Mexico and Buenos Aires, 1979.
- C-4 Brush, R.E., Well Construction: Hand Dug and Hand Drilled, ACTION, Peace Corps, Washington, D.C. 1979.
- C-5 Volunteers in Technical Assistance (VITA), Village Technology Handbook, Mt. Rainer, Maryland, 1977.
- C-5a National Water Well Association, Appropriate Well Drilling Technologies: A Manual for Developing Countries, Worthington, Ohio, October 1978 (Prepared for the Agency for International Development).
- C-6 University of North Carolina, "Jetting Small Tubewells by Hand", AID - UNC/IPSED Series Item No. 15., ed. F.E. McJunkin, Chapel Hill, North Carolina, June 1967.
- C-8 Georgia Institute of Technology, The AID Hand-Operated Water Pump: A Classic Example of Technology Transfer, Atlanta, Georgia, March 1981. (Prepared for the U.S. Agency for International Development).
- C-8a Georgia Institute of Technology, Final Report on the Utilization/Evaluation of an AID Hand Operated Water Pump, Atlanta, Georgia, January 1979. (Prepared for the U.S. Agency for International Development).
- C-9 WHO International Reference Center for Community Water Supply, Hand Pumps, Technical Paper No. 10, The Hague, July 1977, (pages 109-130).
- C-10 Watts, S.B., A Manual on the Hydraulic Ram for Pumping Water, Intermediate Technology Publications Ltd., London, August, 1978.

- C-11 Rife Hydraulic Engine Manufacturing Co., RIFE Rams: Manual of Information, Millburn, N.J., 1975.
- C-11a Silver, M., Use of Hydraulic Rams in Nepal, UNICEF, Kathmandu, September 1977.
- C-12 Huisman, L., and W.E. Wood, Slow Sand Filtration, World Health Organization, Geneva, 1974.
- C-13 Organizacion Pan Americana de la Salud, "Filtros Dinamicos", Informacion sobre el Sector "Agua Potable y Alcantarillado" en Zonas Rurales y Urbanas, Margindos, Quito, Julio de 1979.
- C-15 University of North Carolina, "Household Disinfection," AID/UNC/IPSED Item No. 6., ed. F.E. McJunkin, Chapel Hill, North Carolina.
- C-16 Katadyn Projects Ltd., Illustrated Brochures of various types of available water filters, Wallisellen, Switzerland (no date).
- C-17 Water for Sanitation and Health Project, Triocide: Questions and Answers, Arlington, Virginia, November 1980.
- C-18 DAVCO, Water Purification Products, Ann Arbor, Michigan (no date).
- C-19 University of North Carolina, "Simple Chlorination Devices". AID/IPSED Series, Items 4, 5, 7, 9, 10 and 16, ed. F.E. McJunkin, Chapel Hill, North Carolina.
- C-20 Package Iron Removal Plant, Ghana (Schematic sketch),
- C-21 Sternberg, Y.M. and R. Knight, Final Report on the Development and Testing of the Robovalve: An Appropriate Technology Device, University of Maryland, College Park, Maryland, June 1978 (Prepared for the Agency for International Development).
- C-22 Borjerron, E.K.G., and M. Bobeda, "New Concept in Water Service for Developing Countries." Journal of the American Water Works Association, July 1964.
- C-22a WHO International Reference Centre for Community Water Supply, Public Standpost Water Supplies, Technical Paper. No. 13., The Hague, November 1979.
- C-23 The Hydraulic Design of Fordilla Pods, Wabash, Indiana, June, 1975.
- C-24 Organizacion Panamericana de la Salud, Metodos Simplificados de Laboratorio para el Examen Fisico y Quimico de Aguas, 1966.

- C-25 McJunkin, F.E., and P.A. Vesilind, "Practical Hydraulics for the Public Works Engineer", Reprint from Public Works Magazine, October/November 1968.
- C-26 McJunkin, F.E., and C.S. Pineo, The Role of Plastic Pipe in Community Water Supply in Developing Countries, University of North Carolina, Chapel Hill, 1969. (Prepared for the Agency for International Development).
- C-27 University of North Carolina, "Water Supply Using Bamboo Pipe", AID-UNC/IPSED Series Item No. 3, ed. F.E. McJunkin, Chapel Hill, North Carolina, October 1966.
- C-28 Olivero, H., Un Esquema de Informacion Basica Integrada para la Preparacion y Evaluacion de Proyectos de Agua Potable, Instituto de Fomento Municipal, Division de Planificacion, Guatemala, Junio de 1981.
- C-29 World Health Organization, Techniques for the Collection and Reporting of Data on Community Water Supply, Technical Report Series, No. 490, Geneva, 1972.
- C-29 Sternberg, Y.M., and R. Knight, Final Document on the Development of the Robometer: An Appropriate Technology Device, University of Maryland, College Park, Maryland, January 1979 (Prepared for the U.S. Agency for International Development).
- J-30 Dunham, D.C., Fresh Water from the Sun--Family-sized Solar Still Technology: A Review and Analysis, U.S. Agency for International Development, Washington, D.C., August 1978.
- C-31 Sternberg, Y.M., and R. Knight, Final Report on Development of the Broached Roboscreen, University of Maryland, College Park, Maryland, August 1980 (Prepared for the U.S. Agency for International Development).
- C-33 Saunders, R.J., and J.J. Warford, Village Water Supply: Economics and Policy in the Developing World, World Bank, Washington, D.C. 1976.
- C-34 American Association for Vocational Instructional Materials, Planning for an Individual Water System, Athens, Georgia, May 1973, (Prepared for the U.S. Department of Agriculture and the Environmental Protection Agency).
- C-35 International Institute for Environment and Development, Clean Water for All: A Seminar at HABITAT United Nations Conference on Human Settlements, London/Washington, D.C., March 1977.

- C-36 Stein, J., Water: Life or Death, International Institute for Environment and Development, London/Washington, D.C., March, 1977.
- C-37 WHO International Reference Center for Community Water Supply, Community Education and Participation in the Slow Sand Filtration Project. Report of an International Meeting held in Yoorburg (The Hague), The Netherlands, 29 May-2 June 1978, Bulletin No. 14, The Hague, July 1979.

KAF T

WATER AND SANITATION FOR HEALTH PROJECT

ORDER OF TECHNICAL DIRECTION NUMBER 17

December 23, 1980

TO: WASH Contract Project Director
Mr. James Arbuthnot, P.E.

FROM: AID WASH Project Managers
Mr. Manoj K. Batavia, P.E.
Mr. Victor W. R. Wehman, Jr., P.E., R.S.

AIDAC:

SUBJECT: Provision of Technical Assistance Under Wash Project Scope of
Work for USAID/San Salvador

REFERENCES: A) State 278993
B) San Salvador 08600
C) Rural Water Supply and Sanitation Project Paper #519-0209

1. WASH Contractor requested to provide technical assistance to USAID/San Salvador as per ref (b) scope of work (augmented).
2. WASH Contractor/sub contractor/consultants authorized to expend up to twenty (20) person days effort over the period 1-30 January 1981 to accomplish this technical assistance effort.
3. Recommend that contractor provide two (2) persons to mission for consultancy instead of the one requested. One person to be an internationally experienced rural water supply and sanitation sanitary engineer and one person to be an internationally experienced, operationally experienced, low cost, appropriate technology (local manufacturing and marketing) specialist (suggest Mr. Phil Potts at Georgia Tech (404-894-3851)).
4. Contractor personnel to coordinate extensively with DS/HEA (Wehman and Batavia) on choosing topics for discussion with mission and prepare extensively before arriving San Salvador.
5. Contractor personnel to arrive San Salvador on 11 Jan and leave 17 Jan.
6. Contractor to provide draft discussion/recommendations document to mission before leaving mission. Final report due mission and DS/HEA within 30 days of leaving mission.
7. Contractor to coordinate directly with USAID/San Salvador, probably with health, engineering and program officers. Insure health officer and engineering officer in LAC/DR are informed on activity (Ms. Brinneman and Mr. Jay Anderson at 632-9486 and Mr. Mathews at 632-9488). Insure El Salvador AID desk officer (Marilyn Arnold - 632-5221) informed. Contractor must contact mission, provide itinerary and receive mission clearance before any contractor personnel enter San Salvador. Country clearance can be obtained by phone or cable but specific ETA is required.

5. Contractor personnel to arrive San Salvador on 11 Jan and leave 17 Jan..
6. Contractor to provide draft discussion/recommendations document to mission before leaving mission. Final report due mission and DS/HEA within 30 days of leaving mission.
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8. Contractor is authorized and should be prepared to hire local translator if necessary and to provide for car rental if necessary.
9. Recommend team members brief with DS/HEA Wehman in Washington before going and debrief in Washington with LAC/DR and LAC desk personnel at WASH upon return.
10. Mission should be contacted immediately and technical assistance initiated as per their needs and timing desires
11. Appreciate your prompt attention to this matter. Good luck.

ACTION
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INCOMING
TELEGRAM

PAGE 01
ACTION AID-35

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ACTION OFFICE DSHF-01
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DS/MIA FOR WASH INFORMATION CENTER

E. O. 12065: NA

SUBJ: TA POTABLE WATER SUPPLY AND SANITATION PROJECT NO 519-0209

REF STATE 278993

1. MISSION REQUESTS ONE PERSON WEEK INITIAL CONSULTATION ON LOCAL RURAL POTABLE WATER PROJECT NO. 519-0209 THROUGH WATER AND SANITATION FOR HEALTH PROJECT JANUARY 12 THROUGH 16.
 2. COMPONENT NUMBER FOUR OF THIS PROJECT CALLS FOR THE SELECTION, DESIGN, AND IMPLEMENTATION OF NEW APPROPRIATE TECHNOLOGIES IN 5 TO 10 LOCALITIES SUCH AS: SOLAR, WIND, OR HYDRAULIC ENERGIZED PUMPS; STORAGE TANKS; SIMPLIFIED POTABILITY UNITS; HOMEMADE FILTERS; UTILIZATION OF RAIN WATER THROUGH DAMS OR CISTERNS, AND DISINFECTING SYSTEMS. THE TECHNOLOGIES SHOULD BE: EASILY OPERATED AND MAINTAINED, LOW COST, DURABLE, AND APPROPRIATE TO THE LOCALITY. ACTIVITIES UNDER THIS COMPONENT ARE: 1) FIELD INVESTIGATIONS TO SELECT SITES; 2) REVIEW AND SELECTION OF APPROPRIATE TECHNOLOGIES; 3) DEVELOPMENT OF MANUAL DESCRIBING INSTALLATION, OPERATION, AND MAINTENANCE OF THE TECHNOLOGIES, AND 4) TRAINING IN SAME.
 3. DURING INITIAL WEEK CONSULTATION IN JANUARY, MISSION REQUESTS SERVICES OF SPANISH-SPEAKING EXPERT KNOWLEDGEABLE ABOUT NEW APPROPRIATE TECHNOLOGIES IN USE ON WORLDWIDE BASIS TO CONSULT WITH LOCAL PROJECT STAFF AND ASSCGA IN THE PREPARATION OF PLANS FOR IMPLEMENTING THIS COMPONENT AND SCOPE OF WORK FOR FOLLOW-ON TA.
- WHITE

BATAVIA
WEITMAN

Let: Jainan
Rm
12/12/80

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