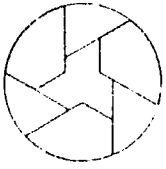


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AMERICAN PUBLIC HEALTH ASSOCIATION

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Capability of the
American Public Health Association
to provide services in
Water Supply and Sanitation
under IQC PDC-1406-I-00-1128-00

Submitted to: Office of Health
Agency for International Development
Washington, D.C. 20523

Submitted by: Susi Kessler, M.D.
Director
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OVERVIEW

The American Public Health Association (APHA) has been awarded an AID Indefinite Quantity Contract by the Office of Health for services in the fields of rural water supply/sanitation and tropical diseases. The agreement, which is in effect during September 28, 1981 - September 28, 1983, provides a mechanism for USAID field missions to request short-term advisory services for planning, design, and evaluation of programs in these areas.

This document outlines the capabilities, work record, and resources of APHA for responding to field requests in water supply and sanitation.

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Project No. 936-14-6
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SCOPE OF WORK

Under this contract USAID missions can call on APHA to provide services in three broad areas:

1. Country, sectoral, and broad program analyses, including the assessment of environmental, ecological, economic, social and other relevant factors.
2. Studies related to the identification, preparation, design, and evaluation of specific programs and projects.
3. Services related to the development of design and evaluation methodologies, the development of suitable Agency and participating agency procedures, and the teaching of these concepts and procedures.

Specific water supply and sanitation problems to be addressed include:

- rural domestic water supply
- rural human waste disposal
- environmental sanitation, e.g., solid waste collection and disposal, water pollution

USAID missions can call on APHA to help address these problems in several ways:

1. Definition of sectoral and inter-sectoral factors affecting disease patterns.
2. Identification and definition of health problems associated with water supply and sanitation problems.
3. Identification of constraints to controlling diseases associated with poor sanitation.
4. Identification and assessment of alternative strategies and interventions with particular emphasis on use of appropriate low-cost technologies in providing safe water supply and environmental sanitation services.
5. Planning, design, and development of manpower training programs including identification of trained manpower needs, development of curricula and course material, planning of long term training, and conduct of short-term, in-country training.

6. Development of research activities, including development of guidelines for research directions, and review and development of research projects.
7. Planning and design of rural water supply projects, either in conjunction with integrated health programs or separately.

APHA Capabilities

The American Public Health Association, a 110-year-old, non-governmental association, has been working with AID for more than a decade in its efforts to improve health status and health services in developing countries.

A significant number of technical assistance services have been provided in water supply and sanitation under a series of task orders and under contracts for rural health delivery services and environmental and epidemiological assessments (Table 1).

APHA has been awarded this IQC by virtue of its expertise in this area, the range of specialists on tap through its staff and pool of consultants, and its proven record as an efficient technical advisory services manager.

1. Record in Water Supply and Sanitation

Table 1 provides a comprehensive account of the breadth of work APHA has carried out in this area. Following are a few more detailed illustrations of these activities.

- APHA helps governments design appropriate national strategies.

In response to a government of Sri Lanka request, APHA fielded a team of nine specialists for two months to assess the local water supply and sanitation situation and to develop a plan for rational implementation of the International Drinking Water Supply and Sanitation Decade. A detailed report outlined the national goals and objectives for the decade, the objectives of investigations carried out, current water supply and sanitation needs, policies and strategies for the decade plan, and a recommended plan that detailed organization of the sector, community participation, sector performance, inputs, and funding. The government is now implementing this plan in an effort to help provide all the people of Sri Lanka with the basic necessities for a healthy and productive life.

- APHA helps AID determine appropriate assistance strategies.

As a first step in devising a sound rural water supply and sanitation aid program, an APHA team undertook a five-week environmental assessment in Thailand. The work entailed:

- reviewing existing conditions in water supply and sanitation in poorer villages;
- assessing the basic levels of social and economic development affected by improvements in water supply and sanitation;
- developing a rural water supply and sanitation strategy by identifying positive changes effected in the past and by making recommendations for future programs;

-- identifying targets for projects that can be considered for funding in the International Drinking Water Supply and Sanitation Decade.

- APHA helps assess the environmental impact of programs.

In Mali APHA assessed the environmental impact of an irrigation-centered rural development effort and an integrated agricultural rural development plan. We determined the level of water for human consumption the projects would have to allow in order to reduce public health risks, and we indicated how health-related water engineering activities could be included to reduce environmental health risks. We also recommended some supplementary activities for developing community and individual water supplies.

- APHA helps develop manpower for water supply and sanitation activities.

In 1980 an APHA consultant advised on a program in Senegal for training sanitation workers who would then train and supervise village sanitation auxiliaries in a program emphasizing clean water supplies, excreta disposal, personal hygiene, and health education. Recommendations focused on improving supervision of the senior sanitation workers, ensuring smaller teacher/student ratio in their training, and strengthening the curriculum to relate more directly to work the trainees would actually be carrying out in the field.

- APHA conducts epidemiological/environmental health assessments of endemic diseases.

During 1976-78 APHA conducted epidemiological/environmental health assessments in the Niger River Basin and the Lake Chad Basin. These centered on the five endemic diseases -- schistosomiasis, filariasis, onchocerciasis, trypanosomiasis, and malaria -- that have thwarted or retarded previous development programs in these areas. The findings helped determine appropriate intervention strategies for combatting these public health problems.

- APHA helps develop and test appropriate water supply and sanitation technologies.

Recognizing the need in developing countries for a long-lasting, easily repairable, locally manufactured hand-operated water pump, AID

contracted with Batelle Memorial Institute to design and test a reciprocating shallow- and deep-well pump. In 1978 two APHA consultants went to Indonesia to explain the pump to officials and to determine if it was feasible to produce and market the pump in that country. The team found that the need for such a pump was acute and that the device could be manufactured at an acceptable quality and price.

- APHA helps design systems to control water-related diseases.

In Senegal, for the Bakel Irrigated Perimeter Project, a team of five devised a practical system for incorporating a health promotion and maintenance component into the agricultural development program. The new system would protect the villages in the area from an increase in the incidence of water-related diseases, while taking into consideration local cultural and anthropological factors.

- APHA helps evaluate projects.

In 1979 a team of two consultants helped USAID/Jakarta design a study to evaluate the health impact of the Surakarta Water Project, and recommended ways in which the project could be improved. The project supplies water to eleven percent of the city's half million people. Surveillance data were reviewed and questionnaires designed to elicit information on the prevalence of water-related diseases, water handling practices in the city, and people's knowledge and attitudes on water supply and sanitation.

- APHA publishes and disseminates information on water supply and sanitation.

As part of a series on issues in primary health care, in 1981 APHA published a monograph entitled "Environmental Sanitation and Integrated Health Delivery Programs." A practical reference and guide to technical resources on environmental health, the volume examines all aspects of environmental health programming and the importance of action through local, community-supported programs. The book is based on the extensive experience of Charles Pineo and colleagues.

Since 1977 APHA has published "Salubritas," a quarterly newsletter that serves as an information exchange for health workers in developing countries. Published in English, Spanish, and French editions, "Salubritas" now reaches some 18,000 health workers. Throughout its life it has featured articles on water supply and sanitation; topics have included hand pumps, overcoming barriers to sanitation, research questions and findings, and sanitation of public facilities.

- APHA works with AID in arranging continuing education for field staff.

In late 1981 APHA organized two continuing education workshops, one in Lome, Togo, and one in Chiang Mai, Thailand. Participants were AID field staff working in the region and their national counterparts in the ministries of health. Half-day and day-long courses in specific program components strengthened the ability of officers to plan and carry out activities in areas in which they perhaps had not received advanced technical training. The curriculum emphasized oral rehydration therapy, water supply and sanitation, and program financing and evaluation.

- APHA develops workshops for host country personnel.

In an effort to prepare school teachers to introduce into their classes modern methods and materials in population and environmental education, the government of Egypt, with planning assistance from APHA, instituted a program of summer workshops in these areas. The workshop is the culminating activity for participants who have taken part in a year-long correspondence course providing theoretical background in the economics and environmental impact of population growth. APHA consultants advised on the project throughout and served as resource persons in the workshops.

- APHA reviews technical manuals.

APHA staff and consultants reviewed and edited chapters on water supply/sanitation and on environmental health for the AID publication "Environmental Design Considerations for Rural Development Projects." The purpose of the manual is to help AID field officers, development consultants, and host country planners identify potential societal benefits and undesirable environmental effects that may accompany small rural projects. The rural water supply and sanitation chapter focused on general characteristics of projects, size and scale factors, location sensitive factors, and natural and human environmental considerations.

TABLE 1

Inventory of APHA Record
in
Rural Water Supply and Sanitation

<u>Country</u>	<u>Type of Assistance</u>	<u>Staff/Consultant</u>	<u>Contract</u>	<u>Year</u>
Egypt	Served as teachers and resource persons in Ministry of Education Summer Workshop on Population and Environmental Education.	Murphy, Cancellier	ADSS DSPE-C-0053	1981
Togo	Convened a workshop for Africa-based AID Health, Nutrition, and Population officers, Lome, November 15-20. Topics included: role and management of community participation, water and sanitation programs, logistical support for primary health care.	Kessler, Brasfield	ADSS DSPE-C-0053	1981
Jordan	Reviewed proposed strategies to provide adequate water supplies, sanitation, and medical coverage in Jordan.	Grosse	ADSS DSPE-C-0053	1980
Ecuador	Developed project implementation document in rural water supply and sanitation.	Pineo, Barckas	ADSS DSPE-C-0053	1980
Worldwide	Published a monograph entitled "Environmental Sanitation and Integrated Health Delivery Programs."	Dalmat, Pineo, Schnare, Miller	DEIDS AID-ta-C-1320	1980
Indonesia	Assessed health and socioeconomic impact of the Sura Karta Water Supply Project.	Goff	ADSS DSPE-C-0053	1980
All regions	Revised draft manual "Environmental Design Considerations for Rural Development Projects."	Kawata, Dalmat	ADSS DSPE-C-0053	1980
Sri Lanka	Helped develop the Sri Lanka Draft Plan for the International Drinking Water Supply and Sanitation Decade, 1981-1990.	Pineo, Warner, Austin, Barokas, Elmendorf, Potts, Lindstrom, Lehr, Ramsey	ADSS DSPE-C-0053	1980

<u>Country</u>	<u>Type of Assistance</u>	<u>Staff/Consultant</u>	<u>Contract</u>	<u>Year</u>
Egypt	Reviewed the objectives, general plan and agenda for a population/environmental education workshop.	Lane, Wileman, Price	ADSS DSPE-C-0053	1980
Senegal	Reviewed the role and responsibilities of village health sanitation workers of the KhorDole School in Dakar, Senegal.	Reid	ADSS DSPE-C-0053	1980
Egypt	Developed health education programmed materials in areas of nutrition, sanitation, and FP/MCH for indigenous personnel and trained core group.	Ausherman	ADSS DSPE-C-0053	1980
Sri Lanka	Developed scope of work for assistance in preparation of comprehensive plan for the International Drinking Water Supply and Sanitation Decade.	Thomson	ADSS DSPE-C-0053	1980
Egypt	Reviewed plans for the Third Population and Environmental Educational Workshop.	Lane	ADSS DSPE-C-0053	1980
Philippines	Evaluated the Barangay Water Program.	Buckles	DEIDS AID-ta-C-1320	1979
Thailand	Surveyed the health effects and status of past AID investments in village water projects in rural Thailand.	Barokas	ADSS DSPE-C-0053	1979
Jamaica	Assisted in developing a health education component for the country's environmental health campaign -- also included was as assessment of long and short term training needs.	Calhoun	DEIDS Asn #53(a)	1979
Thailand	Developed strategy and guidelines for improvements in sanitation and water supply in selected areas of Thailand.	Pineo, Barokas	ADSS DSPE-C-0053	1979

<u>Country</u>	<u>Type of Assistance</u>	<u>Staff/Consultant</u>	<u>Contract</u>	<u>Year</u>
Indonesia	Conducted a rural sanitation manpower development evaluation.	Lisak	DEIDS AID-ta-C-1320	1979
Indonesia	Surveyed requirements for village hand pumps, determined suitability of AID pump, and assessed feasibility of local manufacture of pump in quantity required for rural sanitation project.	Potts, Moh	DEIDS AID-ta-C-1320	1978
Egypt	Participated in a workshop for teachers on population and environmental education	Lane	CATAS 1100 Assignment No.100	1978
England	Participated in the Symposium on Engineering, Science, and Medicine in the Prevention of Tropical Water-Related Disease.	Karlin, Dalmat, Eason	DEIDS AID-ta-C-1320	1978
Benin/Togo	Assisted in drafting the health education component of a rural water supply and sanitation project paper.	Fry	DEIDS AID-ta-C-1320	1978
Chad	Conducted an epidemiological and environmental assessment of the Bol polders development area.	Spielman, Berggren Michelson	AID-ta/BOA-1070 Task Order #23	1978
SAHEL Central & West Africa	Ten assessment teams and three developmental teams conducted assessments in Chad, Liberia, Niger, Senegal, Sudan, Swaziland, Upper Volta, and Zaire for an epidemiological and environmental assessment project.	Eason, Gibson, Calhoun, Lennox	AID/Afr-C-1253	1976- 1978
Chad	Conducted an environmental health assessment of the northern zone (Bol) of Lake Chad Basin.	Malan, Haratani, Schneider, Spielman	AID/Afr-C-1253	1977
Liberia & Swaziland	Prepared a summary report of findings of epidemiological environmental health assessments and health sector assessments in the Lake Chad, Niger River and Volta River Basin of Africa and environmental assessments in Liberia and Swaziland.	Eason, Gibson, Calhoun, Lennox	AID/Afr-C-1253	1977

<u>Country</u>	<u>Type of Assistance</u>	<u>Staff/Consultant</u>	<u>Contract</u>	<u>Year</u>
Liberia	Conducted an environmental health assessment of Lofa and Bong counties.	Gibson, Griesby, Vander Schalie, Reiz-Tiben	AID/afr-C-1253 (Sahel)	1977
Swaziland	Conducted an environmental assessment for development of a clean rural water supply program.	Bruce, Unrau, Swanson	AID/afr-C-1253	1977
Senegal	Conducted an environmental assessment and helped design the health component of the Babel Irrigated Perimeter Project.		AID/afr-C-1253	1977
Senegal	Conducted an environmental assessment for the Lampsar/Diagambal Irrigated Perimeter Project in the Delta area.	Johnson	AID/afr-C-1253	1977
OT Chad	Conducted an environmental assessment of the Southern Zone.	Schneider, Carroll, Gelfand, Grenier, Northrop	AID/afr-C-1253	1977
Guatemala	Evaluated the Food Waste/Sanitation Cost-Benefit Methodology Project.	Rosenberg, Boostrom	AID/ta-BOA-1070 Task Order # 10	1976
Tunisia	Assessed rural environmental sanitation.	McJunkin	DEIDS AID/csd-3423 Ass. # 45	1976
Guatemala	Evaluated the Food Waste/Sanitation Cost-Benefit Methodology Project.	Rosenberg, Conzolazio, Reinke	AID/ta-BOA-1070 Task Order # 14	1976
Bolivia	Evaluated sanitation loan.	Plessas	DEIDS AID/csd-3423 Ass. # 47	1976
Indonesia	Helped develop a rural sanitation training project from a feasibility study.	Clapp	AID/ta-BOA-1070 Task Order # 2	1975
Indonesia	Helped plan a rural sanitation project with emphasis on manpower development and utilization.	Holloway, Clapp, Clark	AID/ta-BOA-1070 Task Order # 1	1974

2. Staffing and Management

During its more than a decade of technical assistance to AID, APHA has developed a formidable capability to recruit and manage consultant specialists.

● Registry

A computerized registry contains biodata on 2,600 public health specialists with experience in developing countries. A significant number of them possess skills in water supply and sanitation. We have examined the records of those specialists and selected for possible work under this IQC individuals with particularly appropriate combinations of skills and proven work histories with APHA. The names and specialty areas of 38 such consultants are listed in Table 2. Virtually all of the skill areas called for in the Request for Proposal for this activity are represented. Many hundreds of additional professionals with similar qualifications are also included in this system, ensuring a fully reliable back-up capability, should this become necessary.

● Institutional Linkages

In addition to the consultant registry, APHA has established linkages and working arrangements with other institutions and firms for supplementary services in some skill areas. These include arrangements with the Engineering Experiment Station of the Georgia Institute of Technology (Atlanta), and the firms of C.C. Johnson & Associates (Silver Spring, Md.), to provide specialized skills in water pump technology and rural and village water supply and waste disposal system evaluation, design, and implementation.

Other institutional linkages can serve as additional sources of specialized manpower:

- Schools of public health and universities: Johns Hopkins, Harvard, Michigan, Tulane, Pittsburgh, University of the West Indies
- Centers for Disease Control
- Armed Forces Institute of Pathology
- Naval Research Institute
- World Health Organization

● Staff

Overall project guidance and responsibility for satisfaction of AID client needs reside with Susi Kessler, M.D., Director of APHA International Health Programs. Dr. Kessler has directed APHA work for AID under several major contracts since coming to APHA in 1977.

Staff members Herbert T. Dalmat, Ph.D., and John C. Eason, M.S., both highly experienced in water supply and sanitation, can serve as project managers in day-to-day coordination and management of all aspects of contract activities.

A specialist in environmental health and tropical medicine, Dr. Dalmat is fluent in Spanish and has a working knowledge of Portuguese and French. To his specialized water supply and sanitation skills he brings the broad perspective of years of experience in integrated low-cost health delivery systems.

John Eason is a sanitarian with eight years' experience managing APHA technical assistance services for AID. Most of these services have been in the areas of water supply/sanitation and tropical medicine. Mr. Eason came to APHA from the U.S. Public Health Service with some thirty years of experience with foreign assistance programs.

● Management of Services

APHA management procedures are designed to facilitate high quality, quick response services of the nature envisioned under this IQC.

Several staff -- the project director, the project manager, the logistics travel coordinator, and the resource center manager -- combine efforts to manage assignments smoothly and thoroughly. This includes:

- identifying the most suitable candidates;
- assembling an appropriate team;
- making logistical arrangements for rapid deployment to the field;
- defining and refining the scope of work;
- arranging for pre-departure briefings and background materials for the consultants;
- determining the time and resources required for an assignment;
- following up on post-assignment needs.

A recent evaluation of APHA technical advisory services indicates a high level of satisfaction with the consultants' understanding of the scope of work and with the execution and management of the assignment. The same level of professionalism will be brought to bear on services undertaken under this IQC.

	Socio-Cultural Anthropology	Water Chemistry/Microbiology (lab. methods)	Pump Mechanics/design/fabrication	Foundry/Machine Shop Practices for Loc	Manuf. of Water System Apparutances	Hand pump installation/operation maintenance	Well drilling technology (simple)	Application of WS and S Appropriate Technology	Solid Waste Management	Carpentry/Masonry	Management & Administration	Logistics	Public Health/Environmental Health Education & Training	Manpower Development	Research Design & Sampling (water supply & excreta disposal systems)	Evaluation Design/performance	Health Economics	Sanitary & Public Health Engineering	Vector Control & Assessment	Tropical Sanitation	Public Health/Tropical Diseases	Hydro-geology	Hydraulics	Ecology	Rural Human & Animal Waste Disposal
Andreano, R.L. Ph.D.														X			X								
Andreoli, A. M.C.E.		X							X		X		X	X	X	X						X		X	X
Barnum, H.N. Ph.D.	X															X	X								
Bertrand, W.E. Ph.D.	X															X	X								
Brandt, J.H. M.A.	X						X	X	X		X		X	X	X	X		X							
Calbert, C.E. Ph.D., M.P.H.		X	X		X			X	X		X		X	X	X	X		X	X					X	X
Carroll, F.P. M.S.		X	X					X										X	X	X					
Chelikowsky, B.R. M.P.H.	X										X		X												

Table 2 -- Principal APHA Consultants in Water Supply and Sanitation by Specialty Area

	Socio-Cultural Anthropology	Water Chemistry/Microbiology (lab. methods)	Pump Mechanics/design/fabrication	Foundry/Machine Shop Practices for Lo	Manuf. of Water System Apparatenances	Hand pump installation/operation maintenance	Well drilling technology (simple)	Application of WS and S Appropriate Technology	Solid Waste Management	Carpentry/Masonry	Management & Administration	Logistics	Public Health/Environmental Health Education & Training	Manpower Development	Research Design & Sampling (water supply & excreta disposal systems)	Evaluation Design/Performance	Health Economics	Sanitary & Public Health Engineering	Vector Control & Assessment	Tropical Sanitation	Public Health/Tropical Diseases	Hydro-geology	Hydraulics	Ecology	Rural Human & Animal Waste Disposal
Clapp, R.F. M.P.H.							X		X		X		X	X	X	X		X	X	X					X
Correa, H. Ph.D.								X						X		X									
Craft, T.F. Ph.D.		X	X		X	X																			
Dahl, A.H. M.S.								X				X	X		X			X	X	X		X	X		X
Davis, E.M. Ph.D.		X													X	X		X							
Doan, D.B. M.S.					X					X				X								X			
Gibson, U.P. Ph.D.		X	X		X	X				X	X				X			X	X	X	X	X	X		X
Goff, D.R. M.S.		X									X			X	X			X	X	X			X		X

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	Socio-Cultural Anthropology	Water Chemistry/Microbiology (lab. methods)	Pump Mechanics/design/fabrication	Foundry/Machine Shop Practices for Lo Manuf. of Water System Apparutances	Hand pump installation/operation maintenance	Well drilling technology (simple)	Application of WS and S Appropriate Technology	Solid Waste Management	Carpentry/Masonry	Management & Administration	Logistics	Public Health/Environmental Health Education & Training	Manpower Development	Research Design & Sampling (water supply & excreta disposal systems)	Evaluation Design/Performance	Health Economics	Sanitary & Public Health Engineering	Vector Control & Assessment	Tropical Sanitation	Public Health/Tropical Diseases	Hydro-geology	Hydraulics	Ecology	Rural Human & Animal Waste Disposal
Greenley, J.W. M.P.H.						X	X	X		X	X							X			X	X	X	X
Hale, J.S. B.S.			X	X	X	X				X	X													X
Jamback, H. Ph.D.										X				X				X	X	X			X	
Journey, W.K. B.S.				X	X	X	X			X	X													X
Karp, A.W. M.S.			X							X	X			X	X									
Kawata, K. Dr.P.H., M.P.H.		X				X	X			X		X					X	X	X	X		X		X
Kloos, H. Ph.D.															X			X	X	X			X	
Moh, K.C. B.S.M.E.			X	X	X	X	X			X	X				X							X		

	Socio-Cultural Anthropology	Water Chemistry/Microbiology (lab. methods)	Pump Mechanics/design/fabrication	Foundry/Machine Shop Practices for Lo Manuf. of Water System Apparatenances	Hand pump installation/operation maintenance	Well drilling technology (simple)	Application of WS and S Appropriate Technology	Solid Waste Management	Carpentry/Masonry	Management & Administration	Logistics	Public Health/Environmental Health Education & Training	Manpower Development	Research Design & Sampling (water supply & excreta disposal systems)	Evaluation Design/Performance	Health Economics	Sanitary & Public Health Engineering	Vector Control & Assessment	Tropical Sanitation	Public Health/Tropical Diseases	Hydro-geology	Hydraulics	Ecology	Rural Human & Animal Waste Disposal
Mood, E.W. M.P.H.		X	X	X	X		X		X		X		X	X			X				X			
Murray, G.F. Ph.D.	X						X							X	X									
Nebiker, J.H. D.Sc.					X	X	X			X				X			X	X		X		X		X
Owens, P.N. D.Eng.						X		X		X		X					X	X	X					X
Palange, R.C. M.S.						X	X	X		X		X	X		X		X			X	X	X		
Pineo, C.S. B.S.			X		X	X	X		X		X			X				X	X		X			X
Pollard, C.O. Ph.D.										X											X			
Potts, P.W. M.B.A.			X	X	X	X	X						X	X								X		

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