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ISN 14083

**WATER SUPPLY AND SANITATION  
AND DIARRHEAL DISEASE  
CONTROL IN THE COMPREHENSIVE  
HEALTH IMPROVEMENT PROJECT --  
PROVINCE SPECIFIC (CHIPPS)  
IN INDONESIA**

**WATER AND SANITATION  
FOR HEALTH PROJECT**



**COORDINATION AND  
INFORMATION CENTER**

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for the U.S. Agency  
for International Development

931-1176  
AID/DSPE - C-0080

**WASH FIELD REPORT NO. 42**

**APRIL 1982**

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tional Development in  
Health, Boston University;  
International Science and  
Technology Institute; Re-  
search Triangle Institute;  
University of North Carolina  
at Chapel Hill.

Prepared For:  
USAID Mission to the Republic of Indonesia  
Order of Technical Direction No. 79

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April 15, 1982

T-79

Mr. William Fuller  
Mission Director  
USAID  
Jakarta, Indonesia

Attn: Mr. Nicholas Studzinski

Dear Mr. Fuller:

On behalf of the WASH Project I am pleased to provide you with twenty (20) copies of a report on "Water Supply and Sanitation and Diarrheal Disease Control in the Comprehensive Health Improvement Project - Province Specific (CHIPPS) in Indonesia". This is the final report by James Thomson and is based on his trip to Indonesia from January 31, 1982 to February 19, 1982.

This assistance is the result of a request by the Mission in January, 1982. The work was undertaken by the WASH Project on January 25, 1982 by means of Order of Technical Direction No. 79, authorized by the USAID Office of Health in Washington.

If you have any questions or comments regarding the findings or recommendations contained in this report we will be happy to discuss them.

Sincerely,

Dennis B. Warner, Ph.D., P.E.  
Director  
WASH Project

DBW:cdej

cc: Mr. Victor W.R. Wehman, Jr.  
S&T/HEA

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REPUBLIC OF INDONESIA

WATER SUPPLY AND SANITATION AND DIARRHEAL DISEASE CONTROL  
IN THE COMPREHENSIVE HEALTH IMPROVEMENT PROJECT --  
PROVINCE SPECIFIC (CHIPPS) IN INDONESIA

Prepared for the USAID Mission to the  
Republic of Indonesia under Order of Technical Direction No. 79

Prepared by:

JAMES F. THOMSON

April 1982

Water and Sanitation for Health Project  
Contract No. AID/DSPE-C-0080, Project No. 931-1176  
Is sponsored by the Office of Health, Bureau for Science and Technology  
U.S. Agency for International Development  
Washington, DC 20523

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## EXECUTIVE SUMMARY

The report is based on discussions and observations which took place in Indonesia, February 1-19, 1982. It summarizes the intent of the Comprehensive Health Improvement Project--Province Specific (CHIPPS) to assist in the improvement of health services and focusses particularly on the diarrheal disease control component in Aceh province. Available information on diarrheal disease in Aceh is reviewed and the conclusion is reached that there is a significant problem which improved water supply and excreta disposal can help to reduce.

Furthermore, a review of current diarrheal disease control activities in the Pidie District indicates that the present rate of progress in improving sanitation is too slow to have great impact in the near future. Utilization of improvements is less than total and the program is not as effective as it should be.

There is a need for greater community participation for improving the program, and it is suggested that communication skills be developed to promote participation. A sociocultural survey, designed to provide better understanding of people's perceptions of water supply and excreta disposal, is suggested as an early step in developing community participation.

Suggestions are made for the extension of oral rehydration therapy and information and for expansion of environmental sanitation activities based on greater community participation.

The report also suggests a greater emphasis on the excreta disposal program to reduce fecal contamination of the environment.

An investigation of the use patterns of recently installed handpumps is proposed and the improvement of domestic dug wells is suggested as a possible alternative to expanded handpump installation.

A sequence of steps is presented for the development of extended delivery of oral rehydration therapy information and materials and for more effective excreta disposal and water supply improvements.

In summary, recommendations are made on:

1. A use survey of handpumps;
2. An observation opportunity for key staff;
3. A sociocultural survey of community perceptions of environmental sanitation and response to improvements;
4. The development of additional communication skills for staff; and
5. Preparation of detailed implementation plans.

## ACKNOWLEDGEMENTS

Throughout the field work there was regular contact with Mission, national and provincial staff, all of whom contributed to a better understanding of both problems and prospects. Special thanks go to Molly Mayo Gingerich, of the USAID staff, who so very capably organized and coordinated the field work, and to Dr. Burharnuodin and Mr. Abdurahman of the Aceh health staff and Mr. Roedjito of the Ministry of Health who accompanied us in the field.

There were many others, too numerous to list, who provided useful information, insights, assistance and kindness. To all of them go our gratitude.



DAERAH ISTIMEWA ACEH



## Chapter 1

### INTRODUCTION

In late December, 1981, the USAID Mission in Jakarta requested technical assistance from WASH to develop a water supply and sanitation component for diarrheal disease control as a sub-project of the Comprehensive Health Improvement Project--Province Specific (CHIPPS) in Aceh. The report resulted in the issuing of Order of Technical Direction No. 79 (Appendix A) under which James Thomson, a consulting engineer for the Water and Sanitation for Health (WASH) Project, visited Indonesia from February 1 to 19, 1982. The technical assistance was provided in conjunction with a diarrheal disease specialist, Dr. N. Cary Engleberg, from the U.S. Public Health Service, Centers for Disease Control(CDC).

The scope of work included:

1. Working with D.I. Aceh Division of Environmental Sanitation, Communicable Disease Control and other provincial officials to begin planning the diarrheal disease control sub-project which includes water supply and sanitation activities.

2. Assessing the known epidemiologic information on epidemic and endemic diarrheal diseases and the state of domestic water supply and sanitation facilities in Kabupaten Pidie and identifying control interventions which might be considered in the sub-project.

3. Reviewing the existing training and supervision activities in the field of water supply and sanitation and recommending appropriate maintenance and supervision manpower development activities which might be undertaken as a part of the sub-project or as a separate sub-project.

4. Reviewing community participation activities with the D.I. Aceh Division of Environmental Sanitation, Health Services and provincial PVO's and recommending methods to insure optimal participation of the population in the design, operation and, especially, maintenance of the water supply and sanitation component of the sub-project.

5. Participating as team member with Dr. Cary Engleberg to prepare a workplan for implementation of the diarrheal disease control sub-project which integrates water supply and sanitation activities with treatment, epidemiologic surveillance, education, training, and community participation.

6. Providing USAID/Jakarta and the provincial health office in D.I. Aceh with a written report containing recommendations for the integrated sub-project.

The field work on which this report is based was divided into four parts:

1. A briefing session in Jakarta provided an opportunity to discuss the CHIPPS project and the national diarrheal disease control program with mission, national and provincial staff.

2. A visit to the provincial capital of Banda Aceh further contributed to the understanding of the scope and direction of the diarrheal disease program through more detailed discussions.

3. On-site observation's and discussions with district staff in the Pidie District provided insights into the operational aspects of the program.

4. A return to Jakarta gave an opportunity for discussions with the staffs of other organizations working in water supply and excreta disposal and a debriefing on observations and conclusions.

## Chapter 2

### DESCRIPTION OF CHIPPS

The Comprehensive Health Improvement Project - Province Specific (CHIPPS) is a joint undertaking of the Indonesian Government and USAID. It is designed to assist the three Provinces (Aceh, Sumatra Barat, and Nusa Tenggara Timur) to improve some of the components of health services and to look for more effective methods of addressing selected health problems within the Provinces.

In the Province of Aceh one of the health service components slated for improvement is the Diarrheal Disease Control Program which is part of a national priority program to reduce the mortality and morbidity caused by diarrheal disease.

The Pidie District of Aceh has been selected as the focal point of expanded diarrheal disease control because it is suspected that the incidence of diarrheal disease, particularly cholera, in that district is higher than in other districts.

The Pidie District is rural and principally agricultural. Rice, grown in well-irrigated paddies, is the major crop in the coastal area. Because of the good irrigation system, there are two crops a year. In the highland areas away from the coast, rice and coffee are grown.

Table 1 provides some demographic information regarding the sub-districts of the Pidie District.

TABLE 1

## PIDIE DISTRICT: DEMOGRAPHIC PROFILE BY SUBDISTRICT

Sub-District	Area (KM <sup>2</sup> )	No. of Villages	Population 1980	No. of Households	District Means		
					Persons Per per KM <sup>2</sup>	Persons Per Household	Persons Per Village
Bandar Baru	250	42	20,357	4,671	81	4.4	485
Bandar Dua	82	63	20,016	4,378	244	4.6	318
Batee	105	27	10,939	2,465	104	4.4	405
Delima	64	59	19,986	4,607	312	4.3	339
Geumpang	1,576	9	7,965	1,844	5	4.3	885
Geumpang Tiga	105	55	19,938	5,374	190	3.7	363
Indrajaya	34	49	16,996	3,860	500	4.4	347
Kembang Tanjung	46	45	15,559	4,286	338	3.6	346
Kota Sigli	10	15	12,777	2,260	1,278	5.7	852
Meureudu	97	49	19,889	4,711	205	4.2	406
Mila	23	20	5,747	1,246	250	4.6	287
Muara Tiga	162	17	9,050	1,992	56	4.5	532
Mutiara	100	77	31,121	7,075	311	4.4	404
Padang Tiji	259	64	12,006	3,014	46	4.0	188
Peukan Baro	30	48	12,680	3,080	423	4.1	264
Pidie	35	64	24,395	5,340	697	4.6	381
Sakti	71	49	13,585	3,191	191	4.3	277
Simpang Tiga	56	52	15,136	3,467	270	4.4	291
Tangse	750	27	16,849	4,027	22	4.2	624
Trenggadeng	72	36	17,778	4,239	247	4.2	494
Tiro/Truseb	89	21	4,479	1,104	50	4.1	213
Titeu/Keumala	48	31	8,868	2,174	185	4.1	286
Ulim	44	30	8,227	1,895	187	4.3	274
Totals	4,108	949	344,343	80,300	84	4.3	363

## Chapter 3

### THE DIARRHEAL DISEASE PROBLEM

Statistical baseline data do not fully describe the incidence or prevalence of diarrheal disease in the Pidie District or the sub-districts. Reporting comes primarily from the health centers (PUSKESMAS) and generally reflects only those cases severe enough to appear there. Only in epidemic investigations is there any degree of searching for other cases. Observations of the environment and of the habits of the population indicate a high probability of environmental contamination and a high potential for the spread of diseases of the fecal-oral type.

The area benefits from a considerable number of rivers and streams. Water is very much a part of the lives of the people. In the absence of more appropriate facilities, the rivers and streams serve as toilets, bath houses and laundries. Defecation is indiscriminate especially among children and youth and takes place in the rice fields and on land as well as in the rivers and streams. There can be little doubt that the conditions exist for the transmission of not only cholera but other diseases which are transmitted by the fecal-oral route.

Suspected cholera cases are frequently reported by the health centers and hospitals. Table 2 shows suspected cholera cases, deaths and case fatality rates over the ten year period from 1972 to 1981 in the Pidie District. The sharp drop in the case fatality rate after 1975 is no doubt due to the introduction of oral rehydration therapy. (For a more detailed explanation the reader is referred to the forthcoming report of Dr. N. Cary Engleberg of the Center for Disease Control.)

TABLE 2  
SUSPECTED CHOLERA CASES, MORBIDITY, MORTALITY AND  
CASE FATALITY IN PIDIE DISTRICT

<u>Year</u>	<u>Reported Cases</u>	<u>Reported Deaths</u>	<u>Case Fatality</u> <u>(per 1,000)</u>
1972	288	88	306.0
1973	247	75	304.0
1974	40	3	75.0
1975	100	28	280.0
1976	456	44	97.0
1977	218	10	46.0
1978	1,475	70	47.5
1979	872	28	32.0
1980	1,107	22	20.0
1981	357	2	5.6

The Pidie sub-district reported a higher number of cases than any other sub-district over three of the last four years. Cases reported were:

TABLE 3  
SUSPECTED CHOLERA CASES - PIDIE SUB-DISTRICT

1978	275
1979	122
1980	150
1981	80

Only in 1980 did another sub-district (Meureudu) report a higher number of cases (172). According to one investigator, many if not most cases were associated with proximity to the river.

There is little reporting of intestinal parasitic diseases but it can be assumed that there is a significant amount of ankylostomiasis (hookworm) and ascariasis (roundworm). Little is known about the prevalence or incidence of diarrheas caused by Giardia lamblia and Entamoeba histolytica. These latter conditions are not likely to be the primary cause of acute illness but they are frequently chronic and debilitating. They compound problems of malnutrition and may be contributing factors in mortality in small children. They are also diseases of fecal origin which flourish in the fecally contaminated environment.

The presence of childhood diarrhea caused by rotaviruses has been confirmed elsewhere in Indonesia and it is reasonable to assume that it is responsible for some of the diarrhea in Aceh. Dr. Engleberg provides an extensive discussion of the eipidemiology of diarrheal disease in his report mentioned above.

## Chapter 4

### HEALTH ACTIVITIES

The delivery of health services in the Pidie District is the responsibility of the district doctor (DOKABU). Policy and program direction come from the central level in Jakarta and the provincial level in Banda Aceh. The central government provides major funding support for facilities, personnel and materials. Limited funding support is provided by the district. The district doctor is responsible to the central Ministry of Health, the provincial health department, and the district head. The district doctor has a staff of technical and administrative personnel, including six sanitarians.

The basic unit of health care is the sub-district health center (Puskesmas). The health center provides a wide range of curative and preventative services. There are 23 health centers in the Pidie District, one in each of the 23 sub-districts. The health center is normally staffed by a doctor and six to 20 staff personnel (nurses, midwives, sanitarians, and health educators). At the time of the consultant's visit, five health centers did not have doctors. In addition to the curative services, the health center normally has outreach programs in maternal and child health, school health, environmental sanitation and immunizations. Some have special staff assigned to specific disease control programs such as malaria, tuberculosis and leprosy.

Five sub-districts (Pidie, Indrajaya, Glumpang Tiga, Meureudu, and Delima) have been designated as sentinel areas for the control of diarrheal disease. This is a special program to establish the basic element of a national diarrheal disease control program. These elements are:

1. case management
2. epidemic control
3. maternal and child health
4. environmental sanitation

The case management element focuses on the diagnosis and treatment of severe cases of diarrhea with oral rehydration salts and, in the case of cholera, with tetracycline. This program is carried out primarily at the health center but there is some outreach to cases which do not reach the health center.

Epidemic control includes the investigation and treatment of cases under epidemic conditions and the disinfection of suspected contaminated domestic water sources. The maternal and child health element incorporates education on oral rehydration therapy with the distribution of oral rehydration salts and some health education on the importance and effects of environmental sanitation.

## 4.1 Environmental Sanitation Conditions

### 4.1.1. Municipal

The environmental sanitation component is aimed at improving water supply, excreta disposal, and food sanitation and providing environmental health education. Efforts to improve water supply and excreta disposal are based primarily on the classic installation of facilities. A new water supply system has recently been completed in the provincial capital of Banda Aceh. It incorporates coagulation settling, filtration and disinfection. It is a modern, automated 4.5 million-gallon per-day (mgd) plant, complete with distribution system and was built by the French under a Rp. 3 billion (approximately \$4.7 million) loan. The source of raw water is a river nine kilometers upstream from the city. The plant has been in operation less than a year and should be capable of providing high quality water (by any standards) for the projected population for the year 2000. At present there are only some 3,000 house connections, serving approximately 16,500 of the city's nearly 80,000 people. An additional 1,000 house connections are expected to be added in the current year. There are apparently only four public standposts in the present system; no information was available to indicate whether or not additional ones will be added as the distribution system is expanded.

Despite the capabilities of the treatment plant, many people in Banda Aceh are reported to continue to boil their water and with reason, since bacteriological analyses have in the past confirmed the presence of E.coli, whereas similar samples were negative in analyses done soon after the plant was completed. The problem may be caused by cross connections with the old distributions network even though it was intended that this should not happen. Or, it may lie in the one part of the treatment process which is most prone to human error, the disinfection system. Chlorination is by means of a hypochlorite solution fed into the system before the clear well. It is not clear whether chlorination is sporadic or inadequate but the positive samples contained a chlorine residual of only 0.05 milligrams per liter (mg/l). The treatment plant reportedly does not do any routine chlorine residual determination nor does it have the facilities for bacteriological analysis. The Health Department has not had funds for the analysis of any samples since October 1981.

The municipal water supply at Sigli, the seat of the Pidie District, suffers from the same problem of disinfection. The system there is a precarious one, drawing raw water from an infiltration gallery well very close to the river. Provision is made for chlorination through a drip system above the well. Repeated visits indicated that there was no hypochlorite solution in the drip pail. No analytical data were available on the Sigli water.

#### 4.1.2. Rural

##### Water

In the rural areas there are a variety of technologies being used to provide domestic water. The Ministry of Health program for water supply has centered on the installation of shallow well handpumps but has not been limited to that one type of facility. Some artesian wells have been developed, and there are a few deep well pumps. In certain areas where groundwater sources are not deemed practical, rain catchment units, both communal and individual family types, have been built.

Most people seem to get their domestic water from dug wells. A large percentage of the houses that were seen had dug wells on the premises. The water from these was used for multiple purposes, i.e. drinking, cooking, washing, and bathing. The indications were that these are strictly family wells and are not widely shared in the community. Many had concrete slabs with good drainage and most had a wall of concrete or bamboo around them. Most were lined with concrete well rings and were well kept although it is doubtful that many provided uncontaminated water. Again it was reported that most people boil drinking water.

There was surprisingly little evidence to indicate that handpumps were being used extensively. For the most part the pumps are well installed on pedestals with concrete drain slabs. Some showed drainage problems away from the slabs. A good many were not in the most convenient places, but even those which seemed to be conveniently located did not seem to be used extensively.

The only water-carrying that was seen was in a small village (Rawa) very near the coast and in Banda Aceh. At Rawa drilling to 120 meters had produced only salt water. A rain catchment facility for 2,000 people had been constructed, but rainfall has been insufficient to provide adequate water. People were forced to carry water from wells about two kilometers away. The Department of Health had put in a handpump. It had been worn out by heavy use and had been replaced. When the replacement pump wore out, it was decided not to replace it. As a result, numerous people were drawing water from an unprotected dug well.

(In the town of Banda Aceh, one lady was found carrying water from a makeshift community standpipe from which a man sold water. Another lady was observed carrying water from one of the community taps connected to the new municipal system. It is of interest to note that water consumers with house connections are not yet being charged for the service.)

##### Sanitation

With respect to excreta disposal, there are few technologically acceptable facilities in the rural areas. The Department of Health has sponsored a pit privy program by providing pre-cast slabs but only on a token basis. A few communal privies have been constructed on the initiative of a provincial governor but they seem to be mostly unused.

Many of the pit privies which have been installed appear to be well kept and well used. Evidence was seen which indicates that not all slabs provided have been installed.

Available figures indicate that about 19 percent of the population of Pidie District have reasonable access to safe water and only 4 percent have sanitary means of excreta disposal. In the Pidie sub-district the percentages are 24 and 6 respectively.

#### 4.2 Health Staff

The health staff in the Pidie District includes 16 sanitarians of whom six work in the District doctor's office and ten are assigned to health centers in the sub-districts. This means that 13 of the 23 sub-district health centers are without sanitarians.

The sanitarian is a polyvalent worker trained to work both in water supply and excreta disposal, in food sanitation and in disease control programs such as malaria. Most of the sanitarians were trained at the provincial level in Banda Aceh; some have had specialized training.

There is apparently only one private voluntary organization active in the Pidie District. The Save-The-Children/Community Systems Foundation is actively engaged in the sub-district of Tangse. That program has a strong health component which includes support for water supply and excreta disposal. It operates through selected community volunteers. There is apparently little other use of volunteers except in the national family planning program where they have been used very effectively.

In current planning the Department of Health estimates the cost of a shallow well handpump at Rs. 347,500 (about \$545.00) and the cost of pre-cast pit privy slab at Rs. 15,000 rupiahs (about \$23.50). Using populations of 100 per handpump (the current Indonesian norm) and 4.3 per pit privy (the average household size in the Pidie District), the per capita capital costs for minimum water supply and excreta disposal are about \$5.45 for water and \$5.47 for excreta (not including pit and superstructure).

#### 4.3 The Need for Greater Effectiveness

In view of the nature of the problem in Pidie and the limited resources available, the Aceh authorities need to consider approaches which will improve and extend the services provided by the Health Department and will make them more effective.

The major problem in environmental sanitation appears to be the widespread contamination of the ground by fecal matter. The absence of adequate excreta disposal and the personal habits of the people make this contamination inevitable. It does not seem unreasonable to suspect that excreta disposal may be more important in the control of diarrheal disease, and particularly cholera, than any other element of environmental sanitation.

The pit privy program is, at present, a very limited effort centered on the provision of pre-cast slabs and some health education. There are indications that, in many instances, the slabs are provided but not installed and used.

The observation that handpumps may not be used extensively is disturbing, but the presence of shallow dug wells in so many family living areas is both interesting and encouraging. Since individual wells can be protected, disinfected and kept sanitary more easily than communal wells, they may offer a suitable alternative to the handpump program. In addition, because family wells also may be implicated in the transmission of cholera, they should receive considerable attention in programs to improve rural water supplies.

The indications that people are doing things for themselves (Gotong Royong) in model villages and elsewhere suggest that greater emphasis should be put on working with the people, appreciating their perceptions of their own needs and developing their participation in the environmental sanitation program. This effort is crucial having been frequently neglected in the past to the detriment of the effectiveness of programs.

In environmental sanitation programs, people are more important than technology. They do not, intuitively, know about technology or what it can do for them or under what circumstances. They must be worked with patiently, and taught and encouraged. This long, laborious task is probably the only way to ensure the lasting benefits of technological improvements.

If people are sufficiently motivated, they have resources which can be applied to solving their own problems. Water supply and excreta disposal improvements for all of Pidie are estimated to cost about 2 billion Rupiahs (\$3.1 million, approximately) for hardware alone. Since it is unlikely that such resources will come from the Government in the short-term, it is evident that the people's resources will be important and must be utilized if substantial progress is to be made in the near future. Community Development projects in Thailand, organized by Dr. Mechai, have been successful in stimulating village people to put their own physical and financial resources into activities which improve the quality of life and meet some of their basic human needs.

The concept of greater emphasis on the human side of environmental sanitation comes from years of sad experience in providing technology without due regard for the people who use it. Programs have been implemented from the "top down" and generally there has been inadequate contact with the people regarding the purpose, planning, design, construction, operations, and maintenance of the technology introduced. The people have not been given sufficient opportunity to express their own ideas about what they need and how it should be provided. Because they have not participated directly in the planning process and construction they felt no responsibility for the "improvements" particularly when systems have broken down. Then the villagers generally have looked to those who installed the system to repair and maintain them. Installation authorities seldom have enough money for maintenance and repair. Consequently, systems, from simple handpumps to sophisticated treatment plants, have failed to function properly and have consequently failed to meet the needs of the people.

Examination of past experience has led to the conclusion that greater effort must be devoted to understanding people's perceptions and encouraging and organizing their active participation in all phases of facility development. White et al. (1977), Warner (1973), Saunders and Warford (1976), and Feachem et al. (1978) have all dealt at length with this concept.

New and improved methodologies for communicating with and organizing people for water supply and sanitation purposes are being developed and described in greater detail. Glennie (1979) has described community participation in Malawi. UNICEF is developing material for use in improving communication at the community level. Communication is a two-way street. It is a listening and learning process between both partners (the authorities and the villagers) in a joint venture.

Improvements in environmental sanitation should be a joint venture. Drucker suggests a contract between the supplier of services (the health department) and the village. The concept needs to be explored and developed because it could help overcome some of the problems of the past.

The possibilities for village and individual participation in Pidie, particularly with respect to the installation of pit privies and the improvement of family dug wells, intensify the need to develop better techniques of promoting community partnership in low-cost technological improvements rather than government provision of services.

An abrupt change of emphasis such as this will require a better understanding of the social and cultural factors which affect people's responses to improvements in water supply and excreta disposal. It will be necessary to examine how environmental sanitation problems are perceived by the people in the villages and to what extent people appear willing to participate in the improvement process.

Information from a survey addressing these questions will be important in developing a new approach. Elmendorf and Buckles (1980) have summarized the methodology used in examining social and cultural factors in seven communities in Latin America. Complete reports of the studies with more details regarding the methodology and social science techniques for facilitating communication and participation are contained in a volume edited by Elmendorf (to be published).

The work done in Latin America may not have any direct translation into the Indonesian context but it may serve as a guide in preparing and undertaking a case study in Pidie. Case studies of this type, if they are to be productive, are very dependent on good social and cultural survey techniques and should not be undertaken without substantial assistance from competent social scientists.

An abrupt change of emphasis will also require the development of additional skills among the health workers, particularly the sanitarians and the health educators.

In general, the technical training of sanitarians does not provide for sufficient skills in communication techniques nor in the development of face-to-face and mass communications material. The success of a new approach to environmental sanitation will be dependent on the sanitarians as "salesmen" and public relations personnel and it is essential that these skills be developed. For this new role sanitarians must be well prepared.

## Chapter 5

### POSSIBLE DIRECTIONS

As for the provision of improved water supply and excreta disposal, the program is not at present making rapid progress in the Pidie District. Approximately 280,000 people (81 percent of the population) still lack access to safe water and 330,000 (96 percent) do not have satisfactory means of excreta disposal. In the sub-district the percentages are probably about the same. In terms of effective use of facilities the percentages are probably more discouraging since the figures above assume that all facilities provided are effectively used.

There are probably two primary reasons for the slow pace of the program. One is budgetary. There are not enough funds available to saturate the area with improvements. The second is personnel: numbers are small and the focus of their activities is diffuse.

In the absence of significant increases in funds and staff, it is necessary to consider more productive, less expensive improvements and more effective ways to produce them.

Oral rehydration therapy is an excellent measure for reducing mortality and severe morbidity in diarrhea. Case management can be made more effective if the influence of the puskesmas can be extended to every village. The health authorities in Aceh should consider means to extend the information on oral rehydration therapy and oral rehydration salts through a wide network of village volunteers, village committees (LKMD), community organization such as the Family Welfare Movement (PKK) or any other community oriented group which is active or may be formed in the villages. Under the framework of the CHIPPS project it would be possible to use a different group as the delivery mechanism in each of several sub-districts (or perhaps several villages in the same sub-district) and compare the results obtained. It may be possible to stimulate productive competition among villages and among volunteer organizations. The "unity in self help" concept (Gotong Royong) is strong in Indonesia, and "self help is self reliance" is a basic tenet of primary health care. Both themes should be built upon in establishing an extension of health services from the puskesmas to the village level.

As oral rehydration therapy becomes established at the village level it should be possible to add promotional information about environmental sanitation to the ORT delivery package. This might be the cutting edge for introducing basic concepts of personal and household hygiene related to diseases caused by the fecal-oral cycle. It could be very important when connected with the effects of contamination of leftover foods, weaning foods, infant supplements, and oral rehydration preparations on incidence of diarrhea. This promotional message is not something that can be conveyed once and expected to take hold. It must be repeated many times.

With regard to improvements in water supply and excreta disposal, the need to examine the priorities in the Pidie District should be considered. Much greater emphasis has been placed on providing water supply facilities in the past. Less

attention has been devoted to excreta disposal. Because of the general pattern of indiscriminate defecation and gross fecal contamination of the environment it seems prudent to focus greater attention on the sanitary disposal of excreta. This is an even more pertinent suggestion when there is some doubt about the extent to which water supply improvements are being utilized. More detailed information on the use of recently installed handpumps is needed.

If the cholera epidemiological investigation being proposed by Dr. Engleberg confirms cholera transmission associated with riverine areas, as has been postulated, it may be well to consider an extensive and intensive excreta disposal program in entire cholera-prone watersheds or river drainage areas.

A greater emphasis on excreta disposal does not mean abandoning or neglecting water supply improvements. That program should be re-examined in the light of specific data on the use of improved facilities and the potential for improvement of existing individual family wells. The improvement of family wells may offer a viable alternative to the construction of communal sources. Since family wells are not universal, some communal facilities might be required to fill gaps, or a program of encouraging family wells could be mounted.

There is great need for innovative approaches to community participation. The CHIPPS project in Aceh offers the opportunity to develop the means of motivating people to participate in project planning, design and implementation with their ideas, time, effort and financial resources, a much improved prospect at a time when progress is slow and government funds are limited. The use of village volunteers for promoting improved water supply and excreta disposal offers a means of both extending health services and stimulating community interest at the village level.

If the positive effect of community participation can be demonstrated in a few villages it can be expected that they will serve as models that will stimulate a multiplier effect. The Pidie District offers a wide variety of circumstances and conditions in which a series of scenarios could be planned. Efforts should be directed first to those sub-districts and villages in which patterns of high mortality and morbidity are confirmed by a comprehensive diarrheal disease survey. Efforts to improve excreta disposal and water supply should be guided by the information gathered in a detailed survey of sociocultural perceptions about excreta disposal and water supply.

Sub-district and village selection should consider factors such as community desire for improvement and willingness to participate (contribute, plan, maintain, etc.). Those selection criteria are important because they indicate a higher probability of success. Early successes are important in generating enthusiasm for expanding programs.

Examples of possible scenarios to improve diarrheal disease control include:

## 5.1 Extended Delivery of Oral Rehydration Therapy Information & Materials

- Select a number of villages in a sub-district (or in several sub-districts);
- Determine what volunteer mechanism will be used (individuals or groups such as the Family Welfare Movement (PKK), Village Committee (LKMD);
- Stimulate, motivate, and train volunteers;
- Implement extended delivery;
- Evaluate and compare results; and
- Apply experience in other villages progressively.

At some point in the implementation process simple information about personal and household hygiene should be added to the information package in some villages (or it may be included initially in some villages and added to others later).

## 5.2 Intensive Excreta Disposal Program

- Select a number of villages in a sub-district or in several sub-districts;
- Launch stimulation and motivation campaign;
- Reach agreement with villagers on what the health authorities will do (provide technical assistance in siting privies, plans for simple superstructure, instruction on use and maintenance) and what the villagers will do (dig holes, set slabs, build superstructures and, above all, use the privies exclusively);
- Establish evaluation criteria and gather baseline data;
- Implement installation process;
- Continue to stimulate use and maintenance;
- Evaluate results; and
- Apply experience progressively in other villages.

It seems highly desirable for the Department of Health to break with tradition at this point and stop providing pit privy slabs at no cost. This procedure, while useful as a stimulus, involves costs which villagers themselves should be encouraged to assume. The savings accruing to the Department of Health can be put to better use expanding outreach programs if villagers can be convinced to

bear the cost of the slab. To make the break, it may be necessary to institute a weaning process whereby slabs are furnished at a subsidized cost which could be raised progressively to eliminate any subsidy.

In a scenario such as this, success will depend on the skilled performance of sanitarians and health educators and not on the size of government funding. Their performance will require an effective training program.

### 5.3 Intensive Water Supply Improvement Program

- Select a number of villages in one or more sub-districts;
- Make a preliminary survey of water use patterns and perceptions;
- Launch an intensive community stimulation and motivation campaign;
- Reach agreement with villagers on what health authorities will do (provide technical assistance, supervision, skilled labor, information on proper maintenance and use) and what the villagers will do (provide construction materials, labor, funds for installation and maintenance, and use the facility exclusively for all domestic water);
- Establish evaluation criteria and gather baseline data;
- Implement improvement process;
- Continue to stimulate use and maintenance;
- Evaluate results; and
- Apply experience progressively in other villages.

If the preliminary survey indicates a preference for family dug wells as the source of water for drinking, cooking, bathing, and washing, the emphasis of the water supply improvement program should focus on the improvement of existing family wells and the encouragement to dig new ones for those families who do not have them. This new approach is proper unless the comprehensive cholera epidemiological study incriminates family dug wells as significant sources of cholera transmission.

Ideally, it would be desirable to combine the excreta disposal program and the dug well improvement program in a limited number of villages but this suggestion is probably over ambitious in the initial stages. The combination should certainly be tried in later stages of CHIPPS program development.

The selection of villages or sub-districts in the development of any scenario should be dependent on improved knowledge of diarrheal disease patterns. No selection should be made until the results of the comprehensive survey suggested by Dr. Engleberg are available. The results of the comprehensive cholera epidemiological study should also be used to guide selection.

The criteria for evaluation must be meaningful but also must be simple and quantifiable. The use of health indicators in evaluation is difficult because, up to this point, it has been nearly impossible to determine with precision how much health improvement can be attributed directly or indirectly to a single sanitation improvement. Measures of use and habit change are less complex and more appropriate. Recent evidence from northern Nigeria, however, points to anthropometry, specifically weight/height ratios, as sensitive indicators of benefits to small children of increased quantities of water. (Tomkins, et al 1978). Chen, in an unpublished monograph, also advocates using anthropometry in this way since these measures can reflect not only the impact of improvements in diarrheal morbidity but those attributable to other benefits of more water such as increased food production, savings in time and energy of women, etc. In any use of anthropometry as an evaluation measure, care should be taken to monitor changes in feeding habits and family income which could influence nutritional status.

## Chapter 6

### RECOMMENDATIONS

1. Since there is some doubt about the acceptance and use of handpumps, at least in the coastal area of the Pidie District, a survey of use patterns should be undertaken. Such a survey should be based on observations at thirteen hand-pumps ("cholera pumps") installed since 1979 or about 10 percent of the total. The thirteen pumps should be selected by making a list of pump locations by village in the sub-districts of Pidie, Kabang Tanjung, Indrajaaya, Glumpang Tiga, Mutiara and Meurendu. After the list is made and the locations are numbered the pumps to be observed should be number 5, 15, 25 etc. Observations to be made at each pump include:

- a. Number of people who come to the pump for water;
- b. The quantity of water carried away;
- c. Use of water at the pump site for washing, bathing, or other purposes; and
- d. The average size of water carrying containers.

It might also be useful to ask every fifth person who comes to draw water the following:

- a. The distance they came to get water;
- b. How many times they come each day; and
- c. The use for which the water is intended, i.e., drinking, cooking, washing, bathing.

This kind of survey can be carried out immediately with existing staff and will provide useful information regarding the effectiveness of the current handpump program.

2. An observation opportunity should be provided for Mr. Abdurahman, the Chief of Sanitation in the Aceh Province, and Mr. Kamaruodin, the Sanitarian at Sigli, to see programs which contain community participation components that are being carried out in other countries. The programs to be selected should be ones which emphasize community stimulation, motivation and organization so important for developments in Aceh. The observation opportunity should be planned as early as possible, perhaps in May, and should include a visit to the Mechai Community development program in Thailand and other selected programs in other countries to be determined later.

3. A sociocultural survey should be undertaken to guide any future work in Aceh. More detailed information is needed on the social and cultural factors which influence community response to improvements. This type of survey will require the professional assistance of a consultant (sociologist or anthropologist) well versed in the sociocultural aspects of water supply and

excreta disposal and with considerable experience in survey design, development and implementation techniques. Indonesian (or at least southeast Asian) experience would be highly desirable. The possibilities of such a consultant working with or through a social sciences department or group at one of the universities in Aceh should be explored.

This survey should be conducted soon after Mr. Abdurahman's return from the observation trip, perhaps in August, if there is no cholera epidemic. It is possible that the circumstances and conditions surrounding an epidemic and its containment could unduly influence the responses sought in the survey. Therefore, the survey should not be conducted concurrently with epidemic control measures but as soon afterward as possible.

4. If the new approaches to diarrheal disease control through sanitation improvements involving greater community participation are to be undertaken, it will be necessary to develop additional skills in responsible staff. Special skills training for sanitarians and health educators should be arranged. (Staff responsible for the extension of delivery services for oral rehydration therapy should be included in this training if the same kind of training has not been provided earlier.)

Training content should include communications methods and materials, community motivation and organization techniques and evaluation techniques.

The assistance of a health education communications specialist with experience in community motivation and organization will be required. The training should be scheduled soon after the results of the sociocultural survey are available, perhaps in October, unless the heavy cholera transmission period is unduly prolonged. It should not be undertaken while there is still epidemic cholera transmission.

5. Detailed implementation plans should be prepared, based on information derived from the diarrheal disease mortality and morbidity survey, the cholera epidemiological study, the handpump utilization survey and the sociocultural survey. The plans should include a description of the intervention, the methodology for its application, the selection of locations, staff assignments, evaluation criteria and costs. Assistance will be required from a consultant experience in water supply and excreta disposal program planning and implementation.

The preparation of implementation plans is the last step in the preliminary development stage. It should be carried out as soon after the special skills training as is possible but not before the cholera epidemiological study is complete.

## REFERENCES

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APPENDIX A

WATER AND SANITATION FOR HEALTH (WASH) PROJECT  
ORDER OF TECHNICAL DIRECTION NUMBER 79

January 25, 1982

BEST  
AVAILABLE

TO: Dennis Warner, Ph.D., P.E.  
WASH Contract Project Director

FROM: Victor W.R. Welman, Jr., P.E., R.S. JWW  
A.I.D. WASH Project Manager  
A.I.D. S&T/HEA/WS

SUBJECT: Provision of Technical Assistance Under WASH Project Scope of Work  
for U.S. A.I.D./Indonesia

REF: A) State 339494  
B) Jakarta 19324  
C) Curlin/Austin Memorandum-WASH Request with SOW  
dated December 30, 1981  
D) Jakarta 341, January 11, 1982  
E) State 11285  
F) Jakarta 897, January 20, 1982  
G) Jakarta 730

1. WASH contractor requested to provide technical assistance to U.S. A.I.D./Indonesia as per reference C, paragraph three items one through five (numbered) and reference F, paragraph 2 A-F, scope of work in reference F takes precedence over scope in reference C.
2. WASH contractor/subcontractor/consultants authorized to expend up to thirty-five (35) person days of effort over a four (4) month period to accomplish this technical assistance effort.
3. Contractor authorized up to thirty (30) person days of international and/or domestic per diem to accomplish this effort.
4. Contractor to coordinate with ASIA/TR/HPN (G. Curlin and H. Keller), A.I.D./ASIA/ISPA (Desk, Mr. Sperling), A.I.D./ASIA/PD/ENCR (Mr. Hasan Hasan) and with S&T/HEA A.I.D. WASH Project Manager. Copies of this OTD along with periodic progress reports (especially ETAs) should be provided as appropriate or at the request of S&T/HEA or Asia Bureau Staffs.
5. Contractor to have consultant in Jakarta by February 1, 1982 or at time appropriate to U.S. A.I.D./Jakarta.
6. Contractor authorized to provide up to one (1) international round trip from the consultant's home base through WASH CIC (for briefing), to Jakarta, Indonesia (with local Indonesian travel as appropriate) with return through WASH CIC in Washington, D.C. to consultant's home base.
7. Contractor authorized local travel in Indonesia as necessary and appropriate to accomplish technical assistance mission. This includes airline or private aircraft trips, rental of vehicles (with drivers) or other conveyances. Mission is encouraged to provide local Jakarta or Banda Aceh vehicle transportation support if available and appropriate.

8. Contractor authorized to obtain local Indonesian or other available secretarial, graphics or reproduction services as necessary and appropriate to accomplish tasks. These services are in addition to the services specified in paragraphs two and three above NTE \$2,200 without approval of A.I.D. WASH Project Manager.
9. WASH contractor will adhere to normal established administrative and financial controls as established for WASH mechanism in WASH contract. WASH contractor should definitely be prepared to administratively or technically backstop field consultants and subcontractors.
10. Contractor should prepare draft final report in the field and receive comments back from Mission and/or Indonesian government (if possible) for final report preparation at WASH CIC in Washington, D.C. The final report is due the Mission within thirty (30) days of departure of WASH consultant from Indonesia.
11. Mission, ASIA/TR/HFN (H. Keller) and A.I.D. Indonesia Desk should be contacted immediately and technical assistance initiated in accordance with Mission timing requirements.
12. Appreciate your prompt attention to this matter. Good luck!

## memorandum

DATE: December 30, 1981

REPLY TO  
ATTN OF: ASIA/TR/HPN, George Curlin, M.D. *George Curlin*

SUBJECT: Request for WASH Consultant to Indonesia

TO: ST/HEA, Mr. John Austen

Today I received a cable from the Mission in Jakarta requesting technical assistance in the area of water supply and sanitation (WS/S). This is to assist in design of a diarrheal disease control sub-project of the Comprehensive Health Improvement Project - Province Specific (CHIP-PS). I gave Vic Wehman a copy of the approved Project Paper earlier in anticipation of this request.

I intend to support the mission request by fielding a two-person team. One member will be a physician who specializes in diarrheal disease. (We are proposing Dr. Cary Engleberg, Enteric Disease Unit of the CDC for this position.) The other team member should be a person with experience in community-based water supply and sanitation projects designed to complement diarrheal disease control activities. A person with a medical background who also fits these qualifications is preferable, but another professional with relevant experience in a health-oriented activity, such as community-based ORT programs, would be acceptable. We anticipate hardware considerations to be less important in the proposed activity than experience in mobilizing community participation, training, and health education. I am requesting your office to arrange for the second person via the WASH contract.

The specific duties in the scope of work are:

1. To assess the state of domestic water supply and sanitation facilities in the areas of Aceh Province targeted for this sub-project, and to identify needs which might be filled in the sub-project.
2. To discuss with Provincial water supply and sanitation personnel and to observe model WS/S systems and technologies available in the province and to recommend those technologies which are appropriate for inclusion in the sub-project.
3. To discuss with provincial WS/S and Health personnel the existing training and supervision activities in the field of WS/S, and to recommend appropriate maintenance and supervision manpower development activities which might be considered as part of the sub-project.

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

OPTIONAL FORM NO. 10  
(REV. 7-76)  
GSA FPMR (41 CFR) 101-11.6  
5010-112

To WASH 71 Dec 81

4. To discuss community participation activities with Provincial WS/S and Health personnel, AID rural development officers active in PDP projects in the Province, and staff of PVO's active in the Province, and to recommend methods to insure optimal participation of the population in the design, operation and maintenance of the WS/S component of the sub-project.
5. To participate with the other team member(s) in drafting an implementation plan for the sub-project which integrates fully the diarrheal disease control and WS/S activities, and to submit the draft, including an itemized budget for the activities recommended, to the project officers at the end of the period of consultation.

The team should plan to spend three weeks in Indonesia, at least two weeks of which are expected to be in Aceh Province. Dr. David Calder, Chief of the Health and Nutrition Division, USAID/Jakarta has informed me the Aceh Province field work must be completed and travel in the Province ceased by February 15. Therefore, we are anticipating fielding the team in Jakarta Monday, January 25, 1982. Dr. Calder is traveling to Banda Aceh January 6 to attempt to secure clearances for the team. He will inform AID/W by cable immediately whether or not the consultancy can be made early in 1982. Meanwhile, I would appreciate your approaching the WASH contractors for suitable candidates.

ACTION  
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Department of State

INCOMING  
PROGRAM

PAGE 01  
ACTION AID-35

JAKART 19324 290937Z

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ACTION OFFICE ASTR-01  
INFO ASEM-01 ASDP-02 ASPD-03 AAST-01 STHE-01 HHS-09 CDC-111  
RELO-01 MAST-01 ASSP-02 /028 A4 829

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TO SECSTATE WASHDC 0000

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AIDAC

ATTN: GEORGE CURLIN, ASIA/TR/HPN

EO 12065: N/A

SUBJECT: CHIPPS - ACEH DIARRHEAL DISEASE SUBPROJECT.

REF: STATE 339494

1. MISSION GREATLY APPRECIATES TR/HPN EFFORTS TO PUT TOGETHER BEST TEAMS. EXCELLENT SUPPORT AS USUAL.

2. REGRETTABLY, WE CANNOT SCHEDULE ANY APRIL FIELD WORK DUE TO GOI PRE-ELECTION TRAVEL RESTRICTIONS BETWEEN MID-FEBRUARY AND MAY. GINGERICH AND CALDER VISITING ACEH JANUARY 8-9 AND WILL TRY TO GET CLEARANCE FOR TEAM VISIT IN EARLY FEBRUARY. PERHAPS YOU CAN MAKE TENTATIVE ARRANGEMENTS FOR FEBRUARY CONSULTATIONS AND WE WILL CABLE NEWS OF ACEH'S CONCURRENCE OR NON-CONCURRENCE IMMEDIATELY UPON OUR RETURN TO JAKARTA. OBVIOUSLY THE EARLIER IN FEBRUARY THE BETTER AS QUOTE UNOFFICIAL UNQUOTE CUTOFF DATE FOR TRAVEL OUT OF CITIES SEEMS TO BE FEBRUARY 15TH.

3. MISSION WELCOMES CURLIN VISIT AT ANY TIME, BUT WEEK OF JANUARY 24 BETTER.

4. WE WILL CONTACT BLACK THROUGH WHO WHILE IN INDONESIA.

5. MISSION HAPPY TO CONSIDER CASH AS POSSIBLE ADDITION TO ACEH TEAM DEPENDING ON TIMING OF HIS ASIAN TRIP ON OTHER CONSULTATIONS. WINDER

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FORM 185-A (COM) (REV 8-78)  
FORM 185-A (OCF)  
DEPT. OF STATE

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494

1977-1980, CDC ENTERIC DISEASE BRANCH ASSIGNED TO DIARRHEA CONTROL PROJECT WITH INDIAN HEALTH SERVICE 1980 TO PRESENT. HIS PROJECT INCORPORATES ACTIVE USE OF MICROBIOLOGY LABORATORY. BIODATA BEING POUCHED DIRECTLY TO CALDER.

3. CHRLTN AVAILABLE ONLY WEEK OF JANUARY 24 OR MARCH 7.

4. PLEASE ADVISE ASIA/TR/HPN WHETHER MISSION DESIRES TO POSTPONE TDY UNTIL APRIL OR WISHES TO ARRANGE EARLIER START.

5. ASIA/TR/HPN SORRY FOR THE DELAY WHICH WAS CAUSED BY UNSUCCESSFUL ATTEMPT TO GET ISELY AND BLACK IN JANUARY. FYI BLACK WILL BE IN INDONESIA ON THREE WEEK WHO CONSULTANCY IN JANUARY-FEBRUARY TO EXPLORE PROSPECTS FOR ORAL TYPHOID VACCINE TRIAL. SUGGEST CALDER CONTACT BLACK DIRECTLY AT THAT TIME. PP

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Department of State

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TELEGRAM

PAGE 01 JAKART 00341 110441Z 1230 065739 AID5808  
ACTION AID-35

ACTION OFFICE ASTR-01  
INFO ASCM-01 ASDP-02 PCE-01 POPR-01 PPPB-03 ASPD-03 AAST-01  
STHE-01 HHS-09 CDC-06 RELO-01 MAST-01 ASSP-02  
/033 A4 811

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P 110318Z JAN 82  
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TO SECSTATE WASHDC PRIORITY 9269

UNCLAS JAKARTA 00341

AIDAC

ATTN: DR. GEORGE CURLIN, ASIA/TR/HPN

EO 12065: N/A

SUBJECT: CHIPPS - ACEH DIARRHEAL DISEASE SUBPROJECT.

REF: A) 81 JAKARTA 19374; B) 81 STATE 339494.

1. BANDA ACEH COUNTERPARTS CONCUR WITH SUBJECT CONSULTANCY FOR DR. GEORGE CURLIN AND PROPOSED TEAM OF ISELY AND ENGELBERG. AS EXPLAINED IN PREVIOUS COMMUNICATIONS APRIL CONSULTANCY NOT POSSIBLE FOR COUNTERPARTS.

2. REQUEST CURLIN CONSULTANCY WEEK OF JANUARY 24. ADVISE EIA ASAP AND WE WILL ARRANGE MEETINGS IN JAKARTA WITH DR. BURHANUDDIN WHO WILL BE ATTENDING INTERNATIONAL DIARRHEAL CONTROL MEETINGS IN CIPANAS. BURHANUDDIN REQUESTS CURLIN THEN TRAVEL TO BANDA ACEH FOR 2-3 DAYS TO PREPARE ACEH TEAM FOR ISELY-ENGELBERG VISIT. CURLIN COULD DEPART BANDA ACEH DIRECTLY VIA MEDAN TO SINGAPORE RATHER THAN RETURN TO JAKARTA.

3. WE ARE IN PROCESS OF PREPARING PID/T FOR ENGELBERG CONSULTANCY FOR UP TO 3 WEEKS. FISCAL DATA WILL BE CABLED ASAP TO AUTHORIZE AID/W TO NEGOTIATE CONTRACT IF IS OUR UNDERSTANDING THAT WASH WILL PROVIDE ISELY CONSULTANCY. ADVISE IMMEDIATELY IF THIS IS NOT CORRECT. ALSO ADVISE DATES DR. RICHARD CASH COULD JOIN ENGELBERG-ISELY TEAM IN BANDA ACEH IF FEASIBLE WE WOULD INVITE CASH TO JOIN ENGELBERG-ISELY UPON COMPLETION OF HIS INDIA ASSIGNMENT. WILL NEED BIODATA FOR CASH ALSO

4. PLEASE ADVISE ETA OF ENGELBERG-ISELY IN JAKARTA SO WE CAN SCHEDULE VISIT WITH ACEH COUNTERPARTS. TENTATIVE SCHEDULE WOULD BE 1 DAY IN JAKARTA, UP TO 2 WEEKS IN ACEH, THEN 2-3 DAYS WRAP-UP IN JAKARTA. BE ADVISED THAT 1 DAY TRAVEL IS REQUIRED BETWEEN ACEH AND JAKARTA. IF POSSIBLE WE WOULD LIKE ENGELBERG-ISELY IN BANDA ACEH ON MONDAY, FEBRUARY 15.

5. MISSION APPRECIATES EFFORTS TO ASSEMBLE BLACK-CLEMENT-ISELY TEAM BUT LOCAL SITUATION PRECLUDES VISIT AT TIME THEY ARE AVAILABLE. WE WILL FOLLOW-UP WITH BLACK WHEN HE IS HERE IN JANUARY REGARDING FUTURE ASSIGNMENTS. WINDER

BEST AVAILABLE DOCUMENT

PAGE 01 STATE 011285 4039 060305 A10003/ STATE 011285 4039 060305 A10003/  
ORIGIN AID-35 THE SUB-PROJECT.

ORIGIN OFFICE ASTR-01  
INFO ASEN-01 ASDP-02 PPCE-01 P6PR-01 PPPH-03 FM-02 ASPD-03  
AACT-01. STHE-01 STRD-02 ENGR-02 PVC-02 RELG-01 ASSP-02  
WAB-01 7V-00 /026 A3

INFO OCT-00 EA-12 AMAD-01 /043 R

DRAFTED BY AI /ASIA/ /P HR:KELLER, SDH  
APPROVED BY AID/ASIA/TE/PNHR, FAKHRI  
AID/ASIA/ICPA/JHOFFLETT (INFO)  
AID/ST/HEA/ENCJUNKIN (DRAFT)  
AID/ST/HEA/JROPER (INFO)  
AID/ST/HEA/VHEMANN (DRAFT)

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UNCLAS STATE 011285

AIDAC

E.O. 12065: N/A

TAGS:

SUBJECT: CHIFFS-ACEN DIARRHEAL DISEASE SUBPROJECT  
- (A) JAKARTA 19324, (B) JAKARTA 0341  
REF: (A) JAKARTA 19324, (B) JAKARTA 0341  
IN ORDER TO FURNISH WASH TA INFORMALLY REQUESTED  
CALDEP/CUALIN/PHONECON AND AS DESCRIBED REF CABLES ASIA/TR  
AID/W REQUIRES FORMAL MISSION CABLE REQUEST FOR WASH TA  
INDICATING OFFICIAL SCOPE OF WORK TIMING AND PERTINENT  
DETAILS FOR WASH COMPONENT. PLEASE CABLE IMMEDIATE AND WE  
WILL PROCESS TO WASH.

2. SCOPE OF WORK SHOULD NOT REPEAT NOT CONTAIN NAME  
REQUEST FOR SPECIFIC INDIVIDUALS
3. WE CAN HAVE WASH CONSULTANT ETA INDONESIA FEB. 1.  
ISLEY NOT AVAILABLE. S AND T/HEA RECOMMENDS JAMES THOMSON,  
FORMER CHIEF OF WATER AND SANITATION DIVISION IF ACCEPTABLE  
TO MISSION.
4. CURLIN PLANNING ETA FEB. 1 FOR ONE WEEK. PLEASE CITE  
ALLOTMENT AND FUNDING FOR CURLIN TRAVEL AND PER DIEM.
5. ENGELBERG ETA FEB 1 FOR THREE WEEKS WILL OBTAIN  
SERVICES FROM CDC ON RSSA.
6. RICHARD CASH NOT AVAILABLE UNTIL LATER IN YEAR.  
JOHN RONDE WHO ANTICIPATES EARLY TRIP TO JAKARTA WILL  
COMMUNICATE DETAILS TO CALDER.
7. PLEASE FURNISH SCOPE OF WORK FOR ENGLBERG TDY.
8. PLEASE CONFIRM OR AMEND SCOPE OF WORK FOR WASH CON-  
SULTANT WHICH WE UNDERSTAND TO BE AS FOLLOWS.

...A. TO ASSESS THE STATE OF DOMESTIC WATER SUPPLY AND  
SANITATION FACILITIES IN THE AREAS OF ACEN PROVINCE TARGETED  
FOR THIS SUB-PROJECT, AND TO IDENTIFY NEEDS WHICH MIGHT BE  
FILLED IN THE SUB-PROJECT.

...B. TO DISCUSS WITH PROVINCIAL WATER SUPPLY AND SANITA-  
TION PERSONNEL AND TO OBSERVE MODEL WS/S SYSTEMS AND  
TECHNOLOGIES AVAILABLE IN THE PROVINCE AND TO RECOMMEND  
THOSE TECHNOLOGIES WHICH ARE APPROPRIATE FOR INCLUSION IN

...C. TO DISCUSS WITH PROVINCIAL WS/S AND HEALTH PERSONNEL  
THE EXISTING TRAINING AND SUPERVISION ACTIVITIES IN THE  
FIELD OF WS/S, AND TO RECOMMEND APPROPRIATE MAINTENANCE  
AND SUPERVISION MANPOWER DEVELOPMENT ACTIVITIES WHICH  
MIGHT BE CONSIDERED AS PART OF THE SUB-PROJECT

...D. TO DISCUSS COMMUNITY PARTICIPATION ACTIVITIES WITH  
PROVINCIAL WS/S AND HEALTH PERSONNEL, AID RURAL DEVELOP-  
MENT OFFICERS ACTIVE IN POP PROJECTS IN THE PROVINCE, AND  
STAFF OF PVO'S ACTIVE IN THE PROVINCE, AND TO RECOMMEND  
METHODS TO INSURE OPTIMAL PARTICIPATION OF THE POPULATION  
IN THE DESIGN, OPERATION AND MAINTENANCE OF THE WS/S  
COMPONENT OF THE SUB-PROJECT.

...E. TO PARTICIPATE WITH THE OTHER TEAM MEMBER(S) IN  
DRAFTING AN IMPLEMENTATION PLAN FOR THE SUB-PROJECT WHICH  
INTEGRATED FULLY THE DIARRHEAL DISEASE CONTROL AND WS/S  
ACTIVITIES, AND TO SUBMIT THE DRAFT, INCLUDING AN ITEMIZED  
BUDGET FOR THE ACTIVITIES RECOMMENDED, TO THE PROJECT  
OFFICERS AT THE END OF THE PERIOD OF CONSULTATION.

9. OTHER ACTIONS REQUESTED: (A) CITATION FUNDS FISCAL  
DATA FOR ENGELBERG RSSA INCLUDING SALARY, TRAVEL AND PER  
DIEM. (B) MISSION CLEARANCE FOR ENGELBERG, CURLIN AND  
WASH CONSULTANT (THOMSON). HAIG

UNCLASSIFIED  
Department of State

INCOMING  
TELEGRAM

PAUL BI JAKART 00730 150917Z 0375 03161 AID3331  
ACTION AID-33

JAKART 03750 150917Z 0375 03161 AID3331

ACTION OFFICE ASTR-01  
INFO AAAS-01 ASEN-01 ASOP-01 ACPO-01 AAST-01 CMGT-02 CTR-02  
SINC-01 SIN-03 CND-02 RELO-01 SECT-01 HAST-01 ASSP-02  
/021 A1 1115

INFO OCT-08 EA-12 AHAD-01 /743 W  
075102 150917Z /38

5 150922Z JAN 82  
FM AMEMBASSY JAKARTA  
TO SECSTATE MADRID IMMEDIATE 0440

UNCLAS JAKARTA 00730

AIDAC

ATTN: GEORGE CURLIN, ASIA/TR/HUP

ED 12465:R/A

SUBJECT: CHIPPS - DIARRHEAL DISEASE CONTROL SUBPROJECT

REF: A) CURLIN-CALDER TELECON 1-11-82; 2) B) STATE 33044.

1. REQUEST YOU ISSUE PLOT NO. 490-0249-3-20005 TO AID/V CONTRACTING OFFICERS PLTE HOWLEY OR BILL GOHN TO CONTRACT FOR SERVICES UP TO DOLS. 11,000 (CAN MODIFY PROPOSED BUDGET IN PARA 4 IF NECESSARY) FOR A PERIOD NOT TO EXCEED FOUR (4) WEEKS WITH A PHYSICIAN/DIARRHEAL DISEASE CONTROL SPECIALIST, DR. CARY ENGELBERG, TO ASSIST THE PROVINCIAL HEALTH OFFICE OF D.I. ACEH PLAN A DIARRHEAL DISEASE CONTROL PROGRAM AS A SUBPROJECT OF CHIPPS PROJECT ACTIVITIES. REQUEST CONTRACT NEGOTIATED/SIGNED ASAP TO ENABLE DR. ENGELBERG TO TRAVEL TO INDONESIA TO OVERLAP WITH DR. CURLIN WEEK OF JANUARY 31 IF YOU DECIDE THAT IS BEST SCHEDULE.

2. PLEASE USE THE FOLLOWING FUNDING CITATION: APPROPRIATION 72-1121021 BUDGET CODE H0AA-02 27497-06-61.

3. SCOPE OF WORK: DR. CARY ENGELBERG IS REQUIRED FOR A CONSULTANCY OF UP TO 4 WEEKS IN THE PROVINCE OF D.I. ACEH. HE WILL BE RESPONSIBLE TO THE OFFICE OF HEALTH AND NUTRITION, USAID/JAKARTA AND WILL PROVIDE A REPORT TO USAID AND THE KEMKAMWIL KESEHATAN D.I. ACEH OF THE WORK UNDERTAKEN ON BEHALF OF THE PROVINCIAL HEALTH OFFICE, D.I. ACEH. GOI LIAISON OFFICIALS ARE DR. YULIODIN ALAY, KEMKAMWIL KESEHATAN, TROPINSI D.I. ACEH AND DR. BURHANUDDIN YUSUF, CHIEF CDE, PROPINSI D.I. ACEH. AID LIAISON OFFICIALS ARE DR. DAVID H CALDER AND HOLLY MAYO GINGERICH. TRAVEL WITHIN THE PROVINCE OF D.I. ACEH WILL UNCLASSIFIED

BE REQUIRED AND SHOULD BE COORDINATED WITH THE GOI LIAISON OFFICIALS. DR. ENGELBERG WILL ASSIST WITH THE FOLLOWING ACTIVITIES:

A. WORK WITH THE D.I. ACEH DIVISION OF COMMUNICABLE DISEASE CONTROL, COMMUNITY HEALTH SERVICES AND OTHER PROVINCIAL OFFICIALS TO BEGIN PLANNING A DIARRHEAL DISEASE CONTROL SUBPROJECT.

B. REVIEW DIARRHEAL DISEASE PREVENTION AND TREATMENT PROGRAMS PRESENTLY IN PLACE IN KABUPATEN PIDIE.

C. COORDINATE WITH DR. GEORGE CURLIN AND RAY ISELY (OTHER TEAM MEMBER FROM WASH PROJECT) ON THE DESIGN OF ANY NECESSARY SURVEYS TO BE UNDERTAKEN IN KABUPATEN PIDIE AND RECOMMEND CONTROL INTERVENTIONS TO BE TESTED.

D. PREPARE A WORKPLAN FOR THE IMPLEMENTATION OF THE DIARRHEAL DISEASE CONTROL SUBPROJECT AND RECOMMEND ADDITIONAL CONSULTANT SERVICES TO ASSIST THE PROVINCIAL AUTHORITIES.

E. PROVIDE USAID/JAKARTA AND THE PROVINCIAL HEALTH OFFICE D.I. ACEH A WRITTEN REPORT OF CONSULTANCY AND RECOMMENDATIONS FOR THE DIARRHEAL DISEASE CONTROL SUBPROJECT. DRAFT REPORT TO BE SUBMITTED BEFORE DEPARTURE FROM INDONESIA.

4. ESTIMATED BUDGET

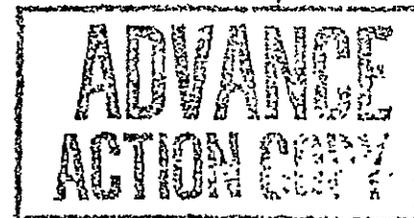
- SALARY UP TO (4 WEEKS X 6 X DOLS. 192.50)	4,020.00
- F.I.C.A. (6.85 PERCENT)	316.47
- INOCULATIONS, PASSPORT, AND MISC.	275.00
- INTERNATIONAL TRAVEL	3,000.00
- LOCAL TRAVEL	150.00
- PER DIEM	
- JAKARTA, 7 DAYS AT 77	539.00
- BANDA ACEH, 21 DAYS AT 50	1,050.00
- PER DIEM EN ROUTE TO AND FROM INDONESIA	280.00
- OTHER COSTS	200.00
TOTAL:	10,625.47

5. JUSTIFICATION FOR LOW-COMPETITIVE PROCUREMENT IS SAME AS FOR PLOT FOR DR. ROBERT NORTHERUP ISSUED AUGUST 1981, EXCEPT THAT THE WORK CALLS FOR A CONSULTANT WITH EXPERIENCE IN PLANNING AND CONDUCTING A DIARRHEAL DISEASE CONTROL PROGRAM.

6. PLEASE POUCH COPY PLOT TO USAID/JAKARTA. ADVISE ETA OF DR. ENGELBERG AND DR. CURLIN AND PROPOSED SCHEDULE FOR CONSULTANCY, INCLUDING ISELY AND ENGELBERG PORTION. WE FEEL IT IS IMPORTANT THAT ENGELBERG AND ISELY OVERLAP A MINIMUM OF ONE WEEK IN ACEH. ADVISE WHAT SCHEDULE YOU VISITS.

7. MISSING APPRECIATES AID/V ASSISTANCE. WINDER

A9TR



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TELEGRAM

PAGE 01 JAKARTA 00397 0350Z 5435 071201 AID2376

JAKARTA 00397 200350Z 5435 071201 A1

ACTION AID-35

HAYO GINGERICH GOI LIAISON OFFICIALS ARE DR. YULIUDIN AWAY AND DR. USMANHARIN JOSEF. TRAVEL WITHIN THE PROVINCE OF D.I. ACEH WILL BE REQUIRED AND SHOULD BE COORDINATED WITH THE GOI LIAISON OFFICIALS. UP TO 2 WEEKS WILL BE REQUIRED IN ACEH, BALANCE OF TOY WILL BE IN JAKARTA.

ACTION OFFICE ASIS-21  
INFO FVA-02 ASPD-03 A/SST-01 CHGT-02 STHE-01 PVC-07 CDC-05  
FELO-01 TELE-01 MAST-01 ASSP-01 /023 A2 020

INFO OCT-03 ANAD-01 /036 M

4. WASH CONSULTANT CLEARED FOR TOY BY MISSION. PLEASE ADVISE ETA. THANKS FOR ASSISTANCE. WINDER

O 200333Z JA: 02

FM WIEYERSCY JAKRTA  
TO SEGSTATE WASHDC IMMEDIATE 5520

UNCLAS JAKARTA 00397

AIDAC

ATTN: GEORGE CURLIN, ASIA/TB/HP

EO 12065: N/A

SUBJECT: CHIPPS - WASH CONSULTANT FOR DIARRHEAL DISEASE CONTROL SUBPROJECT.

REF: (1) STATE 112583, (2) JAKARTA 0739

1. USID REQUEST WASH IA FOR WATER AND SANITATION SPECIALIST FOR UP TO 3 WEEKS BEGINNING ON/ABOUT FEBRUARY 1. CONSULTANT TO ACCOMPANY DR. CURLIN AND DR. ENGELBERG TO ACEH PROVINCE TO ASSIST IN PLANNING OF SUBJECT SUBPROJECT.

2. SCOPE OF WORK FOR WASH CONSULTANT AS FOLLOWS:

- A. WORK WITH D.I. ACEH DIVISION OF ENVIRONMENTAL SANITATION, COMMUNICABLE DISEASE CONTROL AND OTHER PROVINCIAL OFFICIALS TO BEGIN PLANNING DIARRHEAL DISEASE CONTROL SUBPROJECT WHICH INCLUDES WATER-SUPPLY-SANITATION ACTIVITIES.

- B. ASSESS THE KNOWN EPIDEMIOLOGIC INFORMATION ON EPIDEMIC AND ENDEMIC DIARRHEAL DISEASES AND THE STATE OF DOMESTIC WATER SUPPLY AND SANITATION FACILITIES IN KABUPATEN PIDIE AND IDENTIFY CONTROL INTERVENTIONS WHICH MIGHT BE TESTED IN SUBPROJECT.

- C. REVIEW THE EXISTING TRAINING AND SUPERVISION ACTIVITIES IN THE FIELD OF WS/S AND RECOMMEND APPROPRIATE MAINTENANCE AND SUPERVISION HANDBOOK DEVELOPMENT ACTIVITIES WHICH MIGHT BE UNDERTAKEN AS PART OF SUBPROJECT OR AS A SEPARATE SUBPROJECT.

- D. REVIEW COMMUNITY PARTICIPATION ACTIVITIES WITH D.I. ACEH DIVISION OF ENVIRONMENTAL SANITATION, HEALTH SERVICES AND PROVINCIAL PVO'S AND RECOMMEND METHODS TO INSURE OPTIMAL PARTICIPATION OF THE POPULATION IN THE DESIGN, OPERATION AND ESPECIALLY MAINTENANCE OF THE WS/S COMPONENT OF SUBPROJECT.

- E. PARTICIPATE AS TEAM MEMBER WITH DR. GEORGE CURLIN AND DR. CARY ENGELBERG TO PREPARE A WORKPLAN FOR IMPLEMENTATION OF DIARRHEAL DISEASE CONTROL SUBPROJECT WHICH INTEGRATES WS/S ACTIVITIES WITH TREATMENT, SURVEILLANCE, EDUCATION, ETC

- F. FURNISH USAID/JAKARTA AND PROVINCIAL HEALTH OFFICE D.I. ACEH A WRITTEN REPORT OF CONSULTANCY AND RECOMMENDATIONS FOR THE INTEGRATED SUBPROJECT. COPY REPORT TO BE SUBMITTED BEFORE DEPARTURE FROM INDONESIA.

3. USAID LIAISON OFFICIALS ARE DR DAVID EWING AND WIMBY

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APPENDIX B

Itinerary

Jan 28	Lv Green Valley, AZ
Jan 31	Ar Jakarta
Feb 4	Lv Jakarta Ar Banda Aceh
Feb 8	Lv Banda Aceh Ar Sigli
Feb 12	Lv Sigli Ar Banda Aceh
Feb 13	Lv Banda Aceh Ar Jakarta
Feb 19	Lv Jakarta
Feb 21	Ar Washington
Feb 23	Lv Washington Ar Green Valley, AZ

APPENDIX C

Persons Contacted

Department of Health (National)

Dr. Bambang - Diarrheal Disease Control  
Mr. Roedjito - Diarrheal Disease Control

Department of Health (D.L.Aceh)

Dr. Ulladin Away  
Dr. Burharnuddin Yasue  
Dr. Anwar  
Mr. Abdurahman  
Mr. Anwar Sirigar  
Dr. Syaifuddin  
Mr. Kamaruddin

USAID

Dr. David Calder  
Ms. Molly Mayo Gngerich

Save The Children Foundation

Mr. Martin Pollan  
Dr. Ruchira Pollan

USAID

Dr. David Calder  
Ms. Molly Mayo Gngerich

Ford Foundation

Dr. Henry Mosley

UNICEF

Mr. Mesbahuddin Akhter

CARE

Mr. Iskandar

