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**WATER AND SANITATION  
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# **PUBLIC HEALTH EDUCATION FOR LOW COST SANITATION IN TANZANIA**

## **WASH FIELD REPORT NO. 92**

**JULY 1983**

The WASH Project is managed by Camp Dresser & McKee Incorporated. Principal Cooperating Institutions and subcontractors are: International Science and Technology Institute, Research Triangle Institute, University of North Carolina at Chapel Hill, Georgia Institute of Technology, Engineering Experiment Station.

Prepared for:  
**USAID Mission to the Republic of Tanzania**  
**Order of Technical Direction No. 142**

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July 22, 1983

Mr. Arthur Handly, Director  
USAID Mission  
Dar es Salaam, Tanzania

Attention: Mr. Paul Ehmer

Dear Mr. Handly:

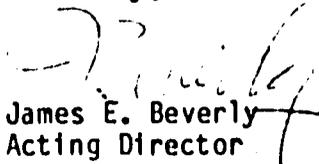
On behalf of the WASH Project I am pleased to provide you with 10 (ten) copies of a report on Public Health Education for Low Cost Sanitation in Tanzania.

This is the final report by Dr. John Hatch and is based on his trip to Tanzania from March 15 to April 2, 1983.

This assistance is the result of a request by the Mission on December 22, 1982. The work was undertaken by the WASH Project on March 3, 1983 by means of Order of Technical Direction No. 142, 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,

  
James E. Beverly  
Acting Director  
WASH Project

cc. Mr. Victor W.R. Wehman, Jr., P.E., R.S.  
AID WASH Project Manager  
S&T/H/WS

DBW:cdej

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WASH FIELD REPORT NO. 92

PUBLIC HEALTH EDUCATION FOR LOW COST SANITATION  
IN TANZANIA

Prepared for the USAID Mission to the Republic of Tanzania,  
under Order of Technical Direction No. 142 209

333  
Prepared by:

John W. Hatch, Dr. P.H.

July 1983

Water and Sanitation for Health Project  
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Washington, DC 20523

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## EXECUTIVE SUMMARY

USAID Tanzania requested a consultant to help the Tanzanian Ministry of Lands, Housing and Urban Development (ARDHI) and World Bank Technical Staff responsible for a low-cost sanitation project in Dar Es Salaam.

This project will test the acceptability and feasibility of the ventilated improved pit latrine (VIP) as a means of reducing diseases and other unpleasant consequences of human waste disposal in densely populated low income multi-ethnic urban communities.

Community education is considered necessary to encourage broad-based acceptance, proper maintenance, and proper utilization of the VIP and a satisfactory rate of amortization of construction loans. ARDHI has subcontracted these tasks to the Institute of Adult Education (IAE), a Tanzanian government agency with a strong reputation in adult literacy and mass education campaigns.

There is a need for a closer working relationship between ARDHI and IAE as ARDHI has expertise in the technical matters related to the potential benefits of selected technologies and IAE has expertise in communication.

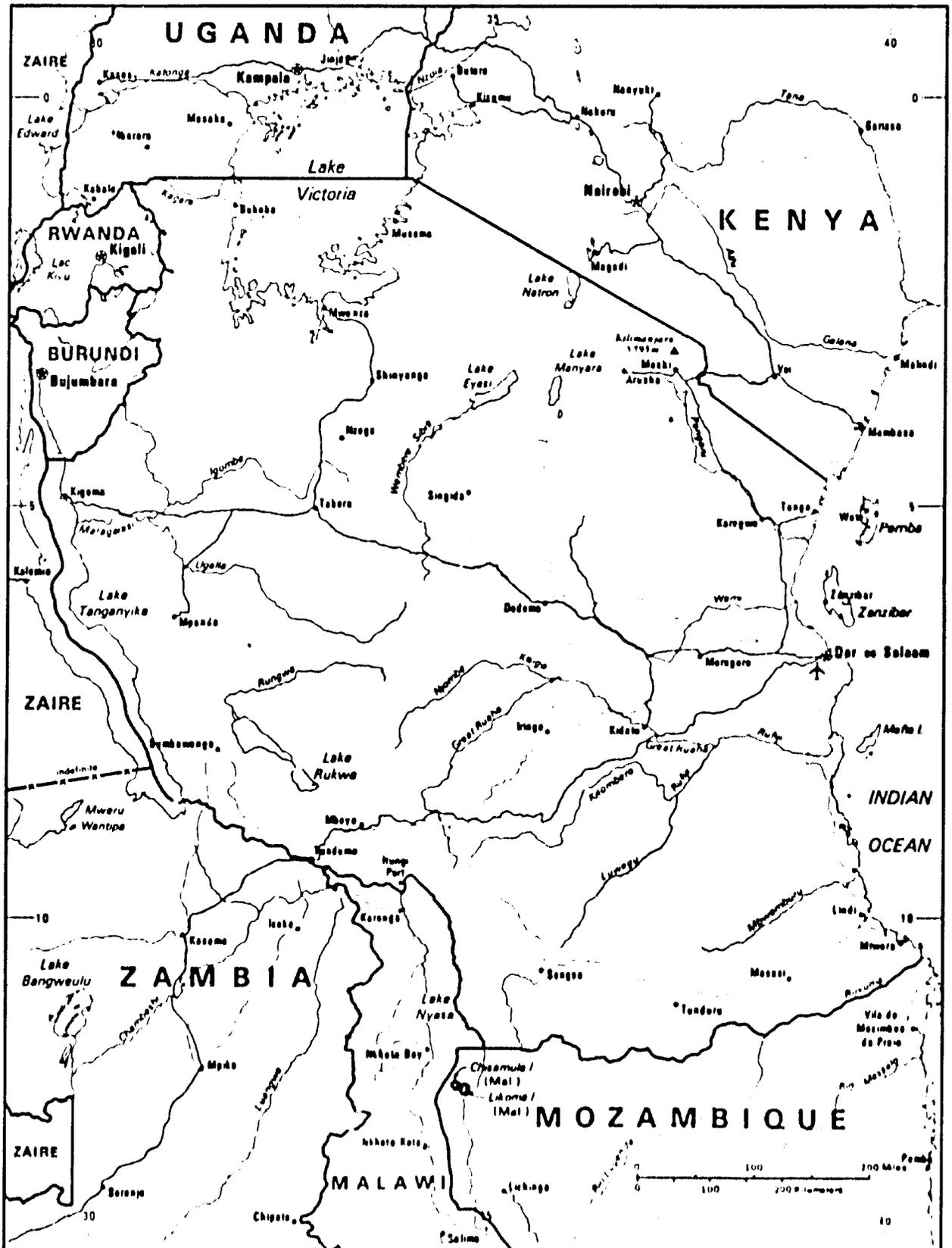
The emerging body of world knowledge regarding water and sanitation projects strongly supports the notion that grass roots involvement of the population is essential to long-term benefits. Careful planning of the education campaign will provide data on which to base future action in Tanzania as well as add to the understanding of the role of education in development.

An explicit and detailed statement of goals and methods should be jointly developed by ARDHI and IAE. In addition, it is recommended that IAE staff have the opportunity to attend seminars that would provide exposure to the development of social and behavioral science theories that provide the bases for new directions in the planning and implementation of health and development projects.

## ACKNOWLEDGEMENTS

The author would like to express special thanks to C. Kuhenga, F.B. Nyambo, M. Mbegn, B. Boydell, P. Ehmer, and A. Callan for their understanding and support.

# Tanzania



902745 6" (1933)  
 Mercator projection  
 Scale 1:800,000  
 Boundary representation is  
 not necessarily authoritative

—+— Railroad  
 — Road  
 ↑ Airport

## Chapter 1

### INTRODUCTION

#### 1.1 Purpose of Consultation

This consultation was to assist the Tanzanian Ministry of Lands, Housing and Urban Development (ARDHI) and the Institute of Adult Education (IAE) to develop an overall strategy for preparing and enabling residents in selected areas of Dar Es Salaam to purchase, properly use, and maintain improved pit latrines. It is generally acknowledged that IAE has the experience and capacity to conduct successful mass national campaigns, but the IAE/World Bank proposed subcontract for health education (since confirmed) requires development of program strategies to increase technical awareness and behavior change through neighborhood/community-specific promotional and educational activities. Bank professionals felt that the intervention strategy as described by IAE in the proposed contract was not sufficiently explicit nor detailed to assure that planned activities would avoid the pitfalls of past experience with mass campaigns. Such IAE activities in the past were based to a considerable degree on radio, posters, and education through the existing political organization and education structures. Past experience has demonstrated the limitations of these strategies in moving communities toward the level of awareness and sustained action required to produce long-term benefits from capital improvements in water and sanitation resources.

#### 1.2 Orientation

Over the past two years the Water and Sanitation for Health (WASH) Project has sent two separate teams of consultants to Tanzania to assist the AID Mission and the Government of Tanzania (GOT) in formulating plans and strategies regarding education and training in environmental sanitation. Following discussion between the World Bank-supported Low-Cost Sanitation Unit staff of the ARDHI Ministry, the AID Mission and Dr. John Briscoe, a consultant for WASH, it was determined that a health education specialist was needed to help in drafting an approach to user education for low-cost sanitation in the peri-urban areas of Dar Es Salaam. A request for assistance by the USAID Mission resulted in the issuing of Order of Technical Direction No. 142 (see Appendix A) by the AID Office of Health to WASH and this report is the result of that request.

Orientation for this assignment began in Chapel Hill with extensive briefing with Hilda Vanlankveld, ARDHI sociologist on leave for studies at the School of Public Health (SPH) at Chapel Hill, and Eugenia Eng and John Briscoe, recent WASH consultants to the Ministry of Water, ARDHI, and the Ministry of Health. Discussions were held with Albert Wright, consultant with the World Bank, on technical aspects of "ventilated improved pit" (VIP) latrine development and especially about his experience with acceptance of the VIP in Tanzania. The final U.S. briefing session was with Raymond B. Isely, M.D., WASH Associate Director with headquarters in Arlington, Virginia. In addition, earlier field reports prepared by WASH consultants, research studies conducted by ARDHI and technical reports and papers by Vanlankveld, Njau, Wright, Isely, Kuhenga, and others were reviewed.

On arrival in Dar Es Salaam, briefing continued with Paul Ehmer, USAID Health Officer, and Bob Boydell, and an overview was provided of progress to date and the objectives of ARDHI and the World Bank in supporting the education component of the project.

## Chapter 2

### DEFINING THE ROLE AND OBJECTIVE OF HEALTH EDUCATION IN THE PROJECT

#### 2.1 Focusing on Specific Behaviors

The Low Cost Sanitation Project was funded because of health problems related to human waste storage and disposal in densely populated urban squatter areas in Dar Es Salaam. It was expected that the health education component would achieve specific objectives related to acceptance and use of VIP latrines in these areas.

Toilet facilities in these areas were examined. Health risks associated with present facilities and their use were abundantly clear. A technical description of these conditions cannot convey the urgent need for corrective action as powerfully as the sights and smells afforded by an on-foot inspection of overflowing excreta storage facilities contaminating areas inhabited by infants and small children among others. On the positive side, it appeared to the consultant that residents showed considerable awareness of hygiene as evidenced by their disposing of refuse in hand-dug pits and the general orderliness of the neighborhoods given the circumstances. These conditions were perceived as positive indicators of past successes in efforts to raise awareness of hygiene and/or of innate tendencies toward cleanliness and as a prediction of potential success with the VIP latrine program.

Squatter areas in other less poor developing nations show far less hygienic consciousness than residents of these squatter areas in Dar Es Salaam.

Notwithstanding the need to raise the level of technical awareness of the relationship between hygiene and selected infectious diseases, it is also important to specifically identify general as well as neighborhood specific circumstances and behavior that influence the health of the community.

For example, data on the number and age of children in the neighborhood, areas set aside for small children to play in, the physical features of the land, soil type, drain patterns, toilet training patterns, and other easily observable behavior will prove useful in designing education strategies appropriate to the unique conditions existing in the neighborhoods of Dar Es Salaam.

#### 2.2 The Role of Health Education

The success of this project and diffusion of the concepts beyond the demonstration area will depend to a significant degree on the level and quality of support provided by urban services administrators and professionals concerned with community health and hygiene. Their notions of the project in terms of appropriateness, technical feasibility, target populations and activities necessary to assure success will influence the level and quality of participation. This type of information is also useful for designing education

and information sessions for use with party leaders and professional and administrative staff persons. Some of their ideas may well prove beneficial. In other instances there may be a need to clarify misconceptions and expand the perceptions of options required to increase the potential for success.

Some difficulty in coordinating the Low Cost Sanitation Project into overall systems of health and hygiene seems probable as these functions are based in several essentially autonomous bureaucratic structures, and lines of communications are not well established. It is possible to experience a high level of acceptance of the VIP latrine without increasing the level of technical awareness in the target communities or significantly reducing health risk associated with excreta disposal. The quality of participation in similar projects appears to have been the determining factor.

#### 2.2.1 City Council

The City Council President expressed strong support for the project but seemed likely to look to technical staff and influential party members for guidance in formulating policy. It then became important to know the sources of knowledge in-put into the city council and provide these persons with experiences and knowledge that will enable them to carry out their advisor roles in ways complimentary to project objectives.

#### 2.2.2 Senior Health Administrators

The City Medical Officer saw the project as an essential step toward assuming a healthy environment and hoped that experience gained from the demonstrations would generate data that would facilitate formulation of compulsory urban codes.

#### 2.2.3 Local Health Officer

A local health officer in one of the target districts felt that explanation of project objectives should first come from the city council and that negotiations of details such as criteria for participation and loan arrangements and enforcement should take place within the party structure. He saw the staff role as providing the council with knowledge of workable options but felt direct involvement by agency staff would place them in a mediating role without the prestige or authority to resolve difficult issues.

#### 2.2.4 Adult Literacy Teachers

Conversations with three adult education teacher/administrators provided insight into their involvement in past campaigns. These persons, as many others in direct service and administrative roles, work closely with party leaders in carrying out their professional roles. It is not uncommon to find agency staff workers holding official positions within the party organization. In past campaigns, adult literacy teachers were trained through seminars conducted by IAE. Most adult literacy teachers assigned to a particular community also hold

full-time teaching positions at elementary schools serving those same communities. These adult literacy teachers were aware of the need to improve sanitation and saw their role as supporting community leaders in promotion of the sanitation project. Adult literacy teachers are strategically situated and appear well suited to assume major responsibility for education and promotion at the neighborhood level.

#### 2.2.5 District Manpower Administrator

The District Administrator, as all other persons interviewed, agreed on the urgency of finding a solution for controlling waste disposal in unplanned urban communities. When asked whether this particular problem in the administrator's opinion should be given the highest priority, the Administrator agreed, provided highest priority was also given to water availability in the same districts and sanitation in a particular rural area within district boundaries. This person's technical knowledge of the problem was impressive. She was aware of potential cultural barriers to utilization by some groups and wondered what action would be taken to address such issues. The administrator had some concern regarding technical options for developing human waste storage facilities in low lands with a high water table.

She had been told that latrines of the design proposed for the Low Cost Sanitation Project would not operate properly under such conditions. She felt that demonstration efforts should focus on schools because of the deficiency of toilet facilities at schools and because schools provide excellent potential to educate teachers and students on proper latrines use.

Issues related to criteria for participation, proper maintenance, and self-help loans and repayment should include input from the grass roots. The administrator assured the consultant that persons at the neighborhood level would have strong notions on project direction and invited the exploration of some of the issues raised with her at community meetings at the local level.

#### 2.2.6 Grass Roots Perceptions

In these contacts, as with others above, the findings were not the focus of investigation. The intent was to bring to the surface and integrate knowledge of key people into the design of the program component intended to encourage acceptance and proper utilization.

The consultant attended two meetings at local headquarters offices and spoke with leaders at a third local office. Residents of various rank attended these meetings. Although the consultant does not speak or understand Swahili, he was able to observe dynamics with these groups and note characteristics such as sex, age, and economic status. Participants were active, with approximately three-quarters of the persons present taking part in the debate. Participants were asked to relate their thoughts around several issues related to the project. Their inputs are summarized below:

1. Project Acceptability: high.

2. Design of VIP: Impressed by permanence, promise of no odor, and reduction of fly population.
3. Who should receive VIP loans? Owners of houses.
4. Application process preferred: Should be based at the Party branch office; form committee at the branch office to review and advise.
5. Who should build VIP? Exclusive contractor construction rejected as risky and potentially expensive. Local builders should be taught technology during construction of demonstration latrine. There should be a self-help option.
6. How long should loan period be? Three years was considered too short; ten years was considered too long. Five to six years was considered about right for a low income family.
7. How should education component be introduced? Establishment of special study groups rejected. Instead all education material should be integrated into existing organization and communication structures, including literacy classes, health organizations, party organization, newspapers and radio, and schools.

Seeking the opinion of the community need not imply a promise to follow popular opinion especially when there are solid reasons not to do so. It does acknowledge the importance of consumer input into a process focused on developing the most feasible solution. It is important to explain why information is being collected. Differences between technical staff and the community on how the project should best proceed should be identified. Positions held should be clearly understood by all parties concerned. The best technical solutions may not be socially appropriate just as socially preferred procedures may be technically ineffective. Knowledge of differently held notions would enable staff to assess the strength of potential conflicts and to explore technically acceptable options to those perceived as objectionable. The community groups contacted were able and willing to participate in strategy planning.

## Chapter 3

### DIRECTION OF EDUCATION COMPONENT

The World Bank and ARDHI selected the Institute to carry out the education component of the project based on that organization's good record in adult literacy and selected development efforts. The first draft by IAE did not include citizen involvement at the grass roots level that recent experience indicates is necessary to assure acceptance and long-term benefit. The document submitted by the Institute appeared to the Bank reviewers as more appropriate for a mass campaign strategy rather than for gaining grass roots understanding, support, acceptance and proper utilization of VIP latrines in the specific low-income communities in Dar Es Salaam.

During discussions it seemed that Institute staff had in fact understated the in-puts they would make, perhaps on the assumption that such activities as working with small groups and with adult education teachers in communities was understood. Notwithstanding their understatement and probably reliance on a standard protocol for writing their program strategy, it appeared that IAE had perceived an important element of its mission as one of increasing appropriate technical knowledge within target populations and suggesting ways to strengthen the design of the health education component.

After discussing interventions with IAE staff in considerable detail, the consultant was assured that appropriate actions would be carried through. Prior efforts by IAE such as the Criwanda Nutrition and Development Project, as well as continuing excellence in adult literacy, has brought world recognition to this organization. The problem with development as a discipline has not been the absence of successful projects. There have been many successful development efforts. The problems emerge when diffusions of a development model is attempted, especially when diffusion is attempted in socially and culturally different environments. With few exceptions, successful development teams have been more action oriented than research oriented. The result has been a rather slow emergence of generic principles to guide development activities. Practitioners have often objected to rigidly controlled studies on the grounds that good development is process based and flexible and therefore not compatible with formally controlled studies.

Since it is increasingly recognized that improvement in the quality of life for most of the people in the world will be determined by their ability to plan and execute low-technology low-cost projects that can be carried out with limited outside assistance, interest in development as a scientifically based activity has increased. It is because of these considerations that international development organization such as the World Bank and USAID, in addition to solving local problems, increasingly insist on attention to detail in planning, implementation, and long term evaluation.

The action plan designed by IAE did not include sufficient detail in these areas.

ARDHI has conducted several studies probing cultural and social issues and present practices related to VIP latrine acceptance. These data would enable a joint ARDHI/IAE team to formulate assumptions and hypotheses that could be tested as the project develops. Completed ARDHI research would also be useful in setting community education priorities.

## Chapter 4

### OBSERVATIONS AND RECOMMENDATIONS

#### 4.1 Targeting Specific Problems

The educational intervention should be more sharply focused on recognized problems, working assumptions, and community strength. The IAE, as stated earlier, has a world class track record it wishes to maintain. It should, however, be remembered that Institute staff are adult education specialists with special skills in that area and not necessarily in health education. This is especially so as health education is redefined as a discipline based on application of scientifically applied social and behavioral science principles. With support through selected short-term courses Institute staff should be capable of integrating these dimensions into their strategy. It is fine to begin with tried and proven strategies that responsible personnel and the community know and value. In developing materials for phase one of the Institute strategy, their efforts could be strengthened by focusing learning objectives on problem areas already identified by ARDHI, especially in the research conducted by Vanlankveld under Njau's supervision.

The following problems were identified by Vanlankveld in the Mabibo squatter area in Kinoudoni:

1. No drain for surface water.
2. Women neglected in seminars focused on domestic environmental improvement.
3. Many families fail to make proper disposal of refuse.
4. Use of pond and ditch water for washing and cleaning.
5. Health officer not easily available to hear or act on environment abuse complaints.
6. Sullage disposal is a problem.
7. Communal toilet facilities are poorly maintained.
8. People fear falling into the pit.
9. Ninety-seven percent of families use latrines for bathing.
10. Many latrines are full or near full and there is no adequate mechanical evacuation equipment.

Vanlankveld's work and papers by Njau and others document many of the major environmental hazards in target communities.

ARDHI staff should rank these problems into some type of priority such as those requiring immediate attention, those requiring intermediate action, and those requiring longer term action. ARDHI could also say which matters can be

managed by self-help efforts and which ones require technical and/or professional input. Institute staff should be familiar with existing data so as to avoid duplication in the collection phase and to identify with ARDHI areas for which additional research may be required. On-going close consultation between the technical experts in sanitation and the technical experts in education should continue throughout this project.

There appears to be a number of working assumptions that may or may not be shared by ARDHI, the Bank, and the Institute. Some of these are listed below:

1. Increased awareness of health risk will enhance acceptance and use.
2. Prior campaigns have contributed to readiness to accept the VIP.
3. Use of sanitation facilities will be appropriately influenced when the stimulus is directed through secondary organizations such as zone and cell committees.

Assumptions 1 and 3 above appear on the surface to be somewhat at odds with world development experience which holds that (1) health education encourages voluntary action by the consumer to promote health and (2) that durability of cognitive and behavioral change is proportional to the degree of active rather than passive involvement.

#### 4.2 Formal and Informal Groupings

Activity to increase awareness is an appropriate beginning point and the plan to involve zone and cell leaders is expedient. However, it will be necessary to carry the campaign to small primary groups.

Less formal groupings characterized by intimate and enduring relationships have been found to hold considerable potential for health promotion. Examples include friendship groups, play groups of children, and women who exchange child care and shopping responsibilities. Study of their feelings and beliefs may provide significant and essential information for health education strategy planning. Insights thus gained may provide clues to existing health habits and beliefs, such as action undertaken to prevent illness and to promote health, as well as patterns of influence and advice-seeking when issues related to health and hygiene are being considered. Primary friendship groups exert powerful pressure to conform because of the fundamental human urge for acceptance and belonging.

Secondary groups such as "ten-cell" committees and zonal committees have formal power and must be arduously cultivated. It is important to remember that these groups are usually concerned with broader issues influencing many facets of community life. While their approval and support are absolutely essential, greater results from education efforts may come from informal education actively conducted within primary clusters. Tasks such as developing overall strategies for hygiene improvement, setting criteria for participation, and ranking priorities might best be carried out through interaction with zonal organizations in conjunction with ten-cell groups. However,

developing a strategy to increase the proper number use of latrines by young children would best be carried out through the mothers, older siblings, and others who care for young children.

Study of the community should be an ongoing process and resulting findings should be used to modify strategy.

There are several unanswered questions:

1. What should be the criteria for participation? (This then becomes a part of the education process.)
2. What additional self-help environmental changes would form a technical perspective to produce greatest results?
3. What criteria should be used in assessing the education campaign?
4. Which health behavior in addition to latrine use should be targeted? As any health education strategy refers to the totality of experience designed to promote the project, conferences for professional leaders and ten-cell leaders appear justified.

#### 4.3 The Community Survey as Reinforcement

More normal education efforts could be reinforced by involving participants in a community survey. ARDHI could specify which 12 to 20 items best indicate quality of environment and prepare a simple survey instrument. The results of this exercise could provide useful data for evaluation as well as stimulus for involvement.

The structures necessary to carry out the educational project are in place. They may require stimulation, guidance, encouragement, and support. The challenges of projects such as this one will probably comprise a new frontier in development. The potential benefits are enormous.

It would be wise to have in-put from a Tanzanian health educator during the on-going process of the campaign as well as during planning and pilot period. Mr. Cleopas S. Msuya, Principal, Kilamayaro Christian Medical College, Moshi, who worked as a research assistant at the University of North Carolina at Chapel Hill and who currently holds an adjunct professorship with the School of Public Health is well qualified to perform this role. He would be assured of technical back-up from Chapel Hill and is personally acquainted with most of the faculty in Health Education.

One or more staff person(s) with IAE would benefit by taking a course in health education theory such as the course on health and development offered during the month of July at the University of North Carolina so that the Institute could develop health education as an area of sub-specialization. Dr. Urban Johnsson of UNICEF and this consultant discussed health education challenges in his projects and with low cost sanitation. Dr. Johnsson has money for short-term training and expressed interest in assisting IAE to sharpen its capacity for planning and administration of grass roots health education efforts.

## Chapter 5

### SUMMARY FINDINGS AND RECOMMENDATIONS

#### 5.1 Findings

1. The action plan proposed by IAE did not adequately describe the activities they actually intended to carry out under the contract. The adult literacy program at the community level is carried on by a cadre of persons who appear to have strong grass roots contacts in the communities in which they work. Most of these persons also teach in primary schools serving these communities and some are involved in the political structure as well. IAE's strategy as explained by senior staff would rely on this level worker to assume a major role in their community action plan.
2. It was unclear and or undecided whether the education project would target latrine promotion, use, and maintenance narrowly or within the context of broader related hygienic concerns.
3. Strategies for developing the education project did not reflect awareness of prior research in community perceptions and behaviors related to latrine use and related hygienic problems.
4. ARDHI and IAE roles and relationships vis-a-vis each other were not clearly defined.
5. Evaluation design was compromised by lack of specificity in proposed community/neighborhood action plans.
6. Criteria for participation in the project were not defined such as:
  - a) Whether inclusion in the project would require attendance of household heads and family members in educational sessions.
  - b) If and how self-help efforts might reduce cost and how participants would be trained and supervised.
  - c) What type repayment program would best meet needs of the population.
  - d) What unit of administration should assume responsibility for managing collection of loans.

The latter two had not been determined nor was there a defined process for pursuing these matters.

#### 5.2 Recommendations

1. Explicitly state all of the efforts that will be carried out in promotion of neighborhood/community education. State in detail which staff persons will carry out this role and how they will do it. Much more detailed description is needed of how micro-networks such as friendship and play groups will be involved in the education process. This recommendation is supplementary rather than in lieu of stated strategies.

2. A broader rather than narrower educational focus is recommended on both technical and sociological grounds. Improvement of health status is dependent upon a cluster of hygienic health practices. Proper excreta disposal is one of these and must receive top priority. Other matters such as wastewater disposal, hand washing, solid waste removal, environmentally safe play areas, adequate water supply quality and storage, bathing facilities, and soap manufacturing are also important and may be matters of greater concern to community people than latrines. Attention to selected examples of the above factors and related concerns would increase the potential for measurable improvements in health status. The other reason for suggesting broader based rather than a narrow approach is the potential for increasing the participation of citizens. This broader participation would leave open the opportunity for persons down to the ten-cell level to do sanitation needs assessments and enable them to identify areas of special concern.
3. Prior research carried out by ARDHI should be reviewed with guidance from ARDHI before determining additional need for data and used in content determination and selection for the education project.
4. Behavior and attitudes which need to be changed should be selected in accordance with technical importance as well as relative effort required to achieve the objectives. These choices will require consultation with senior technical staff at both ARDHI and IAE.
5. Process evaluation seems the best evaluation approach but cannot be designed until there are more specific program targets and methodologies regarding less formal aspects of community/neighborhood education.
6. Carefully planned criteria for participation would enhance the potential for success. Since prior action and understanding are perceived as predictors of success, these factors could be established as requirements for participation. Since the project is a demonstration project which it is hoped will have a broad and far-reaching impact, success is especially important. A high percentage of acceptors at the zone level would enhance its potential as well as ease problems of administration and management. It is believed that most residents will elect to hire a skilled crafts-person to construct their latrine and discharge the cost of this labor along with other expenses. It is also acknowledged that some householders will find the minimum cost to be an unbearable burden. This seems to be reason enough to include the option for self-help as a means of cost reduction. Details for this dimension of the project should be developed. Success of the repayment experience on loans may well determine future success of the project. A plan designed with in-put from administrators, politicians, and consumers is called for. Bottom-up communication is especially important.

It is important to develop the capacity of IAE to carry out education campaigns for this and other development projects with potential national impact. The IAE has a highly motivated and well-trained staff that appears willing to add these skills to existing ones. They need resources and support in achieving this objective. Continuing review and in-put from a health educator with strong orientation to and skill in community health education

theory and practice would be useful. The staff of IAE should be exposed to formal instruction in health and development theory probably by means of a course. The establishment of a basic library on health education is also strongly recommended. The consultant will supply selected journal articles to ARDHI and IAE officers. WASH should provide selected technical papers and books.

APPENDIX A

WATER AND SANITATION FOR HEALTH (WASH) PROJECT  
ORDER OF TECHNICAL DIRECTION (OTD) NUMBER 142  
March 3, 1983

MAR 9 1983

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

FROM: Mr. Victor W. R. Wehman Jr., P.E., R.S. *[Handwritten Signature]*  
AID WASH Project Manager  
AID/S&T/H/WS

SUBJECT: Provision of Technical Assistance Under WASH Project  
Scope of Work for USAID/Tanzania

REFERENCES: A) WASH Telex No 609, dated 2 Mar 83  
B) Dar Es Salaam 01256, dated 25 Feb 83  
C) Dar Es Salaam Telex No 0714, dated 25 Feb 83  
D) WASH Telex No. 547, dated 17 Feb 83  
E) Dar Es Salaam 00988, dated 14 Feb 83  
F) Dar Es Salaam 07949, dated 23 Dec 82  
G) Letter Kalundwa (USAID/Tanzania) to AID/W WASH Office, dated 6 Jan 83  
H) Letter Minja (Principal Secretary--Ministry of Lands, Housing and Urban Development--The United Republic of Tanzania) to The Director, USAID/Tanzania, dated 12 Oct 1982 entitled "Request for Technical Assistance Consultant Health Educator Low Cost Sanitation"

1. WASH contractor requested to provide technical assistance to USAID/Tanzania as per Ref. F, para 2 and Ref. H.
2. WASH contractor/subcontractor/consultants authorized to expend up to 32 person days of effort over a four (4) month period to accomplish this technical assistance effort.
3. WASH contractor authorized to expend up to 26 person days of international/domestic per diem to accomplish this effort.
4. Contractor to coordinate with AFR/TR/HN (J. Shepperd), AFR/TR/ENG (J. Sned), Tanzania desk Officer and should provide copies of this OTD along with ETA and periodic progress reports as requested by AFR Bureau and S&T/H/WS staff.
5. Contractor authorized to provide up to one (1) international round trip from consultants home-base through Washington (for briefings) to Dar Es Salaam, Tanzania and return to consultants home base through Washington D.C. (for debriefing and reports) during life of this OTD.

6. Contractor authorized local travel in and around Dar Es Salaam as necessary and appropriate to accomplish this technical assistance effort NTE \$ 750 without the prior written approval of the AID WASH Project Manager.
7. Contractor authorized to obtain local secretarial, graphics or reproduction services in Tanzania as necessary and appropriate to accomplish tasks NTE \$ 450 without the prior written approval of the AID WASH Project Manager. USAID/Tanzania expected to support WASH consultants activity to maximum extent possible and appropriate using available USAID/Tanzania resources. These services are in addition to the level of effort specified in para 2 and 3 above.
8. Contractor authorized to provide for car rental or taxi rental if necessary to facilitate effort. Mission and/or GOT Ministry requested to provide vehicle support for consultant if available and appropriate.
9. WASH contractor will adhere to normal established administrative and financial controls as established for WASH mechanism in WASH contract.
10. WASH contractor should definitely be prepared to administratively or technically backstop field consultants and subcontractors.
11. New procedures involving subcontractor cost estimates and justification of selection of consultants remains in effect.
12. Contractor to report on technical assistance effort. Consultant to provide coordinated draft report to USAID/Tanzania and appropriate GOT Ministries/Agencies before leaving Tanzania. Final report due to USAID/Tanzania and S&T/H/WS within 30 days of return of consultant to the U.S. Final report and coordinated draft report to be prepared in English, single-spaced.
13. USAID/Tanzania and other coordination points identified in para 4 above should be contacted immediately and technical assistance initiated as soon as possible or convenient to USAID/Tanzania.
14. Appreciate your prompt attention to this matter. Good luck.

*Continuation  
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41250 AMEMB DAR

TO: USAID/DAR ES SALAAM

PLS PASS TO PAUL EHMER, HEALTH OFFICER

FROM: ST/H/WS AND C. HAFNER/WASH

SUBJECT: PUBLIC HEALTH EDUCATOR ASSISTANCE

REFTEL: DAR ES SALAAM 07949, 00988, 01256

WASH TELEX 609

1. FOLLOWING DISCUSSIONS WITH WASH, ST/H/WS HAS AUTHORIZED THE WASH PROJECT TO PROVIDE A PUBLIC HEALTH EDUCATOR TO ASSIST THE MISSION AND GOT TO PREPARE A STRATEGY OUTLINE FOR A HEALTH EDUCATION AND PROMOTION CAMPAIGN WITHIN THE DAR ES SALAAM LOW COST SANITATION PROJECT FOR UP TO 3 WEEKS SO THAT THE WORK CAN BEGIN ASAP BUT NLT MAR.15 AND BE COMPLETED BY APR.1. WASH HAS, AS YOU KNOW, IDENTIFIED DR. JOHN HATCH OF UNC TO UNDERTAKE THIS TASK. HIS ETA/DAR IS TENTATIVELY SCHEDULED FOR MAR.15, SUBJECT TO MISSION CABLED APPROVAL OF HIM.

2. NEITHER ST/H/WS NOR WASH HAS RECEIVED THE 'PROJECT PROPOSAL' TO DATE MENTIONED IN DAR ES SALAAM 00988, PARA NO.2.

3. RE: PROPOSED PUBLIC HEALTH ENGINEER, THE WASH PROJECT MANDATE DOES NOT ALLOW FOR ASSISTANCE OF 6-9 MONTHS DURATION. WOULD SUGGEST THAT MISSION CONSULT WITH WORLD BANK TAG PROJECT FOR POSSIBLE ASSISTANCE ON THIS MATTER. J\*

41250 AMEMB DAR.....9  
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AIDAC

AID/W FOR ST/HEA/WS WEHMAN

E. O. 12356: N/A

SUBJ: REQUEST FOR TECHNICAL ASSISTANCE  
- IN HEALTH EDUCATION WASH

REF: A) DAR 7949 (82)  
- B) DAR 988

MISSION RECEIVED TELEX FROM WASH 18 FEB REQUESTING DATES FOR SUBJECT CONSULTANT. ARDHI INDICATED THEY REQUIRE CONSULTANT WEEK OF 13 MARCH FOR 2-3 WEEKS. BEFORE RESPONDING TO WASH TELEX MISSION RECEIVED PHONE CALL FROM OKUN IN NAIROBI ON 24 FEB WITH INQUIRY ABOUT DATES FOR CONSULTANT. OKUN INDICATED THAT JOHN HATEH HAD TENTATIVELY BEEN IDENTIFIED AS THE CONSULTANT, BUT THAT HE WOULD NOT BE AVAILABLE UNTIL MID APRIL. HATEH IS PROFESSOR OF HILDA VAN AT NORTH CAROLINA. HILDA IS ARDHI EMPLOYEE DOING TRAINING IN HEALTH EDUCATION. SHE WILL RETURN TO TANZANIA AT THE END OF THIS YEAR. WASH HAD PROPOSED HATEH INVOLVEMENT BECAUSE OF POSSIBLE PRE AND POST VISIT FOLLOW UP WITH HILDA, SINCE SHE WILL RETURN TO WORK ON IMPLEMENTATION OF THE HEALTH EDUCATION PROGRAM. MISSION AND ARDHI AGREE WITH THIS IN PRINCIPAL, BUT ARDHI INDICATES TIME PRESSURES DICTATE EARLIER ARRIVAL OF CONSULTANT. THEREFORE, MISSION REQUESTS WASH IDENTIFY ANOTHER INDIVIDUAL WHO COULD COME EARLIER AS INDICATED ABOVE. PLEASE ADVISE NAME, BIOGATA, AND ETA. ASAP. MILLER

*Mc Junkin  
Austin  
Wiffen  
Wetter and JWB*

*Received ST/H/WS (Wehman) 2-25-83  
Passed to WASH 2-25-83*

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International Telex  
International, Inc.

0214 02/25\*  
WASHAID 64552

41591 USAID

SUBJECT: PUBLIC HEALTH EDUCATION FOR LOW COST SANITATION PROJECT

REF : A) YOUR TELEX NO. 547  
B) DAR 7949

1. ARDHI CONTACTED FOR DATES . THEY INDICATE WEEK OF 13 MARCH FOR 2-3 WEEKS MOST APPROPRIATE. MISSION RECEIVED PHONE CALL FROM OKUN IN NAIROBI WITH INFO THAT BRISCOE HAD IDENTIFIED JOHNN HATCH OF UNC AS CONSULTANT, BUT HE WOULDN'T BE AVAILABLE UNTIL MID APRIL. HATCH CONNECTION WITH HILDA VAN, ARDHI STUDENT IN H.F.D. AT UNC GOOD BUT ARDHI INDICATES TIMING REQUIRES EARLIER ARRIVAL IF POSSIBLE AS NOTED ABOVE. THEY WERE INFORMED OF ADVANTAGES OF HATCH, BUT STILL PREFER EARLIER ARRIVAL. PLEASE ADVISE NOMINEE, ETA ASAP SO ACCOMODATION ARRANGEMENTS CAN BE MADE.

NN\*  
WASHAID 64552

41591 USAID.  
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41250 AMEMB DAR

OUR TELEX NO. 547

TO: PAUL EHMER, USAID/DAR-ES-SALAAM

FROM: R.B. ISELY, WASH PROJECT

RE: PUB HEALTH ED FOR LOW COST SANITATION PROJECT (CETTEL  
DAR-ES-SALAAM 07949)

PLEASE LET ME KNOW SOON EXPECTED DATES FOR CONSULTANT.  
WE HAVE IDENTIFIED SEVERAL POTENTIAL PERSONS BUT CANNOT MAKE  
SELECTION BASED ON AVAILABILITY UNTIL DATES OF CONSULTANT ARE  
SET. APPRECIATE YOUR MULTIPLE PREOCCUPATIONS SO SHORT ANSWER  
WILL DO. THANKS. J\*

41250 AMEMB Dh:.....  
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Western Union International, Inc.

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Department of State

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AID/WASH. FOR ST/HEA/WS, WEHMAN

E. O. 12356: N/A

SUBJ: TANGOV REQUEST FOR TECHNICAL ASSISTANCE IN  
- HEALTH EDUCATION

REF: DAR 7949

McJunkin  
Austin  
Witten  
~~WEHMAN~~  
VW

1. MISSION RELAYED SUBJECT REQUEST VIA REPTTEL 12/22/82 WHILE HEALTH OFFICER ON LEAVE. EMER DISCUSSIONS WITH WASH AND ST/HEA DURING TOY IN JANUARY INDICATED POSITIVE RESPONSE TO REQUEST, BUT MISSION HAS RECEIVED NO WORD SINCE THEN. AROMI MINISTRY, WHICH MADE THE REQUEST HAS CONTACTED MISSION WITH FURTHER INFORMATION REGARDING START UP ACTIVITIES OF WORLD BANK SUPPORTED DAR ES SALAAM SEWERAGE AND SANITATION PROJECT, WHICH PROPOSED CONSULTANT WOULD BE INVOLVED WITH. GOT EXPECTS MONEY TO BE AVAIL- ABLE O/A APRIL 1 FOR THE DAR ES SALAAM PROJECT. AROMI WOULD LIKE TO INITIAL VISIT OF CONSULTANT TO TAKE PLACE AS SOON AS POSSIBLE SO INITIAL PLANNING FOR HEALTH EDUCATION CAMPAIGN COULD BE COMPLETED PRIOR TO APRIL 1 AVAILABILITY OF FUNDS FOR IMPLEMENTATION UNDER WORLD BANK PROJECT;

2. PROJECT PROPOSAL FOUCHED TO WASH OFFICE JAN 6. PLEASE INDICATE WHETHER PROPOSAL RECEIVED AND WHETHER WASH CAN PROVIDE CONSULTANT AS OUTLINED IN PROPOSAL AND REPTTEL PAR 2.  
MILLER

Received ST/H/WS (Wehman) 2-17-83  
Passed to WASH 2-17-83

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GOT'S REQUEST.  
MILLEN

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AIDAC

E.O. 12356: N/A  
SUBJ: TANZANIAN REQUEST FOR TECHNICAL ASSISTANCE IN HEALTH  
EDUCATION AND PUBLIC HEALTH ENGINEERING

1. UZBEK HAS BEEN ASKED BY GOT TO PROVIDE A HEALTH EDUCATOR AND A PUBLIC HEALTH ENGINEER FOR TECHNICAL ASSISTANCE TO THE MINISTRY OF LANDS, HOUSING AND URBAN DEVELOPMENT (ARDHI). THESE REQUESTS HAVE GROWN OUT OF THE WASH INITIATIVE AND AS A RESULT OF THE RECOMMENDATIONS OF THE ENVIRONMENTAL SANITATION MASTER PLAN FOR TRAINING AND EDUCATION IN TANZANIA.

2. A HEALTH EDUCATOR IS NEEDED TO WORK WITH THE LOW COST SANITATION UNIT OF ARDHI TO PREPARE STRATEGY OUTLINES FOR A HEALTH EDUCATION AND PROMOTION CAMPAIGN WHICH WILL COMPLEMENT THE LOW COST SANITATION PROGRAM OF THE DAR-ES-SALAAM SEWERAGE AND SANITATION PROJECT. THIS CONSULTANT (HEALTH EDUCATOR) SHOULD HAVE PRACTICAL EXPERIENCE IN DEVELOPING COUNTRIES IN THE WATER AND SANITATION SECTOR, ESPECIALLY IN COMMUNITY BASED PROJECTS. HE/SHE IS ENVISAGED AS HAVING A MEDICAL OR SOCIAL SCIENCE BACKGROUND. THE CONSULTANT WILL WORK TOGETHER WITH THE LOW COST SANITATION UNIT AND THE INSTITUTE OF ADULT EDUCATION, DAR ES SALAAM CITY COUNCIL, AND OTHER RELEVANT BODIES TO FORMULATE AN APPROPRIATE STRATEGY FOR THE HEALTH EDUCATION CAMPAIGN IN SUPPORT OF THE SANITATION PROMOTION CAMPAIGN. THE STRATEGY WILL OUTLINE THE PERSONNEL AND LOGISTICS SUPPORT REQUIRED, THE METHODS OF OPERATION, PHYSICAL PROGRAM, ANY TEACHING/PROMOTION AIDS REQUIRED, THE PROCESS OF MONITORING AND EVALUATION, AND THE ESTIMATED COSTS. THE CONSULTANT WILL INITIALLY WORK IN TANZANIA FOR APPROXIMATELY FOUR TO SIX WEEKS AND WILL BE REQUIRED FOR TWO FURTHER SUPPORT VISITS OF THREE WEEKS EACH DURING THE FOLLOWING EIGHTEEN MONTHS.

3. A PUBLIC HEALTH ENGINEER IS REQUIRED TO WORK IN THE SEWERAGE DIVISION OF ARDHI FOR BETWEEN SIX AND NINE MONTHS TO DESIGN STANDARD SPECIFICATIONS FOR SEWERAGE, SEWAGE TREATMENT AND SANITATION PROJECTS; TO DESIGN STANDARD CONTRACT DOCUMENTS; TO DRAW UP STANDARD TERMS OF REFERENCE AND AGREEMENTS FOR CONSULTING ENGINEERS TO BE EMPLOYED BY THE DIVISION; TO DEVELOP A STANDARD DESIGN PROCEDURE MANUAL FOR USE BY THE DIVISION STAFF; AND TO PREPARE A STANDARD MANUAL OF OPERATIONS AND MAINTENANCE OF SEWERAGE AND SEWAGE TREATMENT WORKS. THIS CONSULTANT SHOULD BE THOROUGHLY EXPERIENCED IN DESIGN PREPARATION OF CONTRACT DOCUMENTS AND SPECIFICATION FOR WORKS OF SEWERAGE SEWAGE TREATMENT AND SANITATION, ESPECIALLY IN DEVELOPING COUNTRIES, AND PREFERABLY IN EAST AFRICA.

4. PLEASE ADVISE WHETHER FUNDING FOR THIS TECHNICAL ASSISTANCE IS AVAILABLE UNDER WASH OR OTHER MECHANISM AND WHAT THE POSSIBILITIES ARE OF RESPONDING POSITIVELY TO

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UNITED STATES OF AMERICA  
AGENCY FOR INTERNATIONAL DEVELOPMENT

P. O. Box 9130,  
Dar es Salaam, Tanzania

January 6, 1983

Water & Sanitation for Health Project Office  
AID/Washington

Dear Sir,

I hope by now you have received our Dar Es Salaam 9078 sent to you recently concerning a Tanzania Government request for technical assistance in Public Health Engineering and Health Education.

Herewith we send you by pouch the original copies of the request for technical assistance from the Tanzania Government.

Yours sincerely,

Edward A. Kalundwa  
Health, Nutrition &  
Population Office



PROJECT PROPOSAL

Short Term Consultancy

A Health Educator to work with the Low Cost Sanitation Unit in the Ministry of Lands Housing & Urban Development (Ardhi), to prepare a proposal for tenders for a Health Education and Promotion Campaign which will complement the Low Cost Sanitation Programme of the Dar es Salaam Sewerage and Sanitation Project.

Background

Dar es Salaam the Principal City of Tanzania has a population of approximately One Million, and for over 80% of this population the only possible sanitary facility is a self constructed pit latrine, for the remaining population who have access to water borne sanitation the situation is little better, the sewerage system having fallen into disrepair over the years.

In order to remedy this situation Ardhi Ministry as agents for Dar es Salaam City Council have commissioned the preparation of a major project which has three main components.

1. The rehabilitation of the Central Water Borne Sewerage system
2. The establishment of a functional sewerage and sanitation department in the City Council
- and 3. Low Cost Sanitation Programme for the peri urban areas.

This project is well advanced in the design stage and in awaiting final approval by the World Bank before phase one implementation take place.

The Low Cost Sanitation Programme

The Government is aware that because of financial and other constraints the only possible immediate solution to the sanitation problems in the peri urban areas is a low cost technology that is self financed by the recipients.

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The Government is also aware that an improvement of the health profile of the peri urban dwellers will not be achieved solely by providing adequate sanitary facilities and that an educational process is required to bring about social and behavioural change.

Ardhi will commission the Institute of Adult Education to design the promotional and health education campaign that will reinforce the sanitation programme.

The Institute of Adult Education has had great experience in various national education programmes however their experience in the sanitation and water sector is less extensive; the consultant would provide specific expertise in this field.

#### The Consultant

Should be health Educator with practical experience in developing countries in the water and sanitation sector especially in community based project. He/She is envisaged to have a medical or social science background.

#### Duties

The Consultant would work together with the Low Cost Sanitation Unit in Ardhi Ministry and the Institute of Adult Education, Dar es Salaam City Council and other relevant bodies such as the Health Education Unit to formulate an appropriate strategy for the sanitation promotion campaign and the related health education campaign.

The strategy would outline the personnel and logistics support required, the methods of operation and physical programme, any teaching/promotion aids that would be required, the process of monitoring and evaluation and estimate costs.

#### Duration

## APPENDIX B

### Officials Contacted

Mr. Paul Ehmer, Health Advisor, USAID

Mr. Robert Boydell, Engineer with Sanitation Project

Mr. Fredrick Njau, Director of Sewerage and Drainage, ARDHI

Mr. Charles Kuhenga, Sanitarian, Sewerage and Drainage, ARDHI

Professor Lawou, Institute of Adult Education

Mr. F.B. Nyambo, Training Specialist, Institute of Adult Education

Mr. Simba, Health Educator, Health Education Office, Muhimbili

Mr. B. Mwambela, Zonal Health Officer, Temeke

Ms. Joyce Mhando, Adult Education Teacher, Temeke

Ms. M. Mbngu, Director of Manpower Development, Temeke

Dr. Daniel Mbunda, Planning and Administration, Elinu

Dr. Mtey, City Health Director, Dar es Salaam

Dr. Richard Feachem, World Bank Consultant

Dr. Urban Johnsson, UNICEF

Two sessions were held with zonal and Ten Cell leaders to explore their perceptions on various aspects of the Low Cost Sanitation project.

## APPENDIX C

### Theoretical Overview of Behavioral Aspects of Sanitation

Water and sanitation projects present both community organization and technological challenges. Engineers may stress the technical elements of projects. However, the literature strongly suggests that projects fail more often as a result of inattention to social and administrative factors. For a project to have an appreciable health impact, individual and community behavior must change. Strategies to encourage this change require a familiarity with the unique elements of a particular culture and people.

Technology is important. It can improve access by overcoming geological or hydrological limitations. Systems requiring less up-keep and maintenance are less likely to break down and more likely to provide more reliable service. Technology can increase the rate of coverage of a system, defined as the physical presence of an innovation in an area. However, the long term acceptance of an innovation depends on more than coverage. Sociological issues in the service community and user perceptions of the innovation have great significance for behavior change which leads to improved health status.

Both the community participation and user choice approaches have become established in contemporary sanitation planning. These approaches acknowledge the central role played by users in the success of a project. Like any development project, water and sanitation projects attempt to alter the existing structures and practices at the individual and community levels. Acceptance of these changes on the part of the user is not a random process, but represents an on-going and careful evaluation of the costs and benefits of altering existing patterns of behavior. The characteristics of this process remain relatively stable across cultures.

Everett Rogers (1962) reviewed more than 500 research documents on the diffusion of innovation in societies. His analysis of common themes revealed that characteristics of the innovation itself, the adopter and his environment, and the adopter's perceptions of the one introducing the innovation determine acceptance or rejection. For example, if the adopter is relatively cosmopolitan or has more contact with the larger world, he or she is more likely to try something new. Aspects of the innovation itself also influence its acceptance or rejection. These include:

1. Relative advantage: Is the innovation superior to current ideas or practices?
2. Compatibility: Does the innovation fit with existing beliefs and practices?
3. Complexity: Can the innovation be easily understood?
4. Divisibility: Can the innovation be tried out on a limited basis?
5. Communicability: Can the results of the trial of an innovation be communicated to others?

Adoption of the innovation moves through stages. Initially, the adopter becomes aware of the innovation and his or her interest is aroused. Next the adopter evaluates the innovation and assesses how it fits his or her needs. Based on this evaluation, the adopter makes a final decision to accept or reject the change. Thus, people move through a series of steps in the adoption process.

In addition, change happens in a social system. The "use choice" approach demonstrates that communities already operate in this way, i.e., users of existing excreta disposal facilities have chosen to do so for a variety of reasons. If people already make choices within the context of their society, then new ideas must be relatively congruent with existing ideas and practices. If a new idea deviates significantly from the common place, adoption may require too great a leap of faith. Fortunately, most of the target population appears positively oriented toward latrine use.

People also evaluate changes in economic terms: what will this cost me per unit of benefit? These costs and benefits are not strictly monetary, but involve convenience, status, prestige, and group or community pressure. In discussing the social factors related to latrine acceptance, it has been found that a community's desire for unity and progress is significantly related to acceptance of a sanitation intervention.

Who introduces the innovation can affect its perception by users. If an agency has a history of bad faith or broken promises, even the most attractive idea it presents will likely be rejected by the community. Likewise, if the person introducing the innovation is too far removed socially or educationally from the target community, potential adopters will reject ideas as irrelevant for their situation. Trust, past experience, and the degree of similarity between the community and the one introducing an innovation all affect the eventual adoption of an innovation.

Each situation presents unique constraints and motivating factors, thus one cannot develop a generic plan for introducing an innovation in any society. However, one can draw conclusions about the process of introducing change in most societies. First, the community itself must become actively involved in the project. The community's ideas and suggestions must be respected and incorporated into the planning and design stages. Second, the project must respond to the community's perceived needs and not what the planners want. Third, those introducing the change must develop a trusted and respected relationship with the community.

Community development theory and practice answers these requirements by providing a framework for actively involving the community in identifying its needs and planning solutions for them. Working with a core of concerned citizens such as ten-cell committees ensures that the innovation will be comprehensible to the community at large and also provides the reassurance of trusted neighbors in an outsider's project. This view of community participation in, for instance, developing a loan program tailored to local needs, designing a maintenance system or contributing labor is comprehensive and develops a vital role for the community. Community development asserts that people have a vital stake in the future of their community. It seeks to increase people's ability to direct and manage change.

One broad definition of community development defines it as a "social process by which human beings become more competent to live with and gain some control over local aspects of a frustrating and changing world" (Biddle and Biddle, 1965). Though vague, this definition highlights some central concepts of community development practice. It is human oriented and locally based: people live in communities and need to control their immediate environment. It stresses the development of a community's ability to change and direct its future. This philosophy appears to be congruent with national goals for development.

Community development literature encompasses a wide range of styles and philosophies. Three major strands are the locality development, social planning, and social action approaches. The locality development approach "presupposes that community change can be pursued optimally through board participation of a wide range of people at the local level in goal determination and action" (Rothman). The social planning approach implies a "technical process of problem-solving with regard to substantive social problems" (Rothman). This represents a rational and deliberate approach to change, and citizen in-put varies. The social action approach "presupposes a disadvantaged segment of the population that needs to be reorganized, perhaps in alliance with others, in order to make adequate demands on the larger community for increased resources or treatment in accord with democracy" (Rothman).

Each philosophy would approach an environmental problem differently. Social planners might take a technocratic approach and assume that planners know what the community needs on a local and regional level. This results in service delivery, often with rapid coverage rates. However, the delivery model seems prone to failure without adequate involvement of the community in the planning and design processes or without enough attention paid to developing management structures. Sanitation projects may also become instruments of social justice, a way to redistribute scarce resources to the poor and powerless through self help efforts resulting in a valued resource. This approach may prove difficult to operationalize in some situations where government discourages involvement and does not show how to involve the community in decision making. The locality development literature provides the most helpful approach to sanitation projects. If sanitation is identified as a priority community need, it becomes a focus for community effort and cooperation. By defining the steps in the process, the locality development literature demonstrates how to actively involve local community members in planning and management. Locality development moves at the pace of the community and is often painstakingly slow. However, the time invested pays off in long-term acceptance by providing a framework for addressing social, administrative, and technical factors. Two major theorists stand out in the locality development literature. Both schools of thought will be presented as guides.

The Biddles (1965) delineate six steps in the community development process: exploratory, organizational, discussional, action, new projects, and continuation. In the exploratory phase, the community developer (or "encourager", in their terms) seeks to find out something of the history of the community and its present situation. An invitation to begin the process of exploring the possibilities for change begins the organizational stage where the community and encourager meet informally to discuss common interests and develop a commitment to problem definition and solution. Next the community and encourager select a particular problem area and possible solutions are discussed

in accordance with defined values and norms. The community and encourager begin to take steps towards solution and report back to the core group for evaluation. Building on the strengths of the first problem-solving effort, new problem areas emerge requiring new solutions. The nucleus of people involved in the problem may change in size and composition, but the final goal of the encourager is to leave the community with strengthened mechanisms for problem definition and solution.

Tweeten and Brinksman (1976) feel that community development should focus on solving community problems, including the identification of what ought to be (the ideal), what can be (the alternatives), and what shall be (the action). Basic steps common to the process include:

1. Starting with people's concern.
2. Identifying basic community goals.
3. Developing awareness of gaps between reality and desire.
4. Identifying problems.
5. Identifying and organizing leadership.
6. Identifying resources and their limitations.
7. Analyzing and ranking problems.
8. Determining consequences of alternative solutions.
9. Diffusing knowledge from decision makers to the public.
10. Determining community choices of development alternatives.
11. Formulating detailed plans to implement projects.
12. Carrying out action steps.
13. Evaluating results, methods and decision-making process.
14. Continuing the process.

The steps from problem identification to problem solution require that planners and local leaders work together to develop structures for discussion, control, and communication relating to the project. The Tweeten and Brinksman model provides the most detailed and comprehensive approach to analyzing a community development project.

Community development literature provides guidance on changing behavior of individuals in the context of their community. This approach recognizes the interdependence of people living in communities and provides a structure for both tapping the strengths of a group and using these to successfully implement projects.

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- Tweeten, Luther, and G. Brinksman, Micropolitan Development: Theory and Practice of Greater Rural Economic Development, The Iowa State University Press, Ames, 1976.

Recommended Basic Books on Health and Development and Related Theory

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3. Clovis Shephers, Small Groups: Some Sociological Perspectives, Chandler Co., NY, 1964.
4. Alvin Delbert and Alich Harmon, New Tools for Changing Behavior, Research Press, Champaign, IL, 1970.
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6. David Werner and Bill Bower, Helping Health Workers Learn, Hesperian Foundation, Palo Alto, CA, 1982.
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10. Diana Conyers, An Introduction to Social Planning in the Third World, Wiley and Sons, NY, 1982.
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