ENVIRONMENTAL HEALTH PROJECT

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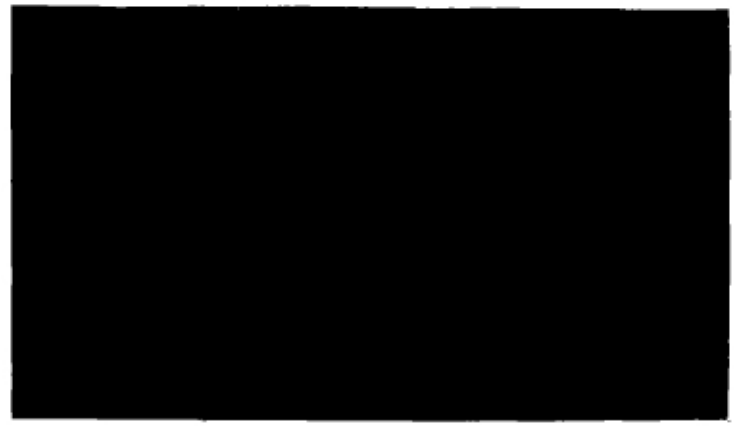

ENVIRONMENTAL HEALTH PROJECT

WASH Reprint: Field Report No. 434

Creating Institutional Capability for
Community-Based Environmental Health Programs

May Yacoob
Bob Hollister
Al Rollins
Gail Kostinko

March 1994

Prepared for the Global Bureau
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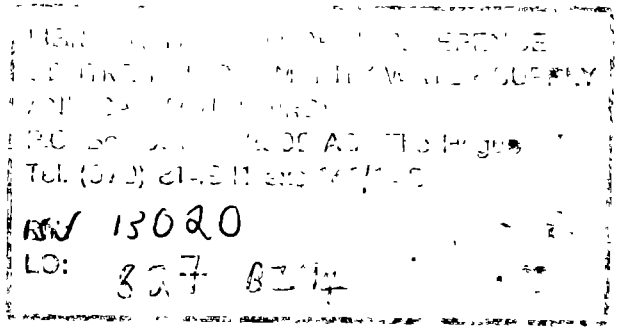

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WASH and EHP

With the launching of the United Nations International Drinking Water Supply and Sanitation Decade in 1979, the United States Agency for International Development (USAID) decided to augment and streamline its technical assistance capability in water and sanitation and, in 1980, funded the Water and Sanitation for Health Project (WASH). The funding mechanism was a multiyear, multimillion-dollar contract, secured through competitive bidding. The first WASH contract was awarded to a consortium of organizations headed by Camp Dresser & McKee International Inc. (CDM), an international consulting firm specializing in environmental engineering services. Through two other bid proceedings, CDM continued as the prime contractor through 1994.

Working under the direction of USAID's Bureau for Global Programs, Field Support and Research, Office of Health and Nutrition, the WASH Project provided technical assistance to USAID missions and bureaus, other U.S. agencies (such as the Peace Corps), host governments, and nongovernmental organizations. WASH technical assistance was multidisciplinary, drawing on experts in environmental health, training, finance, epidemiology, anthropology, institutional development, engineering, community organization, environmental management, pollution control, and other specialties.

At the end of December 1994, the WASH Project closed its doors. Work formerly carried out by WASH is now subsumed within the broader Environmental Health Project (EHP), inaugurated in April 1994. The new project provides technical assistance to address a wide range of health problems brought about by environmental pollution and the negative effects of development. These are not restricted to the water-and-sanitation-related diseases of concern to WASH but include tropical diseases, respiratory diseases caused and aggravated by ambient and indoor air pollution, and a range of worsening health problems attributable to industrial and chemical wastes and pesticide residues.

WASH reports and publications continue to be available through the Environmental Health Project. Direct all requests to the Environmental Health Project, 1611 North Kent Street, Suite 300, Arlington, Virginia 22209-2111, U.S.A. Telephone (703) 247-8730. Facsimile (703) 243-9004. Internet EHP@ACCESS.DIGEX.COM.

WASH Field Report No. 434

Creating Institutional Capability for Community-Based Environmental Health Programs:

Lessons from Belize

Prepared for the Global Bureau,
Office of Health, Population, and Nutrition,
U.S. Agency for International Development,
under WASH Task No. 483

by

May Yacoob
Bob Hollister
Al Rollins
and
Gail Kostinko

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RELATED WASH REPORTS

Improved Productivity Through Better Health (IPTBH) Project: Phase One of the Amendment, Technical Assistance and Assessment. WASH Field Report No. 356. (Vector Biology and Control Report No. 82248.) January 1992.

Program Planning Workshop for the Improved Productivity Through Better Health Project: Belize, April 29-30, 1992. WASH Field Report No. 365. August 1992.

Rethinking Sanitation: Adding Behavioral Change to the Project Mix. WASH Technical Report No. 72. July 1992.

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ABOUT THE AUTHORS

May Yacoob is an applied medical anthropologist with a post-doctoral degree in health services management and over 20 years of experience in community public health programs in Africa, Asia, and Central America. She has been with the WASH Project since 1986, and prior to WASH worked on UNDP and World Bank water supply and sanitation projects. Her areas of specialty are issues of sustainability, community management, women, and hygiene education.

Bob Hollister works for the Research Triangle Institute's Center for International Development in Raleigh-Durham, North Carolina. He is the coordinator of RTI's programs and services in international health. He has over 20 years of experience in health program management, training, decentralization, institutional strengthening, and consulting. Mr. Hollister has a B.A. in Political Science from Guilford College and an M.S. in Public Health from the University of North Carolina, Chapel Hill.

Al Rollins is an independent consultant/trainer, with 30 years of experience in personal, group, organization, and community development. Prior to entering private practice, he was President and Executive Director of the Mid-Atlantic Association for Training and Consulting, Inc. He served as the Training Director and Internal Organization Development Consultant for an international religious system. He now specializes in the training of trainers, management and organization development, international development, and development education. He has extensive consulting and training experience in Africa and the Caribbean, with special interest in rural village development with government and private voluntary organization clients.

Gail Kostinko is an information management consultant with over 15 years of experience in the design and development of information services, systems, and products. She has provided consulting services to a wide variety of international agencies and developing country institutions.

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This three-year effort would not have materialized without the active participation of Government of Belize staff from the Ministry of Health and the Ministry of Natural Resources; members of the Central Management Team, Anthony Nicasio, Kathy Buttaro, Dr. Figuroa, Dr. Polanco, and Mr. Westby; and the District Teams who enthusiastically participated in this year-long intensive training.

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Dr. Andy Arata, currently with Tulane University, was the team leader and malaria control specialist for this effort.

Within WASH, many have helped. Special thanks go to David Fernandes for all his help in fielding consultants and tracking budgets. Also thanks to Courtney Roberts, who worked with the whole Belize team in supervising the production of the Job Guides.

For the future, we wish UNICEF/Belize the best of luck in continuing this exploration of methodologies and approaches for promotion of environmental health in Belize.

ACRONYMS

A.I.D.	Agency for International Development (Washington)
CBEHP	Community-Based Environmental Health Program
DLEHSC	District-Level Environmental Health Subcommittee
GOB	Government of Belize
HIS	health information system
IPTBH	Increased Productivity Through Better Health Project
MNR	Ministry of Natural Resources
MOH	Ministry of Health
TA	technical assistance
TOT	training-of-trainers (workshop)
VHC	village health committee
WASH	Water and Sanitation for Health Project
USAID	U.S. Agency for International Development (overseas missions)

EXECUTIVE SUMMARY

In July 1990, USAID/Belize requested that the Water and Sanitation for Health (WASH) and Vector Biological Control projects design an amendment to the recently completed six-year project, Improved Productivity Through Better Health (IPTBH). While the project's numerical targets had been met (number of water systems and latrines constructed, houses sprayed to control mosquitos, and, to the extent possible, blood slides examined to confirm malaria cases), the disease burden continued to increase. Public health issues related to malaria, dengue, and water use and sanitation still needed to be addressed.

The design of the amendment drew on the WASH Project's accumulated experience from work throughout the decade. As the IPTBH project was reformulated and refocused in the amendment, it was renamed the Community-Based Environmental Health Program and brought together program elements from primary health care, malaria control, and water supply and sanitation. Several fundamental issues emerged which were viewed as directly relevant to building an effective public health program:

- **Government officials**—from policymakers to district-level staff—need to recognize why additional numerical targets will not necessarily reduce the disease burden.
- **National- and community-level institutions** need to jointly develop solutions to public health problems so that they have joint ownership of the process and vested interest in its implementation.
- **Multiple agencies and programs are involved.** Public health problems arising from poor environmental health conditions require the attention of staff from a number of public health programs who do not normally work together. In Belize, Ministry of Health (MOH) staff work in the primary health care program, the health education and community participation program, and the malaria control program. Ministry of Natural Resources (MNR) staff are responsible for rural water supply and sanitation. All of these people are involved in areas concerned with environmental health and public health issues.
- **New institutional arrangements are needed to integrate curative and preventive health programs.** In Belize, these arrangements gave rise to nationwide District-Level Environmental Health Subcommittees with the skills and technical expertise to address issues related to environmental health in communities. (UNICEF is currently broadening district-level staff capabilities in this area.)

In order to address these fundamental issues, technical assistance and programming were divided into three areas:

1. **Technical areas to strengthen the vector control program's capabilities**. This included conducting a study tour in El Salvador to show Belizean policymakers how a successful malaria control program can work; developing norms for volunteer collaborators; resolving some issues related to identification of the vector; and providing

technical input into developing alternative chemical and nonchemical methods of controlling mosquitos.

2. **Technical areas to strengthen the effectiveness of water supply and sanitation systems.** This included generating policies and procedures to improve operations and maintenance (and thereby continued use of the systems) and developing policies and procedures to achieve water quality standards; training staff in other specific, targeted skills in disinfection and surface water technologies; and resolving issues related to more efficient drilling procedures.

3. **"Common areas" to build community-level capacity to manage the environmental health program.** This included developing institutional, policy, and process skills of MOH and MNR staff and cultivating a public health approach focused on community capability, control, and management. Activities in the following areas formed the basis for the development of such capabilities:

- Transferring training-of-trainers and organizational development skills, community management and empowerment skills, and field methods for determining health status based on the prevalence of high-risk behaviors;
- Developing an information system that includes a behavioral data component to monitor hygiene and other behaviors relating to environmental health;
- Producing a position paper, written and endorsed by national staff, so that policy support is ensured and resources are allocated for the continued operation of a community-based program.

Approach to Community Participation as a Basis for Capacity Building

The approach taken in Belize was based on the following principles of community participation:

- **Start with the community:** its history, structure, leadership, beliefs, strengths, knowledge, and perceptions of what it needs.
- **Analyze health-related beliefs and behaviors.** Build messages and design programs to alter behavior based on individuals' understanding of the causality of disease and starting with their current behavior for avoiding or curing illness.
- **Focus on skill development and transfer.** Sustainable health-related behavior change and sustainable infrastructure improvements are built upon social and organizational skills that are developed in the people in the communities.
- **Develop health teams** at the district level to integrate service delivery at the community level.
- **Establish clear lines of communication** between program implementors and community members and between program staff and policymakers.

- **Identify the roles various community members play** in health and resource allocation. This local analysis will determine what additional training and resources are needed.
- **Develop a supportive context for capacity building.** This implies a change in orientation among health workers. Rather than "giving" something (e.g. health talks, handpumps, latrines), the health workers must become partners in a development effort whose goal is to transfer skills, knowledge, managerial capacity, and commitment so that communities will sustain the programs and behaviors that improve their health.
- **Make the transfer of responsibility open and purposeful.** In Belize, a clear and carefully monitored goal was to transfer program responsibilities to district teams and community groups. This explicit goal was openly discussed and negotiated as district and community groups took increasing responsibility.

Purpose of This Report

The approach used in Belize sought to combine lessons learned and methodologies used by the WASH Project during its 13 years of operation in many countries and programs. These lessons have important implications for the future. First, this effort brought together different program and ministry staff responsible for environmental health, water and sanitation, and vector control. The effort also provides some lessons about integrating curative and preventive public health services and about creating mechanisms to ensure the sustainability of these programs.

Second, the processes for training, the methodologies used, and the sequencing of activities to achieve institutional capability provide important lessons for similar initiatives in the future.

This report describes the processes and procedures that were developed over a three-year period to meet the objective of improving community-level public health conditions. The processes began with consultations and investigations to identify the constraints regarding types of activities and the linkages between local-level issues and policy. The most important assumptions made in Belize were that new relationships must be created among various institutions (national, district, and local) to address local-level environmental health conditions and that any new institutions in this network must be formed and shaped by the actors and stakeholders themselves, i.e., those who will implement the programs and those who will be affected by them.

Chapter 1 of this report provides the background and describes the activities leading up to the one-year effort that was initially called the IPTBH Amendment and became the Community-Based Environmental Health Program (CBEHP).

Chapter 2 takes a more generic approach to the implementation of a community-based environmental health program. It describes key lessons learned and is intended as a set of preliminary guidelines for the design of similar projects elsewhere.

Chapter 3 reviews the elements for implementing an effective, sustainable community-based environmental health program, based on the experience in Belize and WASH's experience over 13 years.

Chapter 4 details the behavior-based management information systems, which were an integrative force designed to give all program staff access to the same data and analysis.

Finally, Chapter 5 summarizes the conclusions drawn from WASH community management activities in Belize. A series of job guides were prepared for long-term use by those involved in the CBEHP; their titles are given in Appendix A. Appendix B gives details on the training skills emphasized in the project.

Chapter 1

THE INCREASED PRODUCTIVITY THROUGH BETTER HEALTH PROJECT

1.1 Background

This chapter describes the institutional and program setting of the work carried out in Belize. It provides an overview of the assessment of the problems, the institutional setting, the consultative process, and training elements.

In 1985, the Government of Belize and the U.S. Agency for International Development (USAID) agreed to implement a health project called Increased Productivity Through Better Health (IPTBH). The project focused on vector control (dengue and malaria) and water and sanitation activities. In January 1989, an evaluation of the project was carried out. A major conclusion was that after five years of inputs from USAID and other international agencies, including village piped-water systems, latrines, spray operations, and processes for case management of vector control, the expected health benefits had failed to occur. In fact, at the time of the evaluation, the incidence of malaria in Belize was the highest per capita in all of Central and South America; diarrhea rates had not gone down; and cholera presented a new threat.

The evaluation cited weak community participation and management as the major deficiency in implementing the project. It was determined that village health committees (VHCs) had received inadequate training, support, and supervision due to the project's emphasis on attaining physical targets, such as number of wells drilled, number of houses sprayed, health education sessions conducted, and latrines constructed. In terms of number of systems established and number of latrines built, this project might have been considered a success, but USAID/Belize was not satisfied. Where were the health effects that were predicted to have come about from these interventions?

In response to the problems identified by the evaluation, the U.S. Agency for International Development began, in 1990, an institutional strengthening program, designed to address these and related problems plaguing Belize's health program. USAID/Belize requested that the Water and Sanitation for Health (WASH) and Vector Biological Control projects design a project amendment to strengthen performance in community participation and management. A one-week consultative meeting was held with MOH and MNR staff in summer 1990. The participants concluded that a dysfunctional bureaucratic structure and lack of communication at all levels were hindering Belize's health program.

In the course of assessment and design of a follow-on program, district-level staff actually spent time in villages finding out what the issues and problems were. They found that villagers were not using the latrines because they were literally swarming with mosquitoes; that villagers were washing clothes with piped water while they drank rainwater because they preferred its taste;

that there was a severe possibility of excessive lead levels in drinking water because villagers paint their catchment tanks on a regular basis with oil-based paint containing lead (barely 2 percent of imported paints are lead free); and that villagers generally attributed chills and fevers to changes in the seasons, not to malaria. Clearly, an effective hygiene education program would have to begin with an accurate understanding of people's perceptions, beliefs, and practices about when, why, and how people get sick and what they need to do to get well.

As a result of a series of follow-up workshops, meetings, visits to other countries, and a thorough institutional assessment, the ministry officials identified what was making their system dysfunctional. They devised programs to address the shortcomings based on their vision of what an effective water and sanitation, vector control, primary health, and health education program should be. They concluded that they needed to develop the capabilities of the district health teams, which would become the backbone of the system. It was these teams that would interact directly with communities. They also saw that they needed to change bureaucratic behavior and to expand communication with communities.

The USAID mission recommended that position papers, designed to establish clear objectives, procedures, responsibilities, and policies, be developed. These position papers would ensure a consensus on program policy, with a sustainable strategy of training, community management, planning, monitoring, and evaluation.

1.2 Consultative Process to Address the Problem

The evaluation focused attention on the need for greater emphasis on community participation/management, training, and institution building to ensure that project activities—installing water systems, constructing latrines, conducting vector control activities, and delivering health education talks—would result in intended, long-term health benefits for communities.

As mentioned above, operational (program-level) staff from the two ministries and high-level Government of Belize (GOB) officials, in collaboration with consultants, met and identified constraints to achieving community-based institutional capability in planning, implementing, and managing broad environmental health activities. A three-phased approach was used to address the problem.

1.2.1 Phase 1: Assessment

With the team of consultants, MOH and MNR program and policy staff developed and conducted baseline assessments in each of the technical and institutional areas. The assessment looked at the GOB's organizational capacity to implement water supply and sanitation activities effectively and to develop increased capability in communities to carry out more technical responsibilities, such as operations and maintenance of the water and sanitation infrastructure and vector control activities conducted by community volunteers. The assessment pointed to the following major constraints.

Vertical program. The greatest constraint to delivery of effective services at the community level was the vertical nature of community health programs. Operational staff from each of the programs at the national, district, and community levels felt they had no way of reaching decision-makers and policymakers. The overall approach in vector control was similar to the vertical approach taken in malaria eradication programs set up in the 1950s. Evolution of the vector, community residence patterns, and varied local knowledge or health paradigms that informed how community members dealt with disease were not taken into consideration.

Lack of data. Data based on the needs, practices, and demands of population groups did not exist. Therefore, technical data on positive cases of malaria were rarely used to trace cases to their sources. Instead, malaria control staff tended to undertake massive spraying operations or simply to spray on demand in communities with political pull.

Lack of community support. The water supply and sanitation program, which required extensive capital support for construction of handpumps, latrines, and rudimentary water systems, lacked the level of community support necessary to ensure long-term maintenance, effective use, and anticipated health impacts. This was especially true in the cases of latrines and handpumps.

Poor management. There was no policy statement or legislation to support the establishment of village health committees and boards of management (which manage the rudimentary water systems) and fee collection. As a result, some communities suffered from poor maintenance and neglect of water supply systems and dormant or dysfunctional community organizations. In other communities, the malaria program sprayed insecticide on demand from politicians, regardless of need or concurrent community or household programs for vector control.

Inappropriate policy. Because the MNR had no policies for construction or for infrastructure operations and maintenance, ad hoc, often politically-based decisions gave priority to construction over planned activities for creating effective, community-based entities capable of competent management and operations and maintenance or for training staff of these entities in hygiene education. The malaria program had no policies regarding insecticides used or how spraying operations were to be conducted.

Lack of trained staff. Engineering and technical staff training focused primarily on locating and developing groundwater sources. Engineers lacked the appropriate technologies to revise procedures for source selection, design consumption, water supply systems tank sizing, and network design. Malaria spray teams, evaluators, and local-level volunteers received very little training as changes in the vector, hosts, and environments occurred.

1.2.2 Phase 2: Addressing the Constraints

Data gathering. Major programmatic changes can happen only when those involved in the process see why things do not work and discover for themselves what can be done to make those changes. This phase was initially designed as a study tour for program staff and high-level decision-makers to specific countries in the region where community-based environmental

health activities are being carried out with relative success. The vector control program staff visited El Salvador, where a vector control program has succeeded in controlling malaria; the national water and sanitation program staff spent time assessing community capabilities, resources, knowledge of risk factors, and actual health behaviors with various data gathering instruments.

Study tour results / Data collection. The vector control staff recognized that in El Salvador, which is similar ecologically to Belize and where a vertical program is in place, motivated collaborators and evaluators could create effective community-level support for the malaria control. Participants gained ideas and recognized that new approaches would have to be implemented to achieve anticipated program results.

The data collection phase also showed central- and district-level staff that communities' knowledge of vector- and water-borne disease risks, hygiene, and sanitation did not match information delivered in "health talks." Staff realized that health messages disseminated during health education talks were not relevant to actual health practices and community behaviors. Despite the presence of a water and sanitation infrastructure, consisting of latrines and water systems, and vector control activities, i.e., spraying, community behavior was unchanged and health status was unaffected.

1.2.3 Phase 3: Program Planning Workshop

A two-day workshop, held in March 1992, was the culmination of the previous two phases. It included high-level policymakers—specifically, permanent secretaries, chief executive officers, the director of health services, and operational staff from districts and central ministries—and had the following objectives:

- To inform policymakers of the phase 1 and 2 activities;
- To develop a clear objective for each of the respective ministries;
- To agree on strategies and mechanisms for achieving this objective; and
- To discuss the policy support required to implement community management in vector control and water and sanitation programs.

Participants worked together to develop objectives and strategies, draw up an action plan, and discuss training needs. Some "common areas" emerged from these discussions, including training areas that would develop district- and national-level capacity-building capabilities. These common training areas were used to group and sort those staff from the two ministries who had community-level supervisory and capacity-building responsibilities. The four areas of common interest included:

- **Training-of-trainers skills** and application of these skills to carrying out effective community management.

- **Community analysis** and development of effective **hygiene education skills**. This consisted of field techniques in qualitative data collection, analyzing the data collected, and making summary statements from the analysis for the purpose of behavior change.
- Design and implementation of an **information system** to monitor the effectiveness and proper functioning of various environmental health activities.
- Development of a "**position paper**" to outline the process of creating community-based institutions and to delineate areas that require policy changes to ensure that these institutions continue to function. The document was designed to reflect the iterative process between operational staff and policymakers over the course of the program.

In addition, some technical areas were noted as directly relevant to improving the operations of a community-based environmental health approach. These included water quality monitoring, norms for voluntary collaborators, and operations and maintenance of the improved water systems.

1.3 Training Methodologies and Approaches to Technical Assistance

The training methodologies used to create the institutional capability for a community-based environmental health program are related to three fundamental conclusions (from WASH experience) about technical assistance.

- One-time training workshops without follow-up interventions rarely succeed in developing intended skills.
- Technical assistance reports on the development of solutions, if produced without collaboration from national staff, serve no purpose.
- Technical assistance is more effectively carried out through short-term interventions than by in-country teams that stay long enough for dependency to develop. Long-term assistance can build resentment among nationals if advisors are unable to provide answers to problems in all technical areas, and costs much more than short-term assistance.

Training workshops were designed to be no longer than one work-week. This was very important in Belize because the strategy of developing core training capability in each of the districts required that a majority of district program staff attend, keeping them from completing their regularly scheduled work.

Chapter 2

IMPLEMENTING COMMUNITY-BASED ENVIRONMENTAL HEALTH PROGRAMS: LESSONS LEARNED

A number of lessons have emerged from the experience in Belize which have implications for the development of community-based environmental health programs in other countries. These lessons remind us that the essence of "development" places more emphasis on individuals' skills and ability to exert influence and control in their personal and professional lives and less on numerical targets, such as water systems installed, houses sprayed, or latrines built. Regardless of whether the individuals are government employees working in the health sector, members of village health committees working in communities, or parents caring for their children, they all need the knowledge, skills, and resources to make decisions, take action, and exert control over their life or work situations.

The lessons learned in Belize provide a framework for replicating the process in other contexts. Successfully applied, these lessons empower workers, communities, and individuals to understand and exercise control over problems that relate to their health and well-being. They remind us of what one observer has called, ". . .the fundamental association of health status with social, economic, and political circumstance, on the one hand, and links between health care reform and broader political action and struggle on the other."[1]

1. **False participation temporarily enlists input from community members but fails to build capacity or ensure sustainability.** Planners and participants in community participation efforts need to understand that there is such a thing as false or superficial community participation. This type of participation is often manipulative and is usually detrimental to the long-term goals of true capacity building. False participation is exploitative in nature and oriented toward the achievement of short-term or numerical targets. It temporarily enlists participation for the purpose of completing some construction task or special project.

   For example, once latrines are built, water systems installed, or the "campaign" completed, the "outsiders" disappear, never to be seen again. Communities are often left without the organization, skills, or commitment to manage the new systems. Communities have not, in such cases, broadened their capacity to address problems and manage their own affairs. There is little likelihood that the new systems will be maintained, and the impact may even be negative, in terms of motivation for future efforts.

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[1] H. Jack Geiger. "Community-Oriented Primary Care: The Legacy of Sidney Kark," *American Journal of Public Health*, July 1993, Vol. 83, No. 7, p 946.

2. **Genuine community participation is a long-term process aimed at developing leadership, technical skill, and social cohesion as well as achieving specific health benefits.** Community participation requires a period of fairly intensive work in the community and a long-term commitment to support, train, and nurture organizations or groups in the community who are interested in health issues. An intersectoral approach is valued whereby various government programs and personnel integrate service delivery at the community level. An important lesson from Belize is that communities respond with collaboration and motivation when they see these same qualities in the government workers.

3. **It is necessary to take a dual approach which not only teaches the skills necessary to operate successfully at the village level, but also focuses on the development of the district team itself.** A government, or ministry of health, that wants to involve communities in management or implementation of environmental health programs must usually rely on existing district-level health workers to carry out the work. These workers include nurses, health educators, inspectors, vector control personnel, outreach workers, supervisors, and other technical officers who often work in vertical programs. Such programs or services frequently operate independently of each other, receiving their technical and day-to-day supervision from the central level.

   Unless the district team is strengthened and supported, it cannot be expected to adequately support and train village leaders and village health committees. Many of these district-level workers have never worked as a team with their counterparts from other programs. This usually means that time and effort must be invested to develop something that has been non-existent or weak: district-level teams with some discretion over their own work planning and priority setting. District-level staff need training and support from their own central-level supervisors to adopt a collaborative and integrated approach in the work they carry out in communities. In order for these workers to function as a team there are issues of policy, leadership, management, coordination, planning, and resource sharing that have to be addressed.

4. **Establishing village health committees should be considered an effort to decentralize the health care system.** Individual behavior and community action play a crucial role in improving and promoting health, particularly environmental health. Government programs to support communities in efforts to improve environmental health conditions are, in reality, attempts to create new social institutions at the village level. The goal in any health-related program is for people (individually and collectively) to be able to respond to their own health problems through knowledge, organization, and collective action.

   Empowerment is a process in which a person or group begins to exert more control or influence over the forces that affect their lives. At the individual level, this means gaining insight and developing skills to interact creatively and assertively with others. At the community level, it means the acquisition of knowledge, leadership ability, and skills to make decisions, take collective action, and acquire and manage resources for the benefit

of the community. In the sphere of environmental health, it means that the community, families, and individuals understand how health and disease are affected by environmental factors and by their own behaviors (water use practices, sanitary practices, and vector control measures, for example). Empowerment in the context of community health programs is the process whereby the community develops the social structures, knowledge, and will to take individual and collective action to improve or protect health status.

5. **Increased attention should be focused on the quality of work at the district level, which leads to the development of viable community institutions.** In the past, the organizational structure of ministries and the goal-setting processes used in health programs in Belize have led health workers and program managers to focus on short-term goals and numerical targets. Orders have tended to come down from above through the various vertical programs, and quantifiable targets (such as the number of wells drilled or the number of presentations made) have been emphasized. Relatively little attention was given to the types of work needed to form village health committees and support individual behavior change.

   Most districts are managed by a District Medical Officer, a Chief Nursing Officer, and perhaps a District Administrator and others whose orientation is toward clinical care programs delivered in fixed facilities. These individuals may have relatively little understanding or appreciation for the types of community interventions and outreach programs that are required for a community-based program. Yet these district leaders are responsible for the supervision of staff who must carry out those programs, as well as for the budgets and transportation resources that are needed for those efforts.

   To counteract these problems, district-level health teams have been formed, trained, and given responsibility for establishing or re-establishing village health committees. The district teams include personnel from across program and ministry lines, and they are encouraged to involve nongovernmental and other organizations in their work. The district teams are increasingly given discretion to set goals, coordinate work schedules, and share resources in order to take an integrated approach to the work they do with communities.

   From the perspective of the central program managers, the district teams now constitute a resource they can rely upon to carry out multifaceted, intersectoral program activities. The teams have begun to develop their own leadership, planning, communication, and problem-solving skills to the point that the central offices can delegate increased responsibility to the teams with confidence that the work will be planned and carried out effectively. Lines of communication have been opened up between district teams and program managers and with senior management within the Ministries of Health and Natural Resources.

6. **Mid-level program managers also have a central role in assuring the quality of service provided at the community level.** Mid-level program managers must be involved in selling, supporting, and sustaining the use of intersectoral and interministry teams at the district level for the purpose of implementing community environmental

health programs. In addition, supervision also implies monitoring the quality of services delivered, identifying training needs, and understanding institutional constraints. The project in Belize witnessed the emergence of program managers from the central MOH and MNR offices as active leaders and coordinators of the country's environmental health program. Just as district personnel formed teams, program managers began holding regular meetings, making joint decisions, and functioning as a team to manage and supervise activities in the districts. Individual program managers were designated as liaison persons to specific districts to maintain consistent and regular communication between districts and the central office.

7. **Policy development can and should be included as a component of any community participation project.** "Community participation" is an ephemeral project goal or component. And yet, experienced development professionals recognize that it is an essential element, albeit costly, labor-intensive, and time-consuming. Many program managers and policymakers do not fully comprehend the time and resources needed to develop and train village health committees and to support their activities.[2]

   To provide a forum for reflection and critique, the Belize project used the technique of including in the project design the task of writing "Position Papers." This gave all parties the responsibility, at mid-point and end of project, of writing analytical papers to document project successes and to examine needs for structural and policy changes in operating the environmental health program. By making these papers a project requirement, a vehicle was provided for periodic meetings to review, think about, and write about the environmental health program. These efforts led to suggestions for changes in policies, budgets, and program priorities.

8. **"Ownership" of the project should be transferred to local institutions.** In this USAID-sponsored project, there was an explicit goal of transferring "ownership" of the project to Belizean institutions. The inclusion of this goal created a discussion agenda that was visited and revisited many times as participants struggled with the question of taking over active management of and responsibility for the project. An important aspect of this process was the selection of consultants who do not have a high need for control and who are willing to work hard to facilitate and transfer control to local leaders and groups.

9. **Genuine community participation is not easy, fast, or inexpensive.** This has important implications for budgets, timeframes, and personnel. Too many projects are designed around construction schedules and simply "add on" a community participation or health education component as an afterthought. More attention is needed to the social processes that give the community a real voice in the design, construction, maintenance, and use of an infrastructure project.

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[2] P. Roark, J. Aubel, K O. Hodin, and A. Marfa. *Final Evaluation of the USAID/Togo Rural Water Supply and Sanitation Project* WASH Field Report, No 228. Water and Sanitation for Health Project, Arlington, VA 1988.

In Belize, to set up a consultative process with central ministry personnel and to establish the environmental health infrastructure at the district level took close to three years. Over 30 technical assistance consultations, workshops, and policy dialogue meetings occurred from 1990 to 1993. At the end of this period, the program was fully incorporated into the policies and programmatic actions of Belize institutions.

Chapter 3

GUIDING ELEMENTS FOR IMPLEMENTING AN ENVIRONMENTAL HEALTH PROGRAM

The following guidelines for implementing an integrated, effective, and sustainable community-based program in environmental health are based on lessons learned from technical assistance interventions in Belize. More specifically, they are centered on the experiences in the training-of-trainers (TOT) workshops and surrounding interventions. The elements are listed in a suggested chronological order. Though these guidelines are drawn from situations encountered in Belize, they can serve as suggestions for others to consider in attempting a similar project or program.

As described earlier in this paper, the consultative process in 1990 set up a 3-year program of activities; however, actual training activities took place over the last year only (1993). Four separate TOT interventions were held, during which two training/organizational development specialists spent approximately 40 days each with district teams and central management team members. From that experience, the specific processes below are suggested for establishing an institutional capability for a community-based environmental health program.

3.1 Community Participation as a Basis for Capacity Building

In Belize, the concept of community participation was central to developing the Community-Based Environmental Health Program. Linkages were developed to bring together a number of the Ministry of Health's vertical programs and programs within the Ministry of Natural Resources.

Over the past two decades of public health programs, it has become evident that in the developing and developed nations of the world, local participation is a necessary component for sustaining any public health improvement. For donor-assisted programs, however, the concept of local participation has sometimes meant local compliance with orders and messages from the top. In water and sanitation, for example, the concept of participation has been measured in two basic ways: how much money communities contributed and/or how much labor they provided. For many communities, participation was almost synonymous with digging, paying, taking full dosage of malaria prophylaxis, allowing spraying to occur, using oral rehydration salts, and forming committees. Such actions are easily counted as "interventions," giving the illusion of benefiting a community's long-term health; whatever the immediate effect, however, there is little hope of sustaining the project benefits after donor-assistance is concluded if these actions are in the form of compliance rather than self-directed behavior changes or voluntary community actions.

In contrast, when activities focus on individual and collective responsibility and empowerment, there is a better chance of sustainability. This happens only when the implications of usage, care, and, ultimately, health benefits are well understood and integrated into daily life. To reach such an understanding, there must be a good exchange of information between the community and the project designers and implementors.

The approach used in developing the Community-Based Environmental Health Program in Belize used the following principles of community participation:

- **The community as the starting point.** Great emphasis was placed on understanding, opening dialogue with, and involving the community in the diagnosis of problems and the decision-making about what to do about them.

- **Analysis of beliefs and behaviors.** Any attempt at health-related behavior change must begin with an understanding of people's ideas about what causes illness or disease and an analysis of specific behaviors (e.g., water use, personal hygiene, insect control, and child protective practices) used by community members to protect their health. Change efforts and messages are then grounded in people's existing perceptions and understanding of disease causality and on existing behaviors to protect health.

- **Focus on skill development and transfer.** For community members and district-level workers, emphasis was placed on developing and transferring specific leadership skills such as how to lead a discussion, how to help a group establish priorities, how to evoke broad participation, and how to support emerging leaders. These are skills that help build social organizations and ensure commitment, participation, and sustainability of health-promoting interventions.

- **Organizational focus on district team development.** If service delivery is to be integrated at the community level, district health teams must be formed to provide the collaboration, communication, and coordination that is required. District teams were empowered to determine their own priorities, schedules, and agendas under general guidelines approved at the central level.

- **Clear lines of communication.** There must be clear avenues of information exchange between the program implementors and community members and between program staff and policymakers. This implies that staff working with communities need to treat community people as knowledgeable about their own conditions. For significant communication to take place, program staff must recognize, accept, and operationalize community members' approaches to health problems. It also means that their dealings with community people must model a behavior of respect. Community members should feel confident enough to present their views to implementors and policymakers, and policymakers, who have a responsibility to listen, should incorporate these views in policies that are relevant to the electorate they serve.

- **Understanding the community members' roles in health and resource allocation and conservation. This is a prerequisite to determining what additional training and resources are needed.** While this concept may seem simple, in the past policymakers, operational staff, and community members have failed to recognize its importance in ensuring actions that maintain good hygiene and health behaviors. While community members are more knowledgeable than project staff about the conditions of their own community, they may need training in causality and other scientific paradigms. For example, their understanding of why disease occurs may be very different from what program staff attribute as the cause of disease.

- **A supportive context for capacity building.** For some time, participation has been viewed as a way for the government to delegate some of its responsibilities to communities and defray associated costs. Such participation, with little collaboration and almost no guidance, is a formula for failure. Instead, policymakers should allocate resources with which extra-community organizations—either governmental or nongovernmental—can provide continued and supportive supervision to build community capacity.

Step 1: Initiating a Community-Based Environmental Health Program (CBEHP)

Ideally, the request for assistance in developing a community-based environmental health program (CBEHP) would be initiated by the host-country government. However initiated, commitment from the host country's policymakers and key program managers in the Ministry of Health (particularly those responsible for primary health care programs) and other ministry policy and program personnel responsible for water and sanitation and vector control programs is essential if the CBEHP is to be integrated, effective, and sustainable. Ideally, all of the ministries, donors, and private voluntary organizations with community-based personnel, salaried or volunteer, would also be involved in these opening consultations, agreements, and commitments.

In this initial CBEHP consultation, there should be a presentation of the program's values, goals, and objectives; organizational and management structures that are appropriate or required; resources that are available to implement the program; and the implementation guidelines. After a discussion, amendments may be proposed, and formal agreements should be made. Careful planning, sufficient time, and skilled facilitation are important in this introductory consultation.

Step 2: Institutional Assessment

After commitments have been made and agreements have been reached in Step 1, a meeting of the key program managers would be scheduled. At this meeting, the key institutional constraints are reviewed. Some issues which are likely to arise are the following:

- The current vertical structure of programs
- Lack of data on which to base activities

- Lack of community support (or variations in support)
- Poor management at the local level
- Inappropriate policy framework
- Lack of trained staff

In addition, the meeting should cover the following items:

- A review of agreements and the program's key elements
- Identification of the organizational structure and staffing of the government level responsible for interacting with communities (often the district level)
- Discussion and agreements on the central-level staff roles and responsibilities as managers of the CBEHP.

Step 3: Government Policy and Program Managers' Meeting

At this meeting, based on the findings from Step 2 assessments, the donor staff, the technical assistance team, and CBEHP managers meet with government policymakers and key ministry personnel. At this meeting the proposed list of activities and schedule to address the findings of the assessment are presented. The rationale for the technical interventions and a report that describes the project's implementation and methodological approach are discussed and agreed on. Based on agreements reached with the government policymakers and key ministry personnel and further discussion at this meeting, the TOT workshop participants and the project implementation activities can be identified. The scope of work can be developed, and agreements signed.

Step 4: Project Start-Up Workshop

This intervention is aimed at all parties in the project/program and is designed to help them reach a common understanding of the background, scope of work, and purpose of the project. Other objectives are to define roles and responsibilities and to place emphasis on improved working relationships and clear commitments among all participants. Additional outcomes would be written agreements on major issues, including the project/program and work plans for the first 6 to 12 months of implementation.

Start-up workshop participants would include key staff of the government implementing agencies concerned with any aspects of public health, the technical assistance team, and the donor agency (or agencies) project officer(s). Attendance by high-level ministry officials, the USAID mission director, and other political representatives is likely to increase the coordination and support for future implementation.

This workshop should be managed by at least one impartial, skilled facilitator. Prior to the workshop, he or she will gather relevant information and analyze it with a workshop steering

committee comprised of the parties most intimately involved in order to achieve consensus in the following key areas:

- Development of the workshop's basic design
- Methods for managing and monitoring the workshop process
- Design and implementation of workshop follow-up activities.

Following the workshop, a comprehensive report should be prepared describing the workshop process, issues discussed, and agreements reached. This report should be distributed to all the participants and other interested parties.

The project start-up workshop generally requires a minimum of four days to meet the important goals of this step and should be held in a residential setting, away from offices and interruptions. Adequate meeting space for the plenary sessions and break-out rooms for groups of up to ten persons, depending on the number of participants, should also be available. A more detailed overview of the start-up workshop is contained in *Facilitator Guide for Conducting a Project Start-Up Workshop.*[3]

Step 5: Training Needs Assessment

Identifying the ministry staff who interact with communities and therefore will have the primary responsibility for implementing any community-based environmental health program is the first step that guides the training assessment (see Step 3). The next key element in this series of steps would be a careful training needs assessment of all implementing staff identified and selected for the TOT workshops. Teaching basic adult learning principles and building facilitation skills required for immediate *field use* by these implementors automatically becomes an essential element of the initial training design. Other elements are added based on the needs identified in the assessment.

Additional purposes for this needs assessment include: gathering information about the country's new community-based environmental health program directions; forming agreements by top policymakers and program staff; devising plans for TOT interventions and participation in its content and process; and providing an opportunity for the facilitators and participants to meet one another personally before the planned workshop interventions.

Step 6: Initial TOT Intervention

This training for 20 to 30 persons from district staffs would be for no more than five days. In many ways this initial TOT repeats elements of the project start-up workshop, especially if the participants are from more than one government ministry or from two or more different departments in the same ministry. With such interministerial and intraministerial representation, it is likely that participants will have received no official notice of the project/program's

[3] WASH Technical Report No 41, 1988. This document is available from the WASH Project.

purpose and of the agreements of key policy and program staff. (Thus, it is important to review with participants the design for the workshop, information gathered in the needs assessment phase, and common agreements on goals or outcomes of the workshop.) Also it is likely that many of the participants will not have met before and that the mandate for functioning as an integrated district team will be a new direction for staff used to working under directives from national levels. Implementing a community-based environmental health program will change the expectations of how staff function, individually and as a team. Therefore, it is essential that the participants all understand the new information about and approach to their work and begin the process of making a personal commitment to a community-based perspective.

As much as possible, this initial TOT should be experiential education based on practical, work-related tasks in community development and empowerment. Facilitators should model the behavior the participants will use in meetings and training conducted in the communities. (In Belize, the two TOT facilitators modeled the steps in community development and capacity-building at every stage in the training-of-trainers process. This example of participatory leadership and skill-building made a powerful impact on the workshop participants.)

Basic knowledge, attitudes, and skills should be taught in the following content areas:

- Experiential education, needs assessment, and verbal and nonverbal communication skills
- Using open-ended and probing questions to get various kinds of information
- Techniques for planning, facilitating, and leading group discussions
- Problem-solving and action planning models for community use
- Conflict resolution

As with the start-up workshop, the training site should be residential, away from daily work-related activities. It should have a comfortable meeting space for 20 to 30 persons. Several break-out areas for small groups (six or seven persons) are essential in these TOTs since much of the activity will take place in small groups organized by district teams or appropriate governmental units in the host country. These groupings begin the process of team-building, which will be new to the participants but essential to their effectiveness in the CBEHP activities.

Key elements in each TOT activity are work planning and "homework" assignments for both participants and facilitators following the workshop. There should be clear agreements for follow-up monitoring and evaluation and needs assessment at subsequent workshops or meetings with the consultants. One very positive learning from the Belize TOT interventions was the necessity of including developmental activities at both the district and community levels in these homework assignments.

Another key element is an agreement between participants and facilitators concerning their respective roles and responsibilities in developing a collaborative and functional training

manual. In Belize this document was titled *Community Development and Empowerment Manual* and was designed for use in the CBEHP. Progressive drafts of this manual were discussed in each successive workshop, and changes were agreed upon and tested in homework assignments.

If the appropriate management structure exists, key CBEHP district team supervisors would be informed of the follow-up monitoring and work planning agreements and invited to participate in them. Such inclusion promote their support role and reinforces communication channels between district and national program staff.

If an integrated CBEHP management group has not yet been appointed and developed, this would be a necessary next developmental intervention on the part of donor and governmental project personnel. The management group plays an essential coordinating role among district teams and senior-level staff and government policymakers.

Step 7: Monitoring Visit, Identification of Skill Areas, and Development of Training Needs Assessment

The second TOT activity involves visiting all district staff teams, with key CBEHP supervisors present if possible, to monitor the activities and identify the constraints to implementation. A carefully planned "shadow-consultancy" is carried out, in which the facilitators and managers serve as observers and process consultants to assist the teams with their work plans at the district or community levels. This intervention strategy provides a very valuable opportunity for collaborative, developmental evaluation, training needs assessment, and active support of the CBEHP teams' efforts at building district- and community-level capacities. Findings from this activity, in turn, provide the goals and objectives for the next TOT workshop. Its marked advantage is that actual skills needed, rather than those thought to be needed, are developed in the course of the workshop.

Step 8: Mid-Project Review, Analysis, and Action Planning (In-Country and in the Donor's Project/Program Office)

The first part of the mid-program review would include all of the CBEHP district team staff, the key program management staff, project officers of the donor agency, and the technical assistance consultants. This review and assessment would be participatory, with the district teams having the key role in describing activities, accomplishments, and constraints in implementation. The central program management team (at the ministry level) would provide the same information from a national perspective. All would then engage in a collaborative problem-solving and action-planning exercise. This activity would identify both programmatic changes and policy needs to be presented to senior ministry personnel for action. The donor agency staff and TOT facilitators would serve primarily as process managers and consultants for this activity, with the additional responsibility of communicating any essential change in the project agreements to the donor agency.

The findings of this mid-project review will become the contents of a report to the host-country government policymakers and a position paper, developed toward the end of the project by the CBEHP central management team with the assistance of donor agency project officers. At the end of the project period, it is important that the project becomes the host country's own program and that this be reflected in the position paper and in operations of the responsible CBEHP government agencies and staff.

A second program planning and review meeting—in the donor's offices with the central management team, donor agency project officers, and TA consultants—would be a valuable intervention. Away from the constant interruptions of day-to-day duties and responsibilities, the central management team would be able to focus on its own integration and team development.

Up until this point, the central management team members have participated as co-trainers and have been active participants in providing supervision and monitoring for the institutionalization of CBEHP in district offices and communities. Now the time has come for the central management team to recognize that continued support of this effort is their responsibility (without TA consultants and donors project staff). At this meeting, the central management team members should examine their own performance as a team, analyzing how they work as a team and what their strengths and weaknesses are. By this point, they will have acquired experience in analyzing the various roles and responsibilities of implementing CBEHP. It is helpful at this point to develop an organization chart outlining roles and responsibilities of actors involved:

- Central management team
- Policymakers
- District-level staff
- Communities

In addition, this chart will outline the lines of authority, that is, what reporting mechanisms are provided for districts to share information with the central management team, how meetings are called with policymakers to report progress and constraints, what reporting and monitoring systems district environmental health committees will need to respond to, and how community committees will be supported and trained.

Step 9: Second TOT Intervention

This second five-day TOT workshop would be held for 20 to 30 district-team participants. The workshop content is based on the need to review and practice skills learned in the first workshop (Step 6), to review the data gathered from the monitoring and assessment visits (Step 7), and to determine the practical steps in selecting, organizing, and training community-based groups and program staff. Participants would spend some time at the workshop on developing the training manual for CBEHP implementors. Homework assignments from this workshop would also include district- and community-level capacity-building exercises.

Step 10: Monitoring Visit; On Becoming Trainers and Doing Needs Assessment

The pattern of this intervention follows that of the previous monitoring visit by facilitators (Step 7). This time, however, the district team's community-level interventions are the emphasis. Hands-on training focuses on providing feedback to the district-level staff on the skills required to facilitate community development and empowerment. If there is to be no additional TOT workshop, as was the case in the Belize program, it is important to incorporate information gathered in this visit into the training manual, programmatic and policy planning documents, and the final position paper.

Step 11: Presentation of Position Paper; Policy and Program Planning for Sustainability

This step represents the critical interphase between the initiation of the CBEHP and its long-term sustainability: what needs to happen here is to lay the groundwork for the future. This intervention consists of a meeting with host-country government policymakers to present an assessment of the program to date and recommendations for programmatic and policy requirements to transfer responsibility for implementation from the donor agency and TA consultants to the host-country government. The position paper sets the guidelines for sustaining and improving the program based on the experience and recommendations of the district teams and central-level program managers, with assistance from the donor agency's project officers.

Participants in this meeting would include host-country policymakers and senior staff from the ministry or ministries involved, the central-level management team, selected staff from the district teams, project officers and senior staff from the donor agency, other donor agencies and PVOs focused on health in the host country, and any other interested parties.

This meeting and presentation would be designed and managed by selected staff from the district teams and central-level management team, with any assistance requested by that group from the donor agency project staff.

Chapter 4

BUILDING A BEHAVIOR-BASED ENVIRONMENTAL HEALTH INFORMATION SYSTEM

The norm for information systems in public health is to track morbidity and mortality data. In Belize, both UNICEF and the Pan American Health Organization have provided assistance in planning a national health information system that will monitor health and medical conditions as well as the operation and use of health services. The type of information this system will supply is clearly essential for assessing changes in the health status of the population and access to health services. However, the CBEHP calls for an information system that will support the program's broad-based, community-managed integrated approach to the control and prevention of vector- and water-borne diseases. This approach recognizes the complex interaction of factors that impact disease prevention and control, specifically: the water supply infrastructure, water quality, human behaviors, and measures taken at the local level to manage and control malaria and dengue.

The necessity of monitoring infrastructure and water quality data is generally accepted; what is less frequently recognized is the need to track behavioral data related to environmental health. Specific high-risk behaviors must be identified, understood, and monitored in order to formulate effective health and hygiene education interventions. Yet, no matter how well these interventions are designed and carried out, their impact will be limited if the infrastructure is not functioning or if the water supply is contaminated. Conversely, even if the water supply system is functioning perfectly, improvement in health status will not occur if the water is not being used or is being used improperly.

The information system designed for the CBEHP reflects the interdependent nature of these factors. Because one of the indicators is behavior-based, (1) it can be monitored by community-level environmental health volunteers and (2) remedial action can be focused on specific households. Community-based monitoring allows for identification of households where sanitation facilities are not being utilized or households where spray for prevention of mosquito-breeding is washed off. With this information, district-level environmental health staff can focus specifically on the where and the why in order to design remedial approaches. The behavior-based data is then linked to Ministry of Health mortality and morbidity data on diarrhea, vector-borne diseases and intestinal parasites, and Ministry of Natural Resources data on infrastructure maintenance. In Belize, data collected by the MOH provide information on the first three points below. Information is gathered through surveys for the fourth point. These four areas combined form the data base for the health information system.

- **Water supply operations and maintenance:** operations and maintenance data are used to assemble a picture of how water systems and installations are functioning, providing information on communities' access to and supply of water.

- **Water quality:** data on the frequency of water sample collection and the results of testing provide the information necessary to assess the safety of the water supply.
- **Epidemiological data** gathered in Ministry of Health monitoring systems for malaria, dengue, and diarrheal and other intestinal diseases
- **Behaviors related to hygiene and vector control:** these data are used to plan health and hygiene education interventions and to measure the impact of those interventions on behaviors.

The data collection and analysis procedures developed for each of these components are different. While subsets of the data may be stored and processed at one physical location, for example, on a computer at a district-level office, the data for each component do not need to be integrated into the same file or processed by the same software program. In designing the CBEHP system, the concept of integration was applied to use of the data.

The information provided by each of the system's distinct components will be examined as an ensemble in order to assess vector- and water-borne disease control and prevention activities. Measuring the effect of those activities on health conditions will require data from the national health information system. It is in the area of health impact indicators that the national health information system and the CBEHP information system intersect. These indicators are being developed through a collaborative effort between the two systems' users and managers—MOH and MNR.

In addition to reflecting the interdependent factors that affect vector- and water-borne diseases, another distinguishing feature of the CBEHP information system is that its design is based on the following premise: anyone who has a stake in changing the basic situation that the system is monitoring can and should be involved in collecting data, analyzing it to determine what information it reveals, and using that information to make decisions and take actions. The long-term goal of the CBEHP system is to be functional at the central, district, and community levels. Implementing the behavioral component of the system at the community level is a priority. The plan for this component anticipates that village health committees, with the assistance of district health workers, will be able to collect, process, and use at least a minimal amount of behavioral data relevant to their specific needs.

Clearly, the full development of all of the components of the CBEHP information system, at the central, district, and community levels, is a long-term process. However, with the conceptual design of the system completed and the initial steps taken toward its implementation, the following lessons can be put forth:

- The process of designing the information system has been an integrative function for the CBEHP. The CBEHP management team's understanding of the interdependent factors that impact disease control and prevention was enhanced by the process of identifying the intersecting information needs of the Ministry of Health and the Ministry of Natural Resources and defining the indicators for each component of the system.

- The information system has a distinct role in helping to sustain the CBEHP. All aspects of system design and planning were directed toward supporting the CBEHP approach of decentralized problem-solving. This approach influenced the choice of computer equipment: a portable, rather than a standard office-type, computer was purchased, and a plan was developed to assure a wide range of system users access to the computer.
- During the design process, the focus was kept on the overall purpose of the system by consistently emphasizing data flows, both vertical and horizontal, and the reporting and dissemination of information derived from the system.
- Both the current and future development of the information system draws on the training and institutional capacity building activities carried out through other aspects of the CBEHP.

Chapter 5

CONCLUSIONS

Even as terms such as "ownership," "participation," and "empowerment" are brought into the lexicon of international development, there seems to be a great deal of unclarity or even naiveté about what is involved in establishing and institutionalizing these concepts. Ownership, participation, and empowerment are more than strategies to cut costs by delegating public-sector responsibilities to communities. In fact, superficial "community participation" is almost sure to be disappointing in the long run and may even cast a shadow on real efforts to make a community-based approach work in a sustainable manner.

In communities that suffer from a disease burden brought on by poverty and poor environmental health conditions, meeting basic needs consumes a majority of available time and energy. Giving these communities more responsibilities with very little support will neither facilitate nor sustain disease prevention. Communities need external support and nurturing in order to learn good public health practices and to incorporate those practices into every day life.[4]

Institutions that will support and nurture communities need to be created. These institutions will be different from those already in place and are likely to consist of program and ministry staff who have never worked together and do not know each other. Managers and staff from the country in which the program is implemented will have to make decisions about the composition of these institutions.

Within these new institutions, staff members assigned to work directly with communities will need training. Many will have never worked in teams; many more will have never experienced empowerment. These staff members will be used to taking orders, being lectured to, and receiving negative reinforcement, and it will be important to prevent them from using similar techniques in their work with communities.

Identifying the skills required to change such behavior and training staff will require more than one workshop. In Belize, training was conducted in a series of short workshops, review meetings, and operational assignments designed to reinforce skills. This multistage approach facilitated institutionalization of these newly acquired skills.

Community participation and management cannot exist without the support of policymakers. Recognition and support of community-based institutions translates into policy support, expressed through allocation of funds and staff resources for technical and process training. The success of the broad, community-based approach taken in Belize demonstrates that donor

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[4] See *Rethinking Sanitation: Adding Behavioral Change to the Project Mix*. WASH Technical Report No. 72. 1992.

agencies cannot afford to focus all resources on a single disease or a single government program. As international development resources diminish and the number and complexity of public health problems mount, the merit of addressing one disease at a time needs to be re-evaluated.

The most difficult aspect of the effort in Belize was integrating curative interventions into a broad-based public health approach. Accommodating the malaria control program's case-management approach was the most challenging of the team's tasks. Incorporating other program or ministry staff who viewed the program from a curative rather than a preventive perspective was also difficult for the district-level environmental health subcommittees.

Historically (and in Belize), the MOH approach to curative, vertical health programs is a major stumbling block to community-based environmental health approaches. Efforts such as installation of water systems and water testing emphasize the preventive side, but without accompanying changes in hygiene behaviors can be very disappointing. A multidisciplinary approach attempts to bridge the gaps between curative and preventive efforts, and between biomedical and ethnomedical approaches.

The ultimate responsibility of programs like the CBEHP in Belize is to emphasize values and establish systems that promote cooperation across vertical, disease-specific health programs and to empower people to take actions to improve their surroundings. In developing-country contexts, where data are scarce and unreliable and where the agent, host, and environment are constantly shifting, community participation is the most effective public health strategy to combat disease.

Appendix A

MATERIALS DEVELOPED IN THE CBEHP

Belize National Drinking Water Quality Monitoring Program. Prepared by Ministry of Health and Ministry of Natural Resources and Becky Myton. September 1993.

Community-Based Environmental Health: Hygiene Behavior and Communications Job Guide. Prepared by David Patterson and Edward Douglass. August 1993.

Community Development and Empowerment Manual. Prepared by Ministries of Natural Resources and Health with Bob Hollister and Al Rollins. September 1993.

Disinfection/Chlorination Workshop Job Guide Increased Productivity through Better Health (IPTBH) Project. Prepared by Barnes R. Bierck. January 1994.

Guidelines for Building an Environmental Health Information System in Belize. Prepared by Gail Kostinko. September 1993.

Operations and Maintenance Manual. Prepared by Ministries of Natural Resources and Health with Alan Wyatt and Jonathan Hodgkin. September 1993.

Position Paper. Prepared by Ministry of Health and Ministry of Natural Resources. August 1993.

Surface Water Sources and Wells Job Guide. Prepared by James F. Ruff. August 1993.

Appendix B

BUILDING TRAINING SKILLS TO DEVELOP INSTITUTIONAL CAPABILITY

Learning from the Training of Trainers Component of the CBEHP

It is necessary to take an incremental, skill-building, and applied approach to developing specific skills that health workers need in order to work successfully in villages. Some of the specific skills taught in the Belize TOT included:

- Making introductions
- Using open-ended, closed-ended, checking, and other questions
- Techniques to achieve early, balanced participation
- Using a flip chart/preparing visual aids
- Formulating simple, doable tasks for group assignments
- How to start and lead a group discussion
- Participatory ways to plan an agenda
- Interviewing skills/focus group skills
- How to do a home visit
- Conducting an initial meeting with a village council
- Conducting an initial meeting with a village health committee
- Conducting an initial meeting with a community group
- Giving a short, informative "lecturette."
- Designing and implementing a skill-building session
- Giving and receiving feedback and other communication skills

Great emphasis was placed on 1) defining the skill, 2) demonstrating the skill, 3) learning the component parts of the skill, 4) practicing or applying the skill in a safe, workshop setting, 5) providing supportive feedback to improve performance, 6) providing more practice and feedback, 7) applying and using the skill in a community setting via homework assignments, and 8) carefully analyzing successes and failures for the purpose of improving performance the next time. The consultants' frequent feedback forced all training participants to rethink, replan,

and redo the sessions, which led to a visible and satisfying sense of progress, improvement, and confidence.

The concept of the experiential learning model became a central theme of the learning in the TOT. This evolved into a norm whereby participants learned to practice, give corrective feedback, and practice again in preparation for field work assignments. The idea of deliberately examining and learning from experience became almost habitual, as participants learned to take an experimental approach to their work and to help each other with suggestions, critiques, and ideas in a supportive and helpful way. Participants came to look forward to their field assignments because they had planned and practiced what they would do, and they knew they would get help from their teammates if any problems developed. They became much more aware of the importance of devoting time to examining the process of working together.

As noted above, an important learning was the need to work on two levels: the development and functioning of the district team and the work to be done in villages. By creating a supportive and skilled team, the enthusiasm and "role modeling" spilled over into the work that was done in the villages. It should also be noted that the district workers were hungry to work as a team and increasingly frustrated by institutional constraints (lack of time, transport, and per diem) that limited their ability to do more fieldwork as a team. They seemed to understand intuitively that health work at the village level needs to be integrated, that a team approach will be more successful, and that the involvement of villagers in responding to health concerns is practical and needed.

This was the first time that personnel from the same districts were encouraged to work as teams and that teams from all six districts were able to spend extended time together. An important contributing factor to program success was the ability of teams to learn from and about what was happening in other districts. This sharing of knowledge and information led to a sense of empowerment in that the teams were able to give common voice to their frustrations and needs. They came to understand that they possess a type of experience and insight into problems and opportunities that their bosses do not have and that are important to communicate.

The workshops and meetings provided opportunities to open up communications and for system-wide problem solving. Because the workshop was skills- and value-oriented, participants were able to express grievances, formulate plans, and communicate with program managers in ways that opened up lines of communication and led to more effective problem solving. The ability to fight, disagree, and be open with each other demonstrated a developing level of trust and commitment that had been lacking previously. In addition, participants were involved in planning and preparing for meetings, with the Permanent Secretaries and other senior-level managers, for the purpose of making recommendations for program change. They gained skills in reaching policymakers and making presentations to them. Again, this provided opportunities for contact, communication, and influence on important issues.

The participants reported that the project's ability to use the same two consultants to make four trips, which covered all six districts over a one-year period, made a difference to their own motivation and commitment. Over time the participants began to take the work and homework

more and more seriously, and a level of trust, experience together, and understanding was developed that was useful for all concerned.

In Belize, numerous field guides and manuals were discovered that had been developed by various projects over the years, but virtually none of them were in use, and district-level personnel were not aware of their existence. In this project, participants were actively involved in the review, critique, and actual writing of a "Community Development and Empowerment Manual."

At every workshop, draft chapters of the manual were handed out for review, and participants were given responsibility for using the draft materials in their homework assignments. As a result, the participants are intimately familiar with the content, have actively used the manual, and reported that it is a useful tool to support their work. The lesson learned here is an old one: if people are involved in the development of a tool and have learned how to use it in a practical setting, they are more likely to use it in daily life.

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