Lessons from Hygiene Education Experiences

A Summary of Hygiene Education Case Studies in Bangladesh, Burkina Faso, Honduras, Turkey, Vietnam and Zambia

September 1996

Lessons from Hygiene Education Experiences

A Summary of Hygiene Education Case Studies in Bangladesh, Burkina Faso, Honduras, Turkey, Vietnam and Zambia

The views expressed in this document by named author(s) are not necessarily those of UNICEF but are solely the responsibility of those authors.

This document was prepared by Mr. Dave Rapaport, Consultant, UNICEF NYHQ.

Table of Contents

Executive Summary

This paper summarizes six case studies undertaken by UNICEF/WES surveying hygiene education activities in Bangladesh, Burkina Faso, Honduras, Turkey, Viet Nam and Zambia. While in each country there are encouraging examples of promising programs, these are the exceptions rather than the rule. Relatively little hygiene education takes place in the six countries, and that which does, tends to be sporadic and not very effective.

Perhaps foremost among the conclusions that can be drawn from the case studies is that hygiene education is not a priority in any of the six countries, and has tended to be neglected while the provision of water supply and sanitation infrastructure has been emphasized. This is reflected by the lack of clear national policies on hygiene education which could guide and provide a mandate to relevant government agencies. One consequence of this is a lack of coordination and collaboration between agencies and other organizations involved with hygiene education activities which hampers planning and creates inefficiency of efforts and inconsistency of message.

Individual projects are often planned without the benefit of good base-line information on the knowledge, attitudes and practices of target groups, and without careful consideration of their educational needs. Lacking clear objectives based on quantifiable indicators of behavioral change, projects are also often poorly monitored and evaluated. Community participation is often lacking as well, resulting in a top down approach in which experts convey facts and tell the target audience what they should do rather than one that focuses on building a conceptual understanding to motivate behavioral change. One of the prime causes of ineffective hygiene education is that local field staff who implement programs are generally inadequately trained in education techniques, poorly supported in their efforts and not well-compensated.

Still, the case studies do show that UNICEF and other international and bi-lateral organizations have had a positive influence on the development of hygiene education, having been responsible for promising programs which have begun to address many of the shortcomings listed above. Among the more encouraging observations from these case studies is the effectiveness of women's organizations in implementing hygiene education activities. Women play a central role in nearly all of the most successful examples cited by the authors

Based on these lessons learned, a number of recommendations for future action on hygiene education are presented

- Introduce a participatory learning process within national health, education, water and sanitation sectors in order raise the level of priority given to hygiene education.

- Establish dedicated hygiene education administrative structures, with separate budgets, to plan and oversee the implementation of hygiene education activities within a variety of integrated contexts.

- Recognize the primary importance of local hygiene education implementors.

- Implement hygiene education through existing organizations which have proven track records of implementing other education and community participation projects.

- Encourage the local development and testing of educational materials with community participation rather than centralized production.

- Develop model monitoring and evaluation systems for use and adaptation by hygiene education projects.

- UNICEF should initiate consultation and spear-head the establishment of national-level collaboration and coordination mechanisms.

Introduction

Hygiene education is increasingly being recognized not only as an essential element in water and sanitation programs, but as an important effort in and of itself. The 29th session of the UNICEF-WHO Joint Committee on Health Policy, held in Geneva in February 1992, recommended that the two organizations work toward a joint strategy for hygiene education in water supply and sanitation for the 1990s. Subsequent to the approval of this recommendation in November 1992, case studies of hygiene education in Bangladesh, Burkina Faso, Honduras, Turkey, Viet Nam and Zambia were completed by UNICEF/WES between 1994 and 1996. The purpose of this paper is to summarize the six case studies so that UNICEF will be able to learn from these experiences, make recommendations to the field on the basis of the lessons learned, share these experiences with others in the field, report back to the Executive Board, and to assist with the development of hygiene education guidelines.

The case studies were based on in-country surveys generally conducted over a period of several weeks, which included interviews with officials from government agencies, international organizations and NGOs in the health, education, water and sanitation sectors, field trips to the sites of hygiene education projects, observations and the review of relevant documents. Some of the case studies attempted to survey hygiene education activities country-wide, while others were devoted to several selected provinces. Because of time constraints combined with the general unavailability of quantifiable data, the case studies do not all provide a clear picture of the full range of hygiene education activities taking place in the respective countries. The quality of the information presented in each of the case studies varies, and they are mostly descriptive in nature. Never-the-less, taken together a number of common findings and conclusions emerge to offer valuable lessons for the development of future hygiene education activities

In his forward to the first of the case studies, *Hygiene Education In Bangladesh*, published in January 1995, Gourisankar Ghosh, Chief, UNICEF/WES, wrote

> *It is widely recognized that hygiene education and hygiene behaiour change are essential if water supply and sanitation programs are to achieve maximum health benefits. However, the inclusion of hygiene education and communication activities within water and sanitation has frequently been uncoordinated and poorly documented. To date, there has been no consistent hygiene education policy among donors or implementing organizations.*

All of the case studies support the truth of this statement. Unfortunately, very little effective hygiene education takes place in the six countries, and that which does suffers from all of these shortcomings. However, a number of promising new success stories in each of the countries suggests that those involved with hygiene education programs are already incorporating the lessons from their own experience to make hygiene education more effective. It is hoped that the summary of lessons learned and the recommendations presented in this paper will help UNICEF to further this process.

What is Hygiene Education?

Certainly one of the difficulties facing hygiene education is the failure to comprehend all that the concept implies on the part of many who have been involved with the planning and implementation of programs. Boot presents a definition of hygiene education that captures the sense in which it has been used in this paper and the six case studies:

> *Hygiene education is that part of health education which is concerned with the prevention of diseases related to water and sanitation. A common definition of health education is from Green et al. (1980): 'Health education is any combination of learning opportunities designed to facilitate voluntary adaptation of behaviour which will improve or maintain health.'*
>
> *This definition implies that:*
>
> - *Hygiene education is not teaching, but learning.*
> - *Hygiene education is planned, with clear points of departure and objectives to reach.*
> - *Hygiene education helps people to make decisions for themselves and to acquire confidence and skills to put these decisions into practice.* (Boot; vii-viii)

Further, a recognition of the broadness of the enterprise is conveyed well by Gradiz and Orellana, " . hygiene education is too complex an undertaking to be delegated to health promoters only. Hygiene education should be a multi-disciplinary intervention. It should envision a broad health promotion strategy where the community effectively assumes the role of protagonist and their objectives are more than strictly educational." (Gradiz and Orellana; 41)

1. Brief Description of Hygiene Education in the Case Study Countries

The case studies report very little in the way of dedicated hygiene education activities in the six countries In general, the hygiene education that does take place is depicted as sporadic, not well developed, and lacking in effectiveness. While some form of hygiene education has been introduced in recent years as a component of water supply and sanitation projects, it is most often very minimal and geared toward maintenance of water sources or motivating latrine construction. However, each country also has some very promising and positive experiences which stand as notable exceptions to the general picture.

1.1 Hygiene Education in Bangladesh

Each year in Bangladesh, 260,000 children under five years of age die as a result of diarrhea episodes, representing one third of all childhood deaths. Although the country has achieved wide tube-well water supply coverage, estimated at 92% in 1992, sanitary latrine coverage was only at 33% in 1993

Hygiene education does not appear to be a priority for the Bangladesh government, and relatively little serious effort has been devoted to it. The Ministry of Health and Family Welfare (MOHFW), arguably the most logical government institution to take a lead on the issue is notably absent from involvement in hygiene education. " [H]ealth and hygiene education is not a priority within MOHFW There is, in fact, no directive from higher levels to carry out hygiene education, and many members of the field-level staff simply do not consider it as one of their duties." (Boot; 25)

Instead, because the hygiene education programs which are conducted have been added to water supply and sanitation projects through pressure from donors, the agency which oversees the development of physical infrastructure in this sector, the Department of Public Health Engineering (DPHE), has been responsible for its implementation. Consequently, much of the hygiene education activity has been in the hands of poorly trained and technically oriented sub-assistant engineers and tube-well mechanics.

The case study describes a number of factors limiting the effectiveness or hygiene education. According to Boot, "Although there is a general consensus that hygiene education is essential for achieving health and socio-economic benefits from water supply and sanitation programs, the conceptual framework, factual knowledge and material inputs needed to make hygiene education work are generally lacking." (Boot; 84)

An exception to this picture is the Sanitation and Family Education (SAFE) pilot project, implemented by CARE-Bangladesh in 16 villages in Chittagong District, which is attempting to implement the principles of 'good' hygiene education The project started with the collection of information on beliefs and practices of the target community through participatory research activities Based on this, hygiene education messages and activities were then developed. Hygiene education activities are carried out in three overlapping cycles of three months each. The first

emphasizes sanitation and hygiene; the second, safe water use; and the third, diarrhea prevention and treatment. The cycle is repeated twice for a total of 9 months of intervention. Visual materials directed toward action and problems solving are used and activities are interesting and invite participation. Also, a behavior-based monitoring system has been designed and tested to asses the effectiveness of the project.

Recently a national-scale Social Mobilization for Sanitation has been organized by DPHE and UNICEF, initiated at a national conference opened by the Prime Minister in February 1992. The program includes advocacy, social mobilization and program communication components with the objective to foster a demand for sanitation improvements and therefore a favorable climate for behavioral change rather than to motivate changes in hygiene practices directly. However, Boot cautions that expectations for the results should not be too high because implementation will be in the hands of the DPHE, which does not have qualified staff.

Historically, the major framework in which hygiene education has taken place in Bangladesh has been the Rural Water Supply and Sanitation Programme, which has been underway since independence in 1971. The lack of expected health benefits from the installation of tube-wells during the first decade and a half of the program led to the development of an Integrated Approach, combining water supply, sanitation and hygiene education, which began on an experimental basis in two thanas in 1986 and was to be expanded to cover the whole country by 1995. The immediate objectives of the Integrated Approach are to

- get tube-well applicant groups to install pit latrines;
- motivate group members to adopt important hygienic practices,
- provide tube-wells to applicant groups who best realize first two objectives.

The Approach involves thana and union level authorities, government health, education and agriculture staff, teachers, NGOs, political leaders and others Recently, separate women's seminars have also been added. The hygiene education component has been largely rudimentary and mostly aimed at attempting to motivate latrine construction According to Boot, "[t]raining in hygiene education remains minimal, as do supervision and monitoring of hygiene education activities " (Boot; 5)

However, several intensive sanitation promotion efforts have been implemented as a part of the Integrated Approach, including one in Banaripara in which teams of staff from various participating departments held courtyard meetings with groups of families to discuss sanitation and health issues, covering the entire population of the thana in a single day Other aspects of the project, which lasted from April 1990 to December 1991, included a large march promoting sanitation on market day and the offering of an award to the school that destroyed the most unsanitary latrines.

An Intensive Sanitation and Hygiene Promotion Programme in Ramgoti Thana was implemented by the NGO, PRISM Bangladesh, from July 1992 to September 1993, with support from UNICEF and the Australian Government. The program's objectives were.

- social mobilization and intensive hygiene education through interpersonal communication with the entire population;

- better sanitation and behavioral changes;
- building an effective grass-roots organization and finding local allies.

One-hundred and thirty-three paid village sanitation motivators (VSMs) formed the backbone of the program, each responsible for communicating with about 425 households. An emphasis on facilitating communication with mothers, led to a female to male ratio of 7 to 3 among the VSMs. The program featured a baseline survey as part of VSM pre-service training. Each household was visited by a VSM 8-12 times during the project. Also, so-called "male seminars" were organized since most men work outside the home and were missed by the home visits. Also included were bi-monthly hygiene and sanitation classes in schools conducted by seven Field Supervisors, VSMs and teachers. In addition, religious leaders were involved as well. The main emphasis of the program was on latrine promotion, and it resulted in an increase in sanitation coverage in the thana from 3% to 59%.

Within the formal education sector, a new curriculum being developed by the National Curriculum and Textbook Board will include health and hygiene as part of the social studies and science curriculum in the third, fourth and fifth grades, although the subject is not adequately covered in secondary schools. In an experiment with the Child-to-Child approach, three hygiene education activity sheets have been developed and teachers from 30 schools have been trained with UNICEF support.

Latrine facilities are provided to primary schools through the DPHE/UNICEF Water Supply and Sanitation Programme, which includes some hygiene education. A small research project in 5 schools by the International Center for Diarrheal Disease Research, Bangladesh, found that hygiene education in the schools was not very effective because, among other things, the treatment in textbooks was not very comprehensible to students and that present teaching methods result in memorization and not accurate conceptualization

There are, however, several actors in the non-formal primary education sector which are implementing some very positive, although relatively small, hygiene education programs:

The Integrated Non-Formal Education Programme (INFEP) - an umbrella organization for 33 NGOs that run 525 centers for pre-school children, 1,000 centers for children age 6-10 and 2,000 centers for children 11-14 years old. The education Section of UNICEF has assisted in developing a curriculum dealing with health and hygiene which features 19 play-based activities for pre-school children (e g. hand-washing) Teacher's manuals are also being developed employing a problem solving approach for primary schools.

The Bangladesh Rural Advancement Committee (BRAC) - serves mostly rural children from poorer households who have never been to school or dropped out during 1st grade with 11,108 schools in operation as of 1992. Their learner-centered educational methods have proved to be effective, employing tools such as rhymes, poems, games, cards, mimes and role-plays.

The Gonoshahajya Sangstha (GSS) - runs 100 schools in urban slums for children up to 12 who have dropped out or never been to school. They provide intensive training to their teachers and use the Child-to-Child approach.

1.2 Hygiene Education in Burkina Faso

In Burkina Faso, 71% of the population had access to drinking water in 1992. Less than 10% of the rural population has access to latrines, and while the percentage is considerably higher in urban areas (70%), the majority of them are in poor condition. Children under five suffer from six to eight episodes of diarrhea per year, and although this segment represents only 18% of the country's total population, it accounted for more than half of deaths in 1985. Commonly held beliefs and practices by mothers related to diarrheal diseases are blamed at least in part for their persistence. Guinea worm is endemic in the population.

Although there is no national policy on hygiene education, various government agencies are involved with some degree of hygiene education as part of Integrated Village Water Supply projects, the National Water-Borne Disease Programme and the Guinea Worm Eradication Programme. Overall responsibility for hygiene education falls within the Ministry of Health, Social Action and Families. Its Directorate of Preventive Medicine is responsible for organizing, coordinating and controlling prevention and health promotion activities, which are implemented though 10 Regional Centers of Health and Sanitation Education, each covering an average of 3 provinces. The Ministry of Health's main partner in hygiene education is the Ministry of Water, which has a number of departments concerned with the development of safe water supplies and sanitation.

Nibakure notes that "[t]he integration of a hygiene education component into some water supply projects is recent. In general, in most water supply projects, this component is limited to the selection of the members of a committee whose main role is to ensure the maintenance of the water source." (Nibakure; 16) Further, it seems that projects generally work in isolation and do not consult with one another

Much of the impetus for hygiene education seems to come from various international and bilateral aid agencies, which have included hygiene education-related objectives in their cooperation agreements For example, the Cooperation Agreement Document for the Danish-funded Integrated Village Water Supply Project in the Boulgou and Kouritenga Provinces includes the definition of objectives related to health education with a special emphasis on hygiene and water-borne diseases and to water use in primary schools.

Between 1977 and 1993, the UNICEF Water, Sanitation and Primary Environmental Care Program achieved tangible results in water supply, installing 2135 water sources and establishing 2195 village committees on water sources However, a lack of capacity building, maintenance, and behavioral change limited the program's impact on health. Consequently, the program has integrated hygiene education elements since 1993, such as training in simple measures for

preventing water-borne diseases. Beginning in 1996, a new set of general objectives include facilitating good water hygiene practices.

A hygiene education component was added to The Village Water Supply Project in the Mouhoun in 1994, after the installation of 1,300 water sources and accompanying animation since the project's inception in 1980 had failed to produce satisfactory health improvements. Still in the design phase when the case study was written, the new program's objectives include to develop an hygiene education strategy and to improve domestic hygiene practices. It will target women and children using a participatory approach.

A background study identifying risk behaviors has been carried out by health education personnel who stayed in the villages and conducted discussions with various groups. Activities of the program will be organized into four-month cycles, each devoted to a theme such as "drinking water." Much of the program will be implemented through existing Ministry of Health structures, including the Regional Center for Health and Sanitation. At the local level, volunteer village teams given non-monetary incentives, will implement the program using educational materials that have been developed with the participation of the local population.

A UNICEF-supported pilot community participation and sanitation project in Ouagadougou's Sector 7 covers various aspects of sanitation in relation to household activities including wastewater, excreta and garbage disposal and rain water drainage. Started in April 1993, it has been credited with the collection of rubbish by a private cooperative, the construction of school and family latrines and other accomplishments. The project started with a background study which involved the target population and taught participatory research methods aimed at improving health-related environmental conditions. The community or their representatives are involved in all activities and women "are the backbone of sanitation activities." (Nibakure, 1995, 25) As part of the project, UNICEF funded a hygiene and sanitation training program for 120 women who are each responsible for training 15 more women.

NGOs are also conducting projects involving hygiene education as well. However, the case study does not provide a picture of the full scope or status of these experiences. The NGO, SANIYA, is carrying out a program focused on diarrhea in the city of Bobo-Dioulasso using women from the target group to conduct a background study and who will participate in the implementation.

The Association for the Promotion of Safe Drinking Water in Urban and Rural Areas and Water Hygiene Education is implementing a Water Supply Project in 26 primary schools in Koudougou. Financed by the French government on a trail basis, it is an integrated program involving hygiene and sanitation training and the installation of water supply systems. At the time of the case study, 50 "water posts," each consisting of a tap with a covered pot, had been completed in 8 schools.

1.3 Hygiene Education in Honduras

Significant progress was made at increasing water and sanitation coverage during the 1980s, yet in 1990, 34% of Hondurans still lacked access to drinking water and 38.5% were without access

to basic sanitation. Hygiene education is included as a component of many water and sanitation programs although in many cases it is still not linked to water supply and latrine construction projects targeting rural and low-income urban populations. The water and sanitation policies of the Honduran government have emphasized physical construction over hygiene education. In general, hygiene education is carried out in a piece-meal fashion, through specific actions that are not tied together as part of a well-planned, concerted effort.

The National Water and Sewerage Service (SANAA) is the most important government institution involved with water supply and sanitation in terms of investment, and has been responsible for approximately three-fourths of all resources implemented in the sector. Although its emphasis is on engineering, it has participated in projects that involve hygiene education. The Health Ministry carries out water and sanitation activities in rural communities with populations under 5000 people, and conducts its activities as part of an integrated health program featuring strong community participation at every stage in the implementation of basic water and sanitation systems. Another major player that provides funding for water and sanitation activities, including hygiene education, is the Honduras Social Investment Fund (FHIS)

The 1991 cholera outbreak lead to a series of preventive measures including hygiene education. However, since 1994, the government has not been interested in continuing the educational process, and current interventions are only in response to new outbreaks as they occur

Hygiene education apparently takes place to some degree in schools, and while some general features such as types of materials and approaches are listed in the case study, specific programs are not mentioned.

Interest in hygiene education has been motivated in part by international organizations as the Honduran government looked to outside funding and technical aid to meet its goals for water supply and sanitation during the 1980s. At this time, many NGOs and private aid organizations developed sanitation infrastructure projects that included hygiene education components. NGOs and oversees development agencies working in the sector include Water for the People, Save the Children, IADB, USAID, German Cooperation, the EU, CIDA and others.

However, Gradiz and Orellana caution that "[c]urrently, despite growing recognition of the importance of hygiene education in Honduras, little or no priority has been given to the formulation of policies defining objectives, goals, and curricula within a sanitation framework that sets knowledge, skill and behavioral standards that will prepare the population to assume responsibility for the health of their families and communities." (Gradiz and Orellana, 31) Further, most of the institutions involved with hygiene education activities have not developed an institutionalized participatory dynamic, and "even where the concept is part of their philosophy, it is not carried-out in practice. Hence, decisions made as a result of research are vertically imposed on the community without any discussion or deliberation."

In contrast to the general picture, several hopeful programs are underway. The Educational Project of the Implementing Unit for Peri-Urban Communities (UEBM), UNICEF and the Social Work Programme of the National University addresses 210 peri-urban districts of the capital city,

28 of which have water supplies. The project takes place in two stages. In the first, volunteer Water and Sanitation Support Committees, consisting mostly of women and children, are formed. Social work students along with personnel from the UEBM and SANAA use participatory techniques to train the volunteers in organizing, water and sanitation, ecology and environment, personal hygiene and educational skills. During the second stage, the Support Committees undertake a house-to-house education and mobilization process. Also, a number of other activities take place including clean-up campaigns, education parades, artistic contests on sanitation, cultural presentations by children's theater, dance and puppet groups. Hygiene education takes place at the same time as construction of facilities.

Save the Children emphasizes community participation in its projects. The communities form water committees for implementation on the local level, which together make up larger regional water commissions, which in turn are part of a regional council. An integrated approach is used which features education, health, resource conservation and economic development themes. The projects work on health, sanitation education, vector control, garbage, and hygiene practices among other issues. Through agreements with the Education Ministry, teachers are used to train children, leading to program continuity since they remain in the community Projects are coordinated with the Honduran Corporation for Forestry Development, the Health Ministry, Education Ministry, SANAA, and the Social Investment Fund.

Participatory research is featured in a program implemented by CARE that begins with the development of a social research training process. Local research teams from the community are formed to collect baseline information on the community's needs, resources and priorities. Plans are then developed for specific actions. Capacity building and continued community participation are emphasized throughout the process.

1.4 Hygiene Education in Turkey

In Turkey, over 60% of the population has access to sufficient drinking water and about 90% of households have a toilet, although these rates vary widely by province. According to Yurtseven, et al., " very little hygiene education as such has been carried-out in Turkey Rather, hygiene education has been carried-out to a limited extent as a component of other educational and occupational programs, not as a subject given primary importance in and of itself." (Yurtseven, et al., 35) While hygiene education messages are given as a part of other educational efforts and water and sanitation projects, no dedicated hygiene education program has been carried-out in the pilot villages in the provinces of Kars, Adiyaman and Bayburt, featured in the case study.

The major agency involved with hygiene education is the Ministry of Health's Primary Health Services Division, which is also responsible for water and sanitation. Most of the agency's resources, however, are devoted to water and food analysis and water system activities. Another of the Ministry's agencies, the Mother-Child Health Unit, has published some brochures on hygiene education. In addition, the Ministry of Education conducts seminars on canning, food storage and mother-child care which includes hygiene education to a limited extent, and some hygiene education is included in a course called "Environmental-Health-Traffic-Reading," taught

in elementary schools. Also, the Education Department of the Ministry of Environment provides seminars on environmental health, including hygiene, to willing government institutions, such as the Ministry of Education and the Office of the Chief of General Staff.

At the provincial level, there is some hygiene education carried out by the provincial directorates related to the general ones. Provincial Child Committees, established as a part of the Joint Programme of Cooperation between the Government of Turkey and UNICEF, have begun to coordinate the activities of the various institutions involved, including the Provincial Directorate of Village Works, which delivers water supply services, and the main agency which conducts training on hygiene education, the Provincial Directorate of Health.

In general, while these government institutions "pay lip-service to hygiene education it is never seen as a priority issue, and a large number of personnel have little knowledge of hygiene." (Yurtseven, et al; 9) The case study also notes that community participation in hygiene education is minimal, and that there is not much interagency cooperation on activities.

Most water supply, sanitation and hygiene education efforts are focused within the Area Based Services Programme, which is the result of cooperation between UNICEF and the Turkish government. The main objective of the program is the implementation of an integrated approach at the village level. However, most projects are oriented toward the provision of hardware and the delivery of water services. Most participants and trainers put the emphasis on water supply and to a lesser extent on sanitation, while hygiene education is under emphasized. In addition, monitoring and evaluation of projects are lacking. On the positive side, there have been attitude changes at the central, provincial and village level as a result of the program. One measure is the allocation of a small amount of money (5 billion TL) for hygiene education in 1995 by the Directorate of Village Works, which is responsible for drinking water and sewage systems.

Bellow is a summary of major hygiene education activities in the three provinces covered in the case study - all supported by UNICEF.

In Adiyaman, several educational programs focused on the training of government personnel, and to a lesser extent volunteers, including: five-day enrichment and adaptation training was given to 64 doctors in 38 health centers; training in the province center for thirty health volunteers; training for doctors, nurses and mid-wives in 163 villages organized by the Public Education Center; seminars on water usage, sanitation and repair of water systems organized jointly by the Village Works and Health Directorates for sixty-four people from 16 villages; and Provincial Agricultural Directorate seminars on canning, sewing and nutrition in which food hygiene is discussed. However, because different agencies conducted these trainings, there was inconsistency in the messages given, and hygiene education "was either discussed in a very limited fashion or not at all." (Yurtseven, et al., 26)

In Bayburt, there has been a greater effort to implement hygiene education In December 1993, a province education team consisting of one doctor, one health specialist, one mid-wife, one environmental health specialist, one home economist and two teachers was formed and given 1 month of training. They then provided one-day trainings in each of 40 villages to 164 health

volunteers. They also took 6-8 educational trips to project villages and used video cassettes and a book entitled *Health Volunteers: Primary Health Education.* Volunteers also were given digital blood pressure gauges and digital scales. In addition, teachers, nurses and mid-wives from the villages were given a 4-day training session. Three-day seminars were also held for village heads, night watchmen, imams and elementary school teachers by a training team formed jointly by the Province Health Directorate, Province Agriculture Directorate and the Directorate of Village Works.

In Kars, 32 doctors were given a 3-day training in 1994, and 38 nurses were given a total of 4 trainings, each lasting 2 days. Nine training programs were carried out in pilot villages and a total of 166 volunteers given a 5-day training. In addition, 72 teachers were given a 2-day seminar. Starting in January 1995, a training program on sanitation and hygiene has been jointly initiated by the Provincial Directorate of Village Works and the Province Heath Directorate for 5 people from each pilot village utilizing the book, *Facts for Life*. Other activities in Kars have included seminars for 425 volunteers and 680 farmers in 10 pilot villages on canning in which food hygiene was briefly covered, macramé and sewing courses for 57 farmers wives during which *Facts for Life* was used for hygiene training; and training by the Directorate of Health for volunteers on the prevention of diarrhea and toilet care/maintenance.

In general, the content of these training activities (in each of the provinces) has been primarily focused on primary health care and occupational skills. "Lectures have been the most dominant, if not only, methodology utilized during these training programs." (Yurtseven, et al., 32) There has also been a lack of effort to assess the effectiveness of the training programs, the methodologies or materials used.

1.5 Hygiene Education in Viet Nam

There are few sources of safe drinking water in the provinces included in the case study. Dug wells and rivers which both tend to be contaminated from human and animal excreta as well as other forms of pollution are primarily relied upon. Sanitation coverage varies, but a vast majority of latrines are considered unsanitary

In general, there appear to be a large number of hygiene education activities taking place in Viet Nam Several national laws and directives in recent years have directly or indirectly spurred action on hygiene education including the establishment of health education in primary schools and the establishment of a Steering Committee for rural water supply and environmental hygiene. Among other initiatives on the national level, in recent years the Physical Education Department of the Ministry of Education and Training has published two text books on health education, and since 1994, health education has been a compulsory subject in elementary schools.

However, hygiene education is still not given priority and is not well funded by government agencies. Do Van Binh, et al., cite the " lack of accomplishments by The Preventive Health Center and the Committee for Science, Technology and Environment." The Deputy Director of the Preventive Health Center has stated that the agency is not seriously concerned with the issue,

and they allocated only 10,000,000 dong (US$1,000) for health education in 1993. The Committee for Science, Technology and Environment has no supportive or coordinating programs with related agencies on hygiene education, with the exception of a study on pollution in a provincial town. (Do Van Binh, et al.; 45)

The case study looked at hygiene education in three provinces: Thai Binh, where substantial health programs are ongoing; Soc Trang, a poor, newly-formed province; and Long An, where research was focused on the integration of hygiene education with other sanitation programs in order to compare it with the other two provinces. A summary of hygiene education experiences in the three provinces follows.

Soc Trang

A pilot health education program has been introduced in 9 of the province's 228 primary schools. The program includes establishing a steering committee, teacher training, writing articles in local publications and other activities aimed at developing behavior change. However, hygiene education is apparently not a major concern, and little is done to teach it in a practical manner. Instead, teaching is based on conveying theory and is not successful at changing behaviors.

Soc Trang's Youth Union (YU) has a program in a number of villages urging young people to adopt good hygiene practices, dismantle latrines which overhang rivers, and to construct new hygienic latrines for their families. With the financial support of the Committee for Family Planning and Population, they also organized a symposium for 70 representatives from different agencies and mass organizations in 1994 to expand the "Pre-marriage and Young Family Happiness Cubs," (whose objectives include health), which stressed concern for maintaining clean water supplies.

The Women's Union (WU) of Soc Trang was one of four provincial Women's Unions to receive funding from UNICEF for a pilot scheme on "Environment and Clean Water." Other organizations were also involved, including the Center for Preventative Health, the Youth Union, and the Culture and Information Service. The program included a promotion campaign conducted by the WU and the YU, featuring literary and art contests with hygiene as the main theme. In addition, the Culture-Information Service joined with the WU, the Center of Preventive Medicine and the Committee of Mother and Child Protection to run 2 training courses for nearly 200 bonzes at 98 pagodas aimed at promoting good hygiene practices. Most pagodas now carry-out various cultural activities like theater and music to encourage proper hygiene behaviors, and hygiene is one of five criteria used for awarding prizes for these activities

The project focused on six pilot villages in the rural districts of My Xuyen and Long Phu (Tai Van, Vien An, Vien Bing, Lieu Tu, Lich Hoi Thuong and Trung Binh), located along a heavily polluted river which serves as their main water source. The objectives of the project included making people aware of the importance of hygiene and the need to use clean water, removing latrines overhanging the river, building more sanitary latrines, smokeless stoves and other hygienic measures Implementation steps included a survey of water use and hygiene in the six villages through a household survey form, and a series of training courses. First, central WU cadres

provided training to cadres from the provincial WU, the two rural districts and the six villages. Then, at the district level, cadres from the provincial WU and officials from the provincial Center of Preventive Health gave courses to members of district and village WUs, the Red Cross, Youth Unions and Peasants Associations.

Other promotion techniques included direct conversations with each household, use of newspapers, radio broadcasts, and working through members of woman's credit groups. Response seemed to be very good in the credit groups, where the issues were discussed during regular meetings, and those who agreed to implement the projects were given priority in borrowing money. While the project was successful at motivating people in the 6 villages to make a number of behavioral changes, the materials had been prepared by trainers sent from the north, and contained northern expressions which were difficult for the participants to understand.

The Center for Preventive Medicine has conducted courses in hygiene education for medical cadres in Soc Trang's districts. Since 1990, the Center, in coordination with the Red Cross and the WU, has developed pilot projects in three villages involving community health workers (CHWs), each responsible for 50-100 households and who's work has included hygiene education as a result of a Prime Ministerial directive in 1994 In other villages, hygiene education is carried-out in a top down manner through the mass media, including monologues broadcast every morning and afternoon over a system of loudspeakers.

Long An

An integrated program, in which schools receive funds from UNICEF to dig wells and build toilets, has been in operation since 1991 in a growing portion of Long An's schools. The program's objectives are to provide primary schools with one piped well, one septic system and latrine and to promote personal hygiene at school and in the surrounding area Villages where there are schools adopting the program also set up steering committees for implementation. Yearly targets are established by the program's central steering committee (Long An is one of several provinces implementing the program), and a provincial steering committee selects schools and determines implementation procedures. Hygiene education is much better in villages with the integrated program than in those without it

Thai Binh

At the provincial level, one physician with the DOH is in charge of health education, and the responsibility for implementing health education rests with a public health cadre at district and township health centers and at village substations. District level cadres are trained by the staff of the Center for Health Propaganda and Protection, and they in turn train the sub-district and village level cadres. A Campaign for a Hygienic Mode of Living and Clean Environment has taken place from June 1993 through the end of 1995 which included mass communications, contests to promote hygiene and construction of sanitation projects.

In 1989, health education was introduced in Thai Binh's schools on an experimental basis, beginning with grade one and has been in all grades since the 1993-94 school year. The

Department of Education and Training runs training courses for District Education Offices, which in turn train teachers in district and township schools. Students are given an examination, and schools assess the program by checking students' hygiene, such as the cleanliness of their hands and feet upon entering the classroom. Marks are computed monthly as part of the grade for hygiene/sport.

Since 1991, 32 primary schools have adopted the integrated program "Health-Environmental Hygiene and Clean Water Supply," each receiving a well and a hygienic toilet with UNICEF funding. The project was initially implemented from October 1992 to December 1993 as a pilot in the village of An Vinh, and was expanded to 20 villages in the rural district of Quynh Phu in January 1994. The program is supported by the People's Committee, so many organizations are involved including the DOH, WU, YU and the mass media at provincial, district and village levels. A project steering committee has started training village steering committees and hamlet propagandists, and has issued 12 documents and two videos. The reported results of the pilot program in An Vinh are that 95% of the households have improved sanitation, with even very poor families spending their own money to build hygienic sanitation systems.

At Dong Hai, one of the other pilot villages in the program, much of the implementation has been accomplished at the hamlet level. Within each of 20 hamlets, a propaganda sub-committee, composed of the hamlet head, the hamlet health worker, and volunteer YU and WU members, tries to persuade people to construct hygienic means of sanitation and promote hygiene Cash awards have been offered as an incentive for each family they convince to construct a toilet. The use of local leaders in this process has been very effective. However, in villages where local leaders are not convinced of the program's value, it has been difficult to get the program off the ground.

The Thai Binh WU has carried out hygiene education activities since 1990, when it began to train members using *Facts for Life* The Provincial WU trains district cadres, who in turn train village cadres, who then train cadres of hamlet WUs (or cells) WU leaders give talks to members twice a year on hygiene education-related topics such as "health and the family " The WU also organizes contests on health care themes. Winners from the villages compete at the district level, with winners there going on to provincial contests. Training is provided to contestants as part of the process For example, during the 1993 contest on the theme, "mothers' and children's' health," 1,544 classes were held, reaching 247,677 trainees. A contest for men over the age of 16 on the book, Facts for Life, included 48,279 contestants, trained in 424 classes. The WU work has had some good results, especially where the local cadres are very dynamic and creative However, in some villages where this is not the case, their activities have been inconsistent.

1.6 Hygiene Education in Zambia

About three-quarters of Zambia's urban population has access to safe water, while in rural areas the figure is closer to one-third. Inadequate sanitation and poor hygiene practices are blamed for the rising incidence of water-borne diseases In 1992 there were 15,954 verified cases of cholera which claimed 1,178 lives, and dysentery has affected at least 20,000 people since 1990

A variety of hygiene education activities take place throughout the country on a fairly regular basis. Within the formal education system, the topic is included in the primary school curriculum. The Child-to-Child approach to health and hygiene education is practiced with varying degrees of success in 10% of the schools, where activities include plays, mimes, reading health education focused poetry, quizzes with health messages, and telling stories which convey or emphasize health themes. In the non-formal sector, CARE International's PURCH project, recently launched in Lusaka's Kamanga squatter compound, is training volunteer community health workers to conduct health and hygiene education classes. The Control of Diarrheal Diseases (CDD) Secretariat of the Ministry of Health (MOH) sponsors national awareness campaigns in connection with the annual cholera epidemic, which include announcements from a loudspeaker mounted on a slow moving car and spontaneous performances by volunteer drama clubs. Also, some hygiene education is carried-out as part of a broader range of health education through district health centers. "However," according to Rogers Ryan, "the hygiene education message has not resulted in widespread change in terms of personal hygiene behavior." (Rogers Ryan; 13)

In addition to the activities mentioned above, hygiene education takes place to some extent in water supply and sanitation projects. There has been increased activity in the water sector as a result of the drought of 1991-92, and a few of the implementing agencies have included a hygiene education component along with the supply and rehabilitation of water points. But, says Rogers Ryan, "[t]he idea of looking at rural water supply as a process of social change requiring the full participation of the recipient community is a point of view that is only slowly coming to the fore in Zambia." (Rogers Ryan, 41)

Many still see providing water as a technical problem and hygiene education is not a priority in the provision of water points in rural areas. Less than half of the 43 projects in the water sector acknowledge the inclusion of a hygiene education component, only 4 of the 11 major projects offer hygiene education along with handpump maintenance training.

Many implementing agencies claim that hygiene education should be implemented by the Ministry of Energy and Water Development's Department of Water Affairs (DWA), which is responsible for rural water supply and has staff at the provincial and district level throughout the country. "In most cases, however, district DWA offices do not have the capacity, either in manpower or capability, to carry out this function," observes Rogers Ryan. (Rogers Ryan, 12)

Another limitation of hygiene education in water supply projects is that community participation is often not encouraged, particularly with the use of more sophisticated technology. For example, after agreeing to fund a certain number of water sources, the Japanese International Cooperation Agency (JICA) simply hires a contractor to install them, without any community participation at all. Involving the community, as with hygiene education, is left up to the DWA.

In order to try to ensure that villages, and especially women, are included in the planning, installation, and long-term maintenance of their water sources, a Community Management and Monitoring Unit (CMMU) has been established at the DWA with support form UNICEF and the Norwegian Government. Consisting of two sociologists and a community educator, the CMMU

conducts KAP studies around the country to provide data necessary for planning community management systems.

A model hygiene education component that features strong community participation has been developed as part of the DWA/Water, Sanitation and Hygiene Education (DWA/WASHE) Programme in Western Province. Funded by the Norwegian Agency for International Development (NORAD), the program was developed in response to initial water supply projects that were viewed as "purely technical problems requiring technical solutions rather than as a process of social change necessarily requiring the full participation of the target communities." (Rogers Ryan; 35)

Beginning in 1984, a Community Education and Participation (CEP) component was integrated into the structure of the DWA to provide support to DWA District Teams in the form of health education, motivation, community organization and to secure of community participation in planning, implementing and maintaining the water source.

The CEP team, made up of members representing the Ministry of Education, Ministry of Health, Ministry of Agriculture and the DWA, carries out a process which takes a minimum of 1 year for planning and extends 2-3 months after a well is drilled. Four meetings are held between CEP and villages. The first meeting, which occurs after the village has requested a water point, introduces the program and covers issues such as provision of labor, formation of a Village Water Committee, selection of caretakers to participate in a Village Maintenance Training Course, and an agreement to make cash payments after the first six months of operation, during which DWA takes responsibility for maintenance and repair. The second meeting is held to prepare for cooperation in the construction phase, and one month after installation the third meeting is held to monitor progress and provide support and assistance The fourth meeting occurs after 6 months when responsibility is formally turned over to the community The CEP team also trains selected villagers at a three-day seminar covering pump-maintenance, village sanitation, hygiene and other relevant health problems such as malnutrition and diarrhea.

CEP team members spend 90% of their time in the field, traveling in pairs. During a monitoring visit/health and hygiene education session in a small village observed by Rogers Ryan, the villagers were happy to see the CEP team members, who were likewise enthusiastic and glad to see the villagers and also very respectful of the village women, treating them as equals rather than students. As part of the session, the CEP team used 20-30 posters, featuring high-quality illustrations portraying various facets of life in a culturally appropriate idiom, and no written text. The posters were laid out on the ground so that the villagers could go through them and select the ones they wanted to talk about Several were selected by the villagers and placed in an order that was meaningful to them, and they took turns telling stories based on them. Children were also encouraged to participate and the lively 90-minute session ended with everyone singing songs about hygiene.

The sense of partnership and mutual respect between the villagers and the CEP team is a striking feature of the DWA/WASHE Programme which stands in sharp contrast to the "paternalistic, 'I'm doing this for you' attitude [that] prevails " (Rogers Ryan, 41) The high level creativity,

motivation and commitment of the CEP team is at least partially attributed by the project manager to the fact that they have been given the opportunity to define much of the process themselves. CEP teams are also active in schools, where they support the Child-to-Child program through teacher training, hygiene education talks and assistance with materials and curriculum development.

2. Conclusions and Lessons Learned

While many of the experiences covered in the above review offer some encouraging examples of effective hygiene education, as previously noted, the general picture presented by the case studies is rather less positive. Further, most of these promising experiences are too new for conclusions to be made about their results. Consequently, the lessons listed below are for the most part framed in negative terms.

Hygiene education is not a priority. Hygiene education is not seen as a priority in any of the six countries studied, generally taking a back-seat to the provision of water and sanitation infrastructure. This is true at the government ministerial level, as exemplified by the almost complete lack of involvement of Bangladesh's Ministry of Health in hygiene education activities, and also at the implementation level, where it is often provided by inadequately trained personnel as an after-thought within activities focused on other issues. The summary of the situation in Honduras by Gradiz and Orellana could be equally applied to the other countries. "Hygiene education has been completely overlooked since the country's emphasis has been on water systems and latrine construction. Even though hygiene education is an important component of sanitation, it has frequently been neglected because of the priority that water supply has been given over sanitation in national sector plans.... In general, the positive health impacts of investments in the water and sanitation systems is reduced by the scant attention given to hygiene education." (Gradiz and Orellana; 7) Even in Viet Nam, which has a comparatively large number of on-going hygiene education activities, programs suffer from gross underfunding.

There are a lack of clear national policies and objectives for hygiene education. Almost all of the case studies cite the need for national policies which express an unambiguous commitment to hygiene education, set specific targets for accomplishment and define the roles of various agencies involved. For example, "[c]urrently, despite growing recognition of the importance of hygiene education in Honduras, little or no priority has been given to the formulation of policies defining objectives, goals, and curricula within a sanitation framework that sets knowledge, skill and behavioral standards that will prepare the population to assume responsibility for the health of their families and communities." (Gradiz and Orellana, 31) In Burkina Faso, according to Nibakure, "[w]hat is striking in this domain is the absence of an overall written and budgeted policy for water hygiene and sanitation education." (Nibakure; 28) The lack of such national policies are seen as hindering the development of effective hygiene education. As Rogers Ryan observes, "Zambia currently has no mechanism for either planning or delivering a nationally coordinated hygiene education program." (Rogers Ryan; 44) Yurtseven et al. suggest a strategic approach involving the major government agencies which take part in hygiene education-related activities.

There is a lack of coordination and collaboration between various actors in the field of hygiene education. While a fair degree of coordination seems to exist between agencies involved with various elements of the hardware aspects of water and sanitation projects, this is largely absent when it comes to hygiene education activities Yurtseven et al, complain that at the national level, ". some agencies involved with hygiene education seem unaware of the related

activities carried-out by others." (Yurtseven et al.; 9) Another example is Bangladesh, where "...collaboration remains at a rudimentary level and is extremely limited." (Boot; 64) In Honduras, collaboration does take place in the planning and implementation of specific projects, but "...not at the level of defining overall program action strategies." (Gradiz and Orellana; 9) One of the ways this lack of coordination limits hygiene education is that agencies cannot learn from each other's experiences. Rogers Ryan reports that in Zambia, "[a] number of interviewees noted a disturbing lack of communication amongst agencies, both government and NGOs, in the area of health and hygiene education. The principal complaint was that there was no sharing, nor opportunity to share, materials or methods, etc." She further asserts that "[i]ntersectoral and inter-agency communication and collaboration need to be encouraged in order to create a political environment that supports the thoughtful planning of an effective hygiene education program." (Rogers Ryan; 19, 45)

Hygiene education projects often lack adequate planning. At the individual project level, hygiene education activities are often implemented without clearly identifying the target group, sufficient consideration of their educational needs, understanding local beliefs, attitudes and practices, or adequately developing and testing the educational messages. Sometimes, the failure to gather important base-line information through knowledge, attitudes and practices studies or other means is responsible for the failure of projects to achieve their goals. "For example, in Soc Trang," write Do Van Binh et al., "although the Province People's Committee was determined to do away with latrines on rivers and fish ponds, they had limited success because they had insufficient knowledge of the health, economic condition and feelings of the people." (Do Van Binh, et al.) Other times, although projects may "...start with some kind of baseline study, the data collected seem scarcely to have been used in designing a practical plan for hygiene education. This is not unique for Bangladesh." (Boot; 27)

There is a lack of monitoring and evaluation of hygiene education programs. A related problem is that hygiene education activities are generally inadequately monitored or evaluated, so that any lessons they might provide cannot be incorporated into the planning of subsequent projects. This problem is illustrated in the case of Turkey, where, according to Yurtseven et al., " .there are no efforts to evaluate the impact of programs, and no quantifiable indicators are used to measure the impact." (Yurtseven, et al.; 33) The lack of indicators used for goal-setting and evaluation are also cited by Gradiz and Orellana in Honduras. They point out that while institutions involved with water, sanitation and hygiene education have planning mechanisms and monitoring systems in place, they are primarily designed to fulfill their own organizational needs, rather than ensure that the needs of the communities are met. Further, they observe that programming objectives mainly focus on easily quantifiable measures such as numbers of workshops, wells, latrines, or people trained, rather than " . goals expressed in terms of practices, habits and attitudes which would serve as indicators of the learning and behavior changes that are expected from the community when projects combine an educational process with construction of sanitation facilities." (Gradiz and Orellana; 26)

Hygiene education is often implemented with a top-down approach that lacks true community participation. Despite general acknowledgment of the need for community participation in the design and implementation of hygiene education programs, and the recent emergence of individual

projects which appear to be successfully putting this concept into practice, the authors of the various case studies agree that community participation is still lacking from most hygiene education activities. Instead, they observe that integrated water and sanitation programs are often implemented without community participation, as has been previously described in the cases of Honduras, Zambia and others, and consequently hygiene education messages are delivered in ineffective ways. For example, in Turkey, "...the approach has focused on the needs at the community level as seen from an authoritarian position while community perceived needs have not been integrated. This has resulted in a top down approach where those that see the problems tell those that experience the problems what to do." (Yurtseven, et al.; 43) Even where efforts are being made to incorporate greater levels of community participation, the task is not easy, as Maurice Samani, a project manager for the DWA/WASHE Project which has been a striking exception to the rule, cautions in the Zambia case study "[p]roceedures for community participation and health education which have been proven effective cannot be established overnight. The need to be developed gradually in the field..." (Rogers Ryan; 42)

Hygiene education is often taught in an ineffective manner. Beyond the top down approach, other aspects of teaching methods typically used hamper effective hygiene education as well. In Bangladesh, for example, " . most hygiene education activities just consist of telling people what to do... [m]essages are generally nonspecific, for a non-specific audience..." (Rogers Ryan; 28) Very often, according to several of the authors, hygiene education focuses primarily on conveying theory and the memorization of facts, rather than on strengthening hygiene practices Teaching methods also frequently suffer from a lack of imagination, as appears to by the case in Turkey, where among the hygiene education activities reviewed in the case study, "[l]ectures have been the most dominant, if not only methodology utilized..." (Yurtseven, et al.; 32) The lack of effective hygiene education may be to some extent a reflection of the generally poor state of the formal education system in countries where most teachers may not be well trained or motivated. As Rogers Ryan describes in Zambia, " . teachers generally do little more than require students to copy information from the chalkboard into their notebooks." (Rogers Ryan; 21)

There is a general shortage of effective hygiene education materials. Most of the case studies report a shortage of materials for use in hygiene education, due primarily to budget constraints. For example, in Long An Province's UNICEF-assisted integrated program, materials were only available for the first grade in 1991, and although other grades have gradually received them, a shortage still persisted at the time the case study was written. With a few notable exceptions, such as the DWA/WASHE Project which has been described in Zambia, the few materials which are available are of poor quality Illustrations may be poorly drawn or contain culturally inappropriate images and phrases which fail to be understood by the target audience and few materials appear to be properly pretested on the target audience. Further, most hygiene education materials focus on the need for latrine construction, hand-washing or the need to use tube-well water for all domestic purposes, and are not designed to facilitate group discussion. As Boot asserts, most hygiene education materials "...are designed to convey information rather than to inspire action. Thus, these materials reinforce the 'telling' or 'teaching' way of hygiene education." (Boot; 30) Even where good quality educational materials are produced, they sometimes run into problems reaching the target audience because they are indiscriminately distributed as was reported in Honduras.

Hygiene educators are often inadequately trained for the task. "Hygiene education will stand a chance of being effective only when there is staff that can do a good job," writes Boot in the Bangladesh case study. She could be referring to any of the countries studied in going on to conclude, "the reality is that at all levels there is a lack of staff that can do a good job." (Boot; 85) The need for greater levels of pre and in-service training for those involved with hygiene education is identified in nearly all of the case studies. This includes training in basic teaching and participatory skills perhaps even more so than in the field of hygiene. As Nibakure concludes in the case of Burkina Faso, "[t]he poor results registered in the field of hygiene education are probably due to the fact that some of the people recruited to carry it out are inadequately trained in communication and animation techniques." (Nibakure; 29) The problem of training field staff involved with hygiene education can be exacerbated by a turnover rate among personnel in these positions, which is cited in Zambia and in Turkey, where "[t]he regions most in need of hygiene education are socially and economically underdeveloped and most who work in these provinces try to get transferred to more developed regions of the country." (Yurtseven et al.; 36) In addition to training, the authors agree that there is a need to recruit competent and committed local staff, and that they be given appreciation and equitable compensation for their work.

UNICEF and other international and bi-lateral agencies have had a positive influence on the development of hygiene education. It is evident from the case studies that of the effective programs and favorable developments in hygiene education have been the result of influence from international and bi-lateral organizations, including UNICEF. In particular, various donor agencies and international NGOs are involved with the implementation of hygiene education activities have been behind the incorporation of greater levels of community participation in more recent projects.

Women's organizations are effective conduits for hygiene education. Many of the positive examples of hygiene education experiences reviewed in the case studies confirm the important role women play in development. All of the most successful projects were either carried out by women's groups, emphasized their involvement in the development and implementation of hygiene education, or at least focused special attention on effective communication with women. These include the various projects implemented by the Women's Unions in Viet Nam; Bangladesh's Ramgoti Intensive Sanitation and Hygiene Promotion Programme, which utilized a field staff made up mostly of women; the UNICEF-sponsored project in Sector 7, Ouagadougou, Burkina Faso, which focused on training women; the UEBM-UNICEF-National University Programme in Honduras, which sets up and trains Water and Sanitation Support Committees to act as educators; and Zambia's DWA/WASHE Programme who's CEP team has developed effective participatory techniques for involving women in target areas. In addition, working with women's credit groups, as demonstrated in Viet Nam, shows promise as are not only forums for discussion, but can also create incentives for participation in integrated projects through loans for the installation of water and sanitation facilities.

The response to cholera out-breaks have been good opportunities for implementing hygiene education. In both Honduras and Zambia, apparently effective (perhaps more so in Honduras) hygiene education activities have been implemented in response to out-breaks of cholera, as behavioral change is seen as key to containing the disease.

3. Recommendations for future action in hygiene education

There are a number of obvious recommendations which can be directly implied from the "conclusions and lessens" listed in the preceding section (e.g. better planning, more community participation, more training for hygiene education staff). Apart from these, several additional ideas for future action in hygiene education, some of which go beyond those offered in the case studies, may be considered:

- **Introduce a participatory learning process within national health, education, water and sanitation sectors in order raise the level of priority given to hygiene education.**

It seems reasonable to conclude that hygiene education goals will not be achieved until they are given greater priority by relevant government agencies. Without it, hygiene education will continue to be neglected by staff and suffer from inadequate funding and the lack of clear policy mandates from central authorities. Several case studies have mentioned the positive developments which have taken place in hygiene education as a result of the "gentle pressure," as Boot puts it, from donors and international organizations. However, they also point out that agencies often simply go along in order to maintain support and their own control of programs, rather than because they have really changed their basic institutional attitudes with regard to hygiene education relative to the "hardware" aspects of water and sanitation.

The health and sanitation professionals (consultants, staff of UNICEF, NGOs and others) have gone through a learning process which has allowed them to reach their own conclusions on the role of hygiene education. They should not expect that national and local government agency officials will change their attitudes simply because the "experts" say they know what is best any more than one should expect a target community to adopt good hygiene practices as the result of a top down educational approach If community participation is needed for effective project implementation, then "bureaucratic participation" is necessary to allow officials to develop an understanding of the priority that must be given to policy development on hygiene education. Such a process would not be short, easy or straightforward, but could be accomplished with the same commitment, creativity and imagination displayed by field staff in successful community participation efforts

- **Establish dedicated hygiene education administrative structures, with separate budgets, to plan and oversee the implementation of hygiene education activities within a variety of integrated contexts.**

Several case study authors have suggested that while its implementation should be integrated, hygiene education must be well-planned for in and of itself in order to be effective. Consideration should be given to the establishment of separate units within agencies in the health, water, sanitation and education sectors, or an independent intersectoral unit working in close coordination with the agencies in each of the sectors, which would be charged with responsibility for hygiene education Such an entity, operating with its own budget, could ensure the priority of hygiene education activities, the consistency of messages, develop better training programs for

field staff, accumulate valuable experience in the implementation of projects, and provide systematic monitoring of activities.

- **Recognize the primary importance of local hygiene education implementors.**

A clear conclusion to be drawn from the case studies is that the success of hygiene education efforts is completely dependent on the dedication and competence of the local field staff who implement them. The cornerstone of any hygiene education program must be the recruitment, training, ongoing support and recognition given to local field staff. UNICEF and other organizations involved with promoting hygiene education should encourage their partners to strengthen these elements of programs.

- **Implement hygiene education through existing organizations which have proven track records of implementing other education and community participation projects.**

The elements that have been shown to be effective in hygiene education are not unlike what is required to achieve other types of social development and behavioral change, and the organizations involved in the implementation of the successful projects described in the case studies are often those which have also been successful at other related efforts. For example, it is no wonder that the several organizations operating successful non-formal education programs in Bangladesh should also implement effective hygiene education. When effective educational models are not available within the health, water and sanitation sectors, donors and international organizations should seek partners for the implementation of hygiene education programs who have demonstrated effective educational approaches even if they have been in other fields.

- **Encourage the local development and testing of educational materials with community participation rather than centralized production.**

The hygiene education materials noted by the case study authors as being most effective are those which were developed with the participation of, and pretested with, the target group. This is especially important with materials designed to facilitate group discussion and participatory learning instead of simply conveying messages about proper sanitation behavior. UNICEF and donors should provide support for the development of materials on the local level for use in specific projects instead of generic ones for wide distribution.

- **Develop model monitoring and evaluation systems for use and adaptation by hygiene education projects.**

Given the general lack of adequate monitoring and evaluation of hygiene education activities, it may be useful for UNICEF to develop generic monitoring and evaluation tools which can be adapted for use by individual projects. In particular, there is a need for greater understanding of specific indicators which can be used to measure attitude and behavioral change, and how they can be used to monitor and evaluate projects.

- **UNICEF should initiate consultation and spear-head the establishment of national-level collaboration and coordination mechanisms.**

Many of the case studies recommend increased coordination among various government organizations involved with hygiene education. UNICEF may be in a position to begin this process by providing the forum for discussions between agencies.

References

Boot, Marieke. *Hygiene Education in Bangladesh*. United Nations Children's Fund. New York. 1995.

Do Van Binh, Truong Trong Hoang, Pham Le Thanh Binh, *Hygiene Education Study In three provinces of Viet Nam* (draft). United Nations Children's Fund. New York. 1994.

Gradiz, Mayra Teresa and Enrique Orellana, Analysis of the Hygiene Education Component in Water and Sanitation Programs in Honduras (draft). United Nations Children's Fund. New York. 1994.

Green et al. *Health Education Planning: A diagnostic Approach*. Mayfield Publishing Company. Palo Alto. 1980.

Nibakure, Isabelle. Study of Water Hygiene and Sanitation Education Experiences in Burkina Faso (draft). United Nations Children's Fund. New York. 1995.

Rogers Ryan, Jean. *Hygiene Education in Zambia*. United Nations Children's Fund. New York. 1995.

Yurtseven, Ömer, Aydin Ulucan, Mustafa Kiliç and Örsan Örge. *A Case Study on Water Supply, Sanitation and Hygiene and Guidelines Formulation* (draft). United Nations Children's Fund. New York. 1995.