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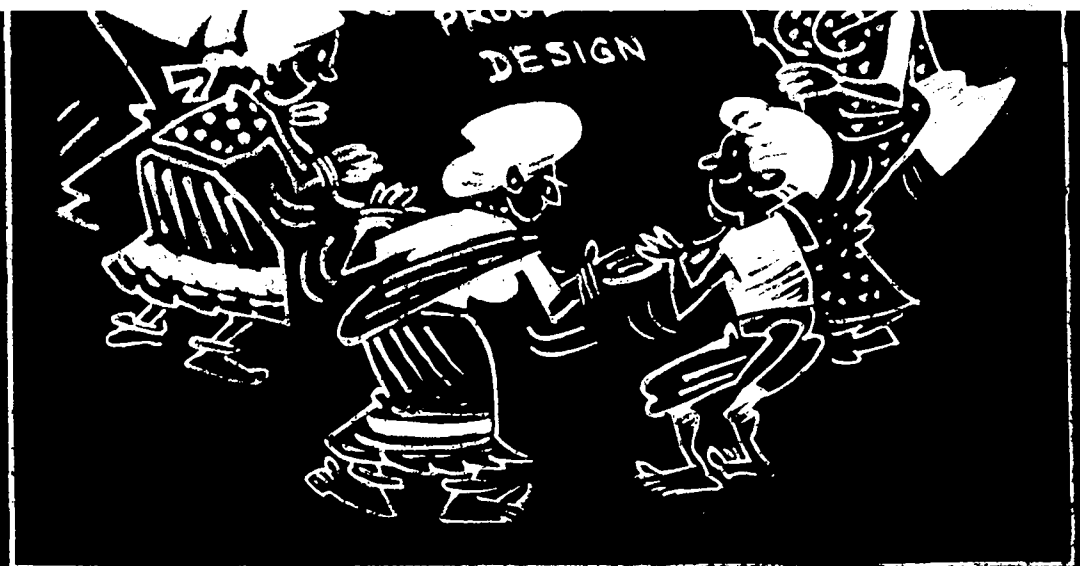
ACHIEVING SUCCESS IN COMMUNITY WATER SUPPLY AND SANITATION PROJECTS



World Health Organization
Regional Office for South-East Asia
NEW DELHI 1985

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EXECUTIVE SUMMARY

There are three major problems that often cause community water supply and sanitation projects (and programmes) to fail to achieve their objectives: (1) the conceptual gap between local people and planners; (2) over emphasis on population coverage, rather than on the continued functioning and utilization of the facilities; and (3) lack of effective backup support to communities, particularly after the completion of the project.

In order to achieve success in their projects, planners must follow a well-designed procedure, which involves people and planners in a joint search for the proper mix of hardware and software to meet community needs. The six-step procedure presented in this publication has been designed to accomplish this end. The procedure uses community education and participation as a vehicle in the search, and makes use of the assistance of local project facilitators to mobilize the effort. The establishment of a local institution for the future management, operation and maintenance of facilities is viewed as a pre-requisite to ensure their optimal functioning and utilization in most situations. Planners are asked to change their style, and go out of their way to identify and listen to disadvantaged groups, including women and children. "Software", such as institutional development and investments in human resources development are seen as important components of the proper mix. Planners are cautioned not to promote a specific technology, but to find an appropriate technology through the use of appropriate procedures for community involvement. The demonstration of community consensus and commitment are viewed as indicators of success, as flexible planners can win people's hearts and help the community feel satisfied. Following construction and implementation, a link is forged between the local institution and available programme support networks for backup as required.

An appropriate procedure for involving communities can serve to overcome the conceptual gap between people and planners. The six-step procedure outlined, can be incorporated into existing programmes to improve the success of projects in the field. In this way, planners work closely with the people to determine community needs and to develop popular support for actions to meet the needs identified.

The selection of the proper hardware/software mix can ensure that projects and programmes go beyond the mere coverage of the population with facilities, and continue to function and be utilized for long periods of time under often difficult conditions. In order to achieve this at the peripheral level where communities are found, local institutions must be established and encouraged to meet needs for water supply and sanitation through incremental improvements beyond traditional alternatives.

The procedural guidelines contained in this publication were developed as the result of case studies carried out by local institutions in nine developing countries of the Asia and the Pacific Region (of UNDP) under the IDWSS Decade Advisory Services Project. The guidelines can be implemented incrementally in pilot areas within ongoing programmes, while the strengthening or establishment of programme support networks takes place. Sector fragmentation can be reduced through the combined support of all sector agencies in the formation of programme support networks, as required. As it is neither country nor situation specific, the procedure should find widespread use in many parts of the world.

ACHIEVING SUCCESS IN COMMUNITY WATER SUPPLY AND SANITATION PROJECTS

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ACHIEVING SUCCESS IN COMMUNITY WATER SUPPLY AND SANITATION PROJECTS

PREPARED BY

THE WORLD HEALTH ORGANIZATION

ACTING AS EXECUTING AGENCY

FOR

THE UNITED NATIONS DEVELOPMENT PROGRAMME

World Health Organization
Regional Office for South-East Asia
NEW DELHI, 1985

The SEARO Regional Health Papers are intended to make generally available material that for economic, technical or other reasons cannot be included in SEARO's regular publications programme and would otherwise receive only limited distribution.

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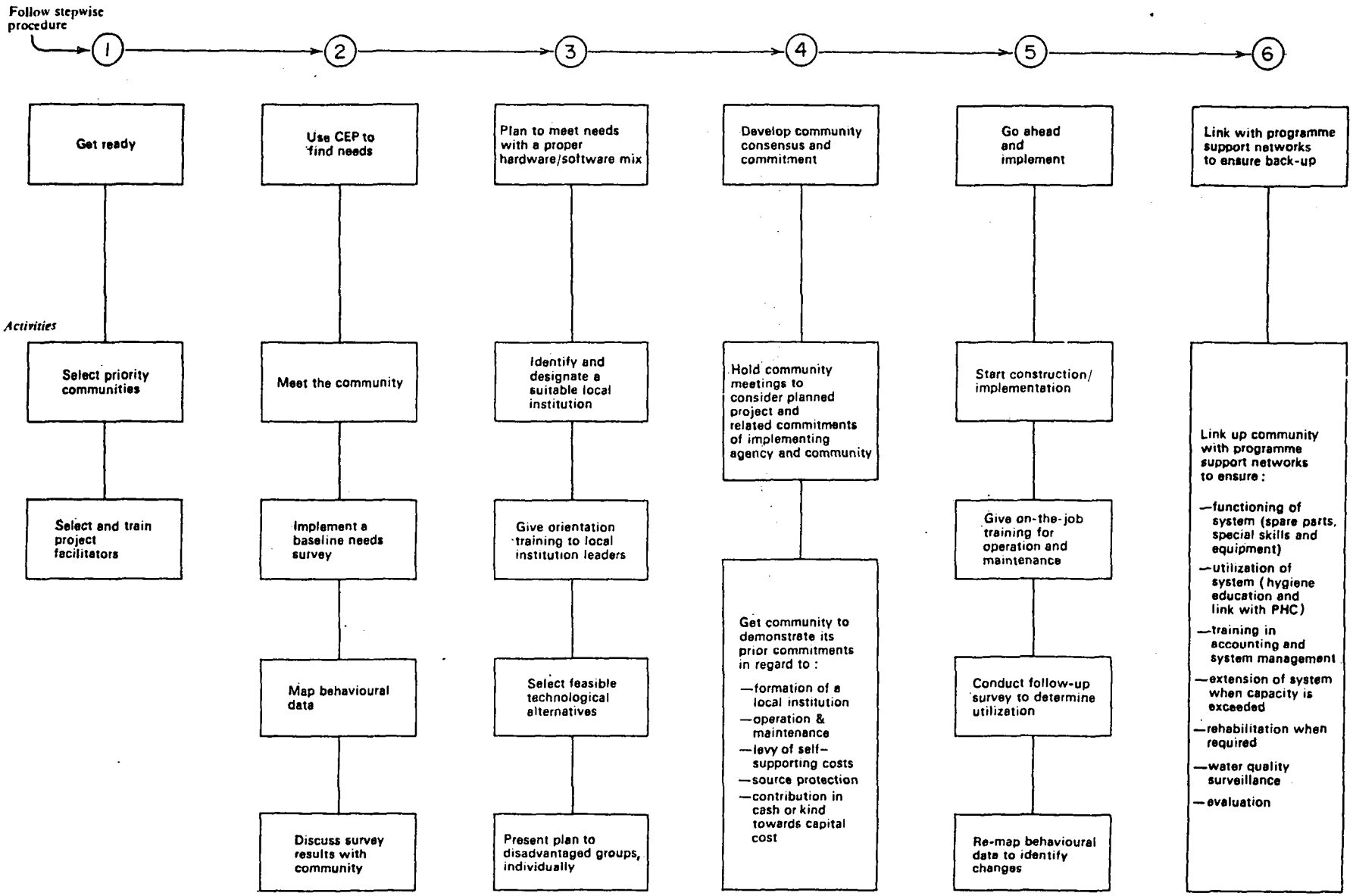
PREFACE

This publication was written by Charles G. Chandler, WHO Project Manager, New Delhi, with advice and comments from numerous sources. It marks the culmination of a process which began with case studies carried out by local institutions in nine countries of the Asia and Pacific Region of UNDP. Two regional workshops were held in 1983 and 1984 to bring together the principal investigators involved in the case study efforts. A first draft of the procedure described herein was developed at the second regional workshop held in Kuala Lumpur, Malaysia, 20-24 August 1984. A subsequent meeting in Kuala Lumpur 14-19 January 1985 involved primarily WHO staff from the Western Pacific (WPRO) and South-East Asia regional offices and PEPAS (Western Pacific Regional Center for the Promotion of Environmental Planning and Applied Studies); a significant reorganization of the main ideas took place at sessions led by Masahisa Nakamura of PEPAS using the K-J method for creative thinking. The final text was produced in WHO's South-East Asia Regional Office, New Delhi, with the review and comment of numerous staff, and under the direction of S.J. Arceivala, Chief, Promotion of Environmental Health.

Special acknowledgement goes to John Bradbury, WHO Sanitary Engineer in Manila, who managed the project activities in WHO's Western Pacific Region. Gunner Schultzberg, WHO Geneva, assisted in the 1983 and 1984 regional workshops. Jacob Pfohl, communication specialist, and Jatin De, sociologist, assisted in the development of some concepts used in the publication. Dr Thomas Samuel drew the cartoons. Han Mangun, and later Michael Smith, UNDP New Delhi, were UNDP's principal project representatives throughout the effort. D.V. Subrahmanyam, formerly Chief of Environmental Health, WHO, New Delhi, was instrumental in the formulation of the project and in guiding its early stages. Special thanks go to the investigators who carried out case studies in Indonesia, Malaysia, Maldives, Nepal, Papua New Guinea, Philippines, Sri Lanka, Thailand and Tonga. It is from the country experiences that we learned the most.

THE SIX STEPS - SUMMARY CHART

SIX-STEP PLANNING PROCEDURE FOR COMMUNITY WATER SUPPLY AND SANITATION PROJECTS



INTRODUCTION

WHAT VERSUS HOW

There is no shortage of publications on what to do to provide water supply and sanitation in developing countries in theory. The problem that remains, however, is how to accomplish this aim in the real world - where social, political and environmental systems are complex, and problems abound.

Using an analogy from the computer field, different forms of project software - such as community education and participation, human resources development, and institutional development - have been proposed as methodologies for the effective utilization of appropriate hardware, such as pumps, pipes, and latrines. Software and hardware should complement one another to make project success a reality in the field.

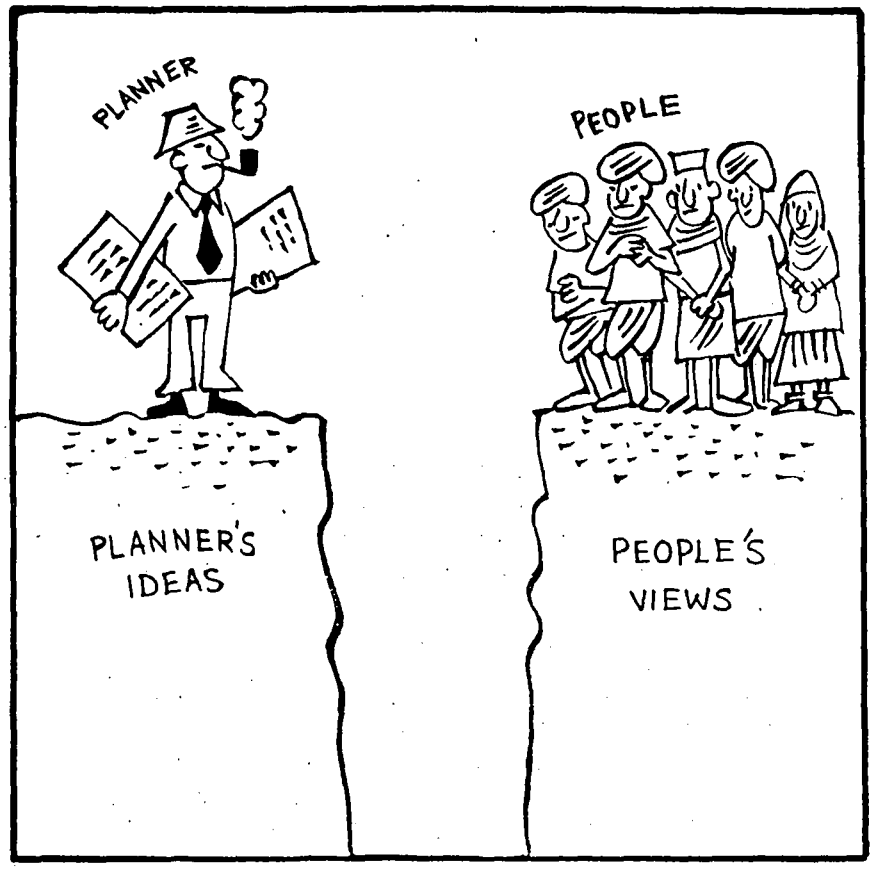
Yet if software is to be incorporated into a project, a well-designed procedure needs to be followed. This publication sets forth such a procedure. It is designed to be used by project planners for fashioning a well-rounded project, one that combines software components with a judicious selection of hardware. The procedure can be used for new water supply and sanitation projects, or for the rehabilitation of existing facilities. Emphasis is placed primarily on projects designed to service rural and urban underserved areas of developing countries.

As these guidelines are not country or situation specific, they must remain somewhat general in nature. The specific situation prevailing in a given country will dictate the added details required for actual implementation.

These guidelines can never be entirely complete nor should they remain static. They must be reviewed periodically and updated based on experience. There is certainly a need for such procedures to simplify and systematize approaches in the complex real-world landscape.

CURRENT PROGRAMMES ARE NOT EFFECTIVE

Project planners are faced with the difficult task of designing projects that are not only technically correct and feasible, but that continue to function for long periods of time, often under difficult conditions. Facilities may fail to function after a short time because of poor maintenance. Even functioning facilities may be under-utilized if people do not like the technology provided, or may not be utilized at all by people who believe that traditional alternatives are more convenient.



AT THE START OF PROJECT PLANNING, THERE MAY BE A CONCEPTUAL GAP BETWEEN PEOPLE AND PLANNERS AS A RESULT OF THEIR DIFFERENT PERCEPTIONS OF COMMUNITY NEEDS.

In rural communities of developing countries, examples of past project failures are common - pumps in disrepair, taps broken or left unfitted, public latrines abandoned to nature, pipes and other materials damaged or diverted to unplanned uses. Latrine slabs may serve as relics of past projects, to be displayed to occasional visitors.

Unfortunately, if facilities fail to function or be utilized, project resources have been wasted. In addition, health benefits (although these are difficult to measure) cannot be achieved. A way must be found to improve the success rate of projects in the field.

If field results have been poor, current programmes must be held responsible. But why have current programmes not always been effective? Three major problems are apparent: (1) the conceptual gap between people and planners; (2) their emphasis on coverage rather than on the continued functioning and utilization of facilities; and (3) effective backup support to communities is often lacking, particularly after the completion of the project.

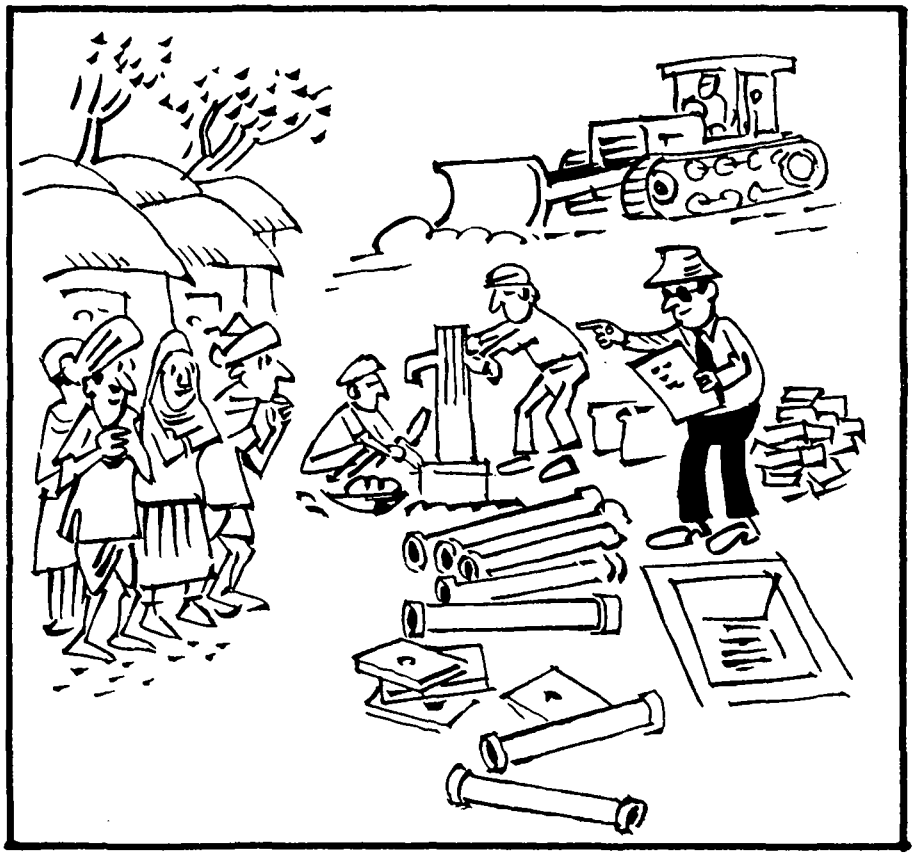
The Conceptual Gap Between People and Planners

While the failure of a project indicates that something is wrong, the causes of failure may not be self-evident. Among other things, failures usually indicate that local people were not adequately involved in the

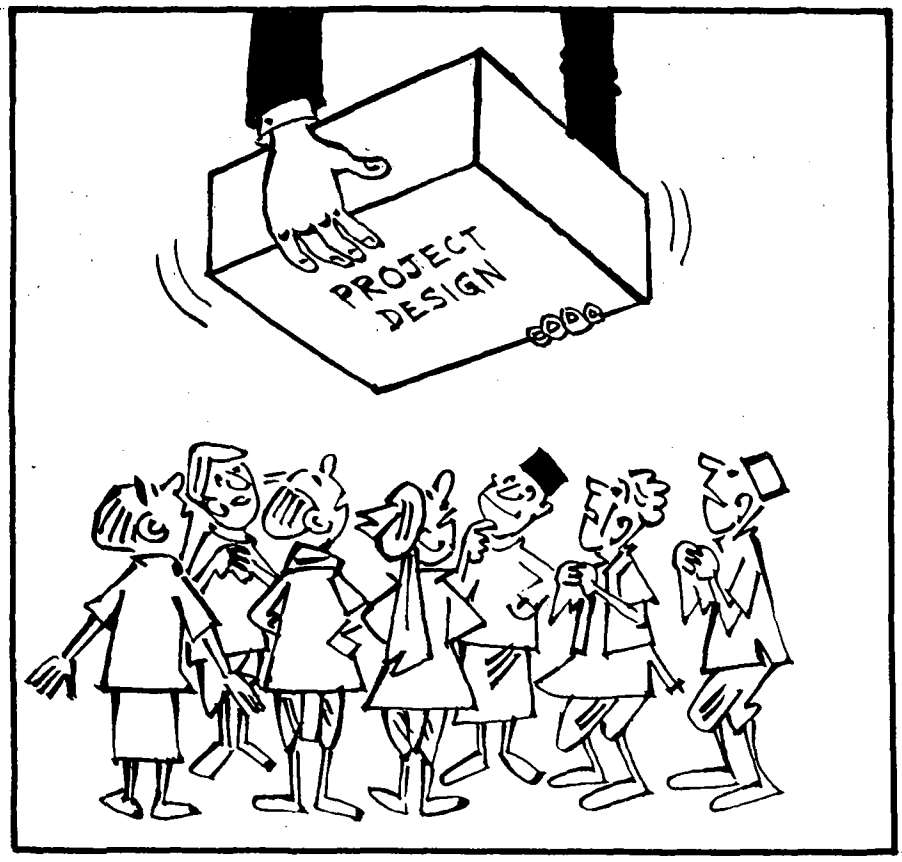
project. When things go wrong with a project, people not involved in it do not feel responsible. Thus, the people should be involved right from the start, from the recognition of the problem to concerted action to solve it. People are not an obstacle to development; they are a resource that can be tapped in the search for ideas and initiatives. In other words, people are partners.

At the start of project planning, there may be a conceptual gap between people and planners as a result of their different perceptions of community needs. The success of a project is jeopardized when planners fail to try to overcome the gap or, worse, fail even to recognize that it exists. Of course, this can be a result of imperfect communication on both sides - planners may not be convinced that people can be involved in planning, while people may not believe that planners understand their needs.

Unfortunately, water and sanitation projects often become a game of numbers, in which a project is valued by the numbers of pumps, pipes and latrines installed. People may be bypassed in the hurry to get the job done. In many programmes, popular support is lacking because planners have not taken (or been given) the time necessary to develop community involvement and commitment.



UNFORTUNATELY, THE PEOPLE MAY BE BYPASSED IN THE HURRY TO GET THE JOB DONE.



THE OFTEN RIGID AND INAPPROPRIATE ASSUMPTIONS OF PROJECT DESIGN...

In small community projects, planners typically use an abbreviated approach to planning. Assuming that the needs are obvious, planners may make a quick tour of the community, confer with the village leaders to determine their interest, then specify a standard design upon returning to the office. Thereafter, the construction contractor or drilling team may be sent to install the facilities. Yet such a procedure is not sufficient to develop an understanding of the people's needs, and this will not ensure the success of the project. The often rigid and inappropriate assumptions of project design can be modified by employing a more fluid process, a process that is accessible to the people.

The Emphasis on Coverage of the Population

There are many ways in which a project may fail to achieve its objectives, and few short cuts can be found to achieve success. It is not enough to plan for "coverage" of the population with facilities, we must also plan for facilities to function and be utilized before project objectives can be achieved and health benefits can be expected.

In providing water supply and sanitation facilities to poor rural communities and urban underserved areas, so-called "appropriate" facilities, such as handpumps, standposts, or public latrines, are often specified according to standard designs. Yet such "appropriate"

... CAN BE MODIFIED BY EMPLOYING A MORE FLUID PROCESS,
A PROCESS THAT IS ACCESSIBLE TO THE PEOPLE.

facilities have often proved to be inappropriate when users are not given the opportunity to adapt them to local needs. If facilities are to function and be utilized for long periods of time, the people must participate in planning them. Even "standard" designs must be pilot-tested for to determine their acceptability to the intended users before being disseminated throughout a programme.

In order that programmes can progress beyond the mere coverage of the population, planners must consider the basic assumptions upon which the programmes are based. To begin with, the programme and project objectives must be carefully worded to ensure that the criteria for success include not only the coverage of the population, but also the continued functioning and utilization of the facilities. The proper mix of hardware and software components will be important in the effort to go beyond coverage.

The Lack of Effective Backup Support to Communities

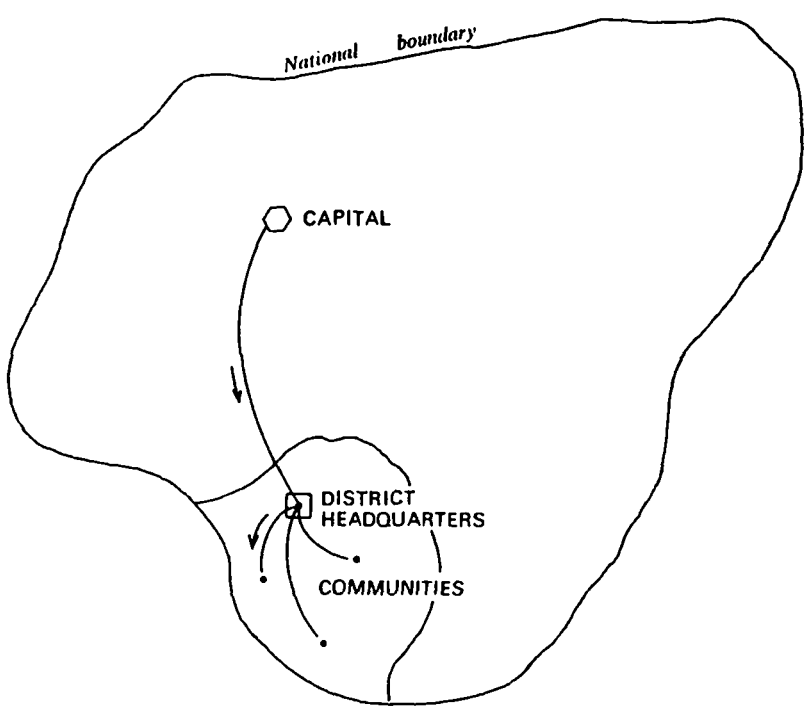
Far-flung communities strain the ability of water supply and sanitation programmes to provide support during construction, as well as backup support for management and maintenance when required. Backup support may also be required to involve communities actively in project planning, the formation of local institutions and manpower training.

NOTE HOW THE VILLAGE HAS BEEN PROVIDED WITH THE REQUIRED WATER AND SANITATION FACILITIES. THERE IS THEREFORE 100% COVERAGE OF THE POPULATION AS REGARDS THESE FACILITIES BUT THEIR MAINTENANCE AND USAGE ARE UNSATISFACTORY AND NO HEALTH BENEFITS ARE LIKELY TO OCCUR. "COVERAGE" IS THEREFORE NOT ENOUGH, SINCE THE CONTINUED FUNCTIONING AND UTILIZATION OF FACILITIES MUST ALSO BE ENSURED.

The financial and logistical implications of these activities are substantial, and demonstrate a need for programme support networks.

After construction, spare parts may be required from regional warehouses, and special equipment or skills may be required for major maintenance tasks that are beyond the locally available capabilities. Continuing support will be needed by local institutions to carry out their operation and maintenance tasks, and to continue to maintain skills among their workers. Where programme support networks are not available, the technology selected should be such that no spare parts are required other than those that can be purchased in the local market or made from indigenous materials with local skills.

The financial implications of future support to communities are also important in water supply and sanitation programmes. Current programmes have often tried to provide water supply and sanitation as a free or heavily subsidized public service to poor rural communities and urban underserved areas. The assumption inherent in many of these programmes is that if the capital cost of the facilities can be paid by the programme, then the users will pay for operation and maintenance. Yet when maintenance is required in communities that have not been involved in project planning, community members often believe that the outsiders who built a facility should also return to repair it.



FAR-FLUNG COMMUNITIES STRAIN THE ABILITY OF WATER SUPPLY AND SANITATION PROGRAMMES TO PROVIDE SUPPORT DURING CONSTRUCTION, AS WELL AS BACKUP SUPPORT FOR MANAGEMENT AND MAINTENANCE WHEN REQUIRED.

The provision of free or subsidized services to numerous communities has often overcommitted programme resources. User fees, if collected in the community, have frequently not been enough to cover local maintenance. Subsidy policies such as these are difficult to sustain over long periods of time and as more communities are served, because they do not generate enough revenue to take care of day-to-day costs.

For these and other reasons, projects should strive to select technologies and modes of implementation that are self-sustaining to the largest extent possible. Even so, programme support networks will be required in many cases. The lack of effective backup support provided to communities has been a major defect in many projects and programmes.

WHAT CAN BE DONE?

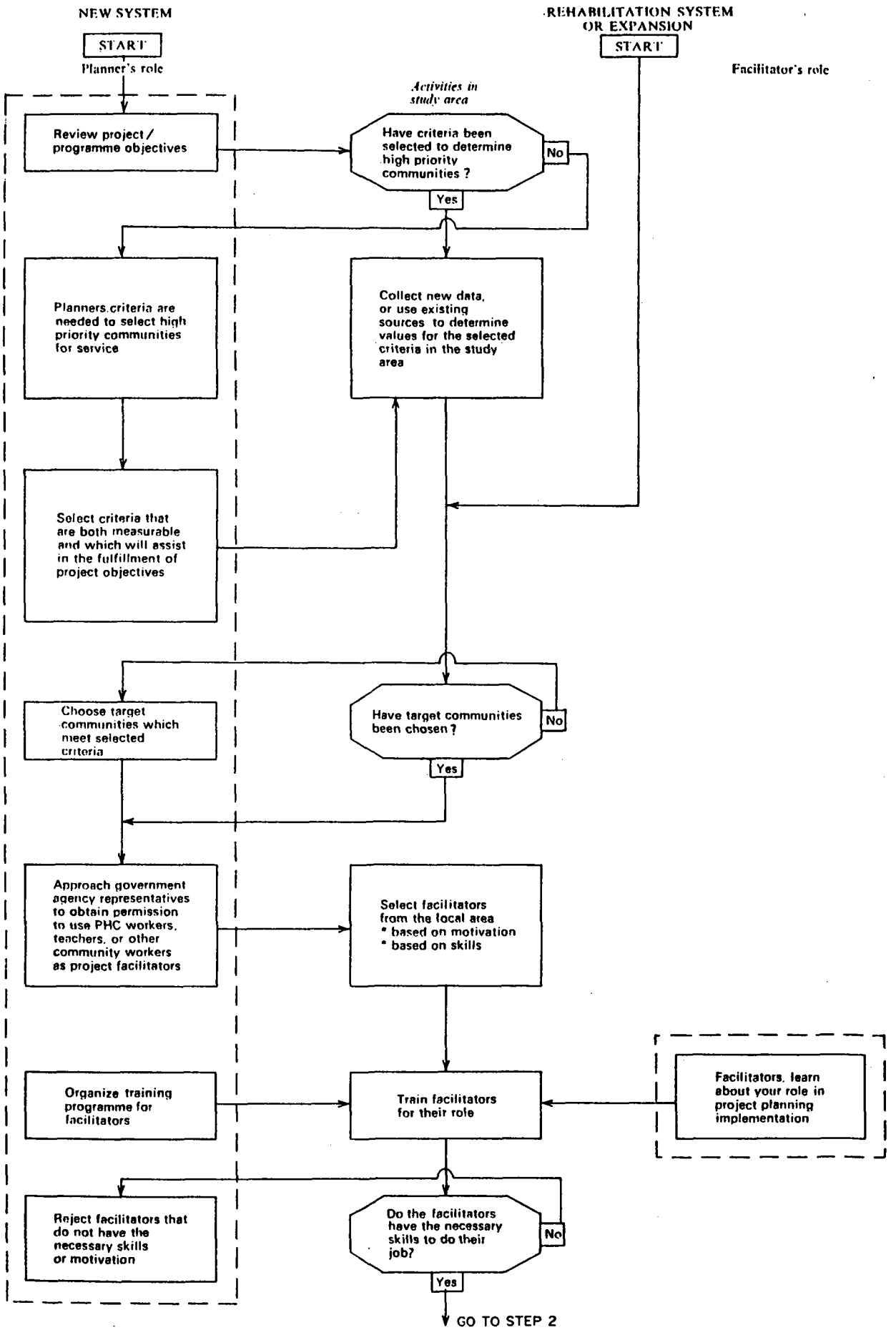
If current programmes are not effective, then the programme procedures must be examined and modified where warranted. It is no longer prudent to follow the procedures of the past, especially when they have been shown to be lacking. A six-step procedure is described below, which could be adopted as a guideline in developing more effective projects and programmes for water supply and sanitation. The procedure incorporates activities designed to overcome the conceptual gap between people and planners, to ensure the functioning and utilization of facilities, and to identify backup support necessary through existing or newly organized programme support networks.

ASSUMPTIONS REQUIRED

Project planners work within a framework of policies established by the decision makers of the implementing agency. It is assumed here that the policies of the implementing agency are flexible enough to allow project planners to offer choices to communities regarding the technology and terms of project implementation. Before agencies can fully implement the procedure suggested in this publication, decision makers may need to review their current policies in order to identify existing constraints, and to take action to remove them.

STEP 1

GET READY: SELECT HIGH PRIORITY COMMUNITIES AND RECRUIT PROJECT FACILITATORS



STEP 1

GET READY: SELECT PRIORITY COMMUNITY AND RECRUIT PROJECT FACILITATORS

OBJECTIVES OF STEP 1

- To establish and use objective criteria to determine priority communities to be served first; and
- To recruit and train project facilitators to assist in the community education and participation process.

PARTICIPANTS' ROLES

The Planner's Role

Step 1 involves the completion of two basic activities by the planner: (1) selecting and using criteria to determine which communities to serve first, and (2) recruiting and training project facilitators.

Criteria That Can Be Used To Determine Which Communities To Serve First. In new programmes or new projects that aim to serve many communities, it is necessary to establish criteria (measurable indicators) to use in determining which communities to serve first in relation to the project's objectives. For instance, if the project's objectives call for providing priority service to poor and underserved rural populations, the set of criteria can be chosen to help decide which communities have the highest priority.

Examples of criteria that could be used to select among communities include:

- Poor/disadvantaged communities (for example, per capita income less than the poverty level as determined locally);

- Communities where facilities are in need of rehabilitation (for example, leakage greater than 30 per cent);

- Communities where traditional sources are highly polluted (for example, village ponds where animals also drink);

- Communities where the incidence of diarrhoeal disease in children is expected to be high (for example, mortality in infants less than one year of age greater than 50 per 1 000);

- Communities where water is scarce (for example, a water availability of less than 20 litres per person per day);

- Communities where bucket latrines are in use; and

- Communities where safe water is more than a 15-minute walk from most households;

As may be evident from the above examples, good criteria are measurable, and can be used to make an impartial selection among communities based upon the severity of their problems or the degree to which they may be served within the project objectives. The choice of criteria may be critical to the proper selection of target communities and subsequent beginning of a successful project.[1]

The use of good criteria can help to ensure that the project's resources are concentrated in those communities most in need. When the size of an existing data base does not permit the use of a given criterion the criterion selected will often have to be tailored to the data base, or limited to indicators that can be easily measured in a quick or inexpensive manner.

Although many current programmes utilize criteria to determine the priority areas for service, one cannot recommend only generally applicable criteria, since these are country-specific. Programme difficulties may arise if the criteria selected can be easily manipulated through the use of political pressure or favouritism.

Recruiting and Training Project Facilitators

The Facilitator's Role. An impartial and sensitive facilitator can help overcome the gap between the people and the planners. The facilitator's job is to bring the community into project planning, since effective community participation largely depends upon how soon and effectively the facilitators can achieve a sense of partnership and trust with the community.

[1] A useful appraisal methodology is given in Maximizing Benefits to Health: An Appraisal Methodology for Water Supply and Sanitation Projects, 1983. WHO, Geneva. Document ETS/83.7.

COMMUNITIES WHERE TRADITIONAL SOURCES ARE POLLUTED
CAN BE GIVEN HIGH PRIORITY FOR SERVICE.

Competent facilitators can be found through proper selection and by giving them training to enable them to interact effectively with the people and with the planners. The facilitator can be compensated for services (receive a small incentive above the regular salary if already employed in a village-level post) from project funds or from the community itself.

How to Select a Facilitator. Facilitators can be selected from the local or nearby community. While selecting facilitators from the local community may ensure that they have an intimate knowledge of the local situation, persons from a neighbouring community may be more impartial. Both male and female facilitators will be required to work in each community. The facilitator's knowledge of local language, conditions and customs is very important to ensuring the success of the project. They should be trained to use certain participatory techniques in a community setting.

The facilitator is sensitive to local community problems and needs. It is preferable to select facilitators who have experience with community-based programmes. The selection is based primarily on the commitment and motivation of the individual to work with the community, as well as technical skill and education. Selection should not be arbitrary. Facilitators can be recruited from among school teachers, primary health care workers, interested youth, doctors, or other community-based workers. Equal attention should be given in selecting male and female facilitators to assess different users' needs and problems. Female facilitators can be particularly effective in working with groups of women and school children to find out their views on water and sanitation practices.

FACILITATORS ARE SELECTED PRIMARILY ON THE BASIS OF THEIR INDIVIDUAL COMMITMENT AND MOTIVATION TO WORK WITH THE COMMUNITY, AS WELL AS THEIR TECHNICAL SKILL AND EDUCATION.

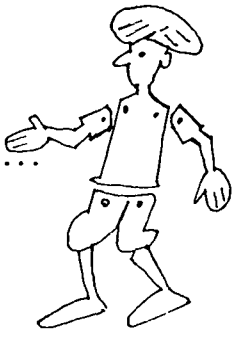
How to Train Facilitators. Facilitators should be trained on a task-by-task basis. Suitable training is provided in the use of communication aids (such as flexi-flans, cut-outs, serialized or unserialized posters, community maps, and puppet shows), to assist in community education and participation. One of the main tasks of the facilitators is to create opportunities for small groups of community members to express their views on community problems openly.

Facilitators are trained to observe the habits of the community in relation to water supply and sanitation and to collect and analyse data. Interview techniques are emphasized during the training, as well as methods for carrying out activities in the community.

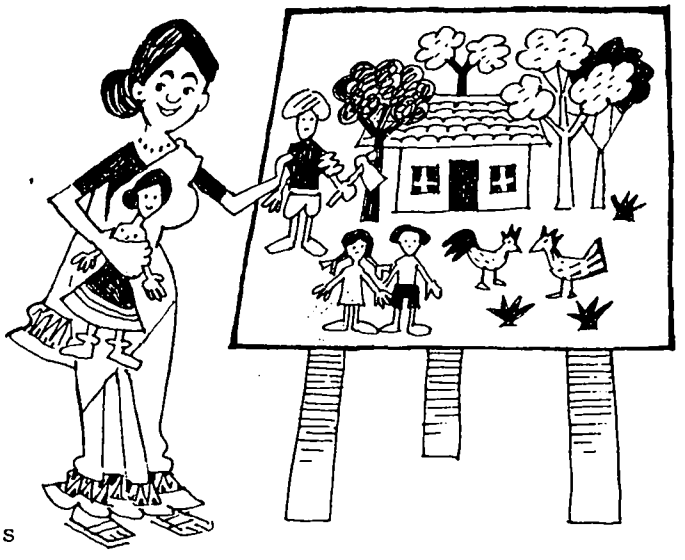
The facilitators are trained to communicate with the disadvantaged groups through small group meetings. The facilitator is supervised by the planner through on-the-job activities.

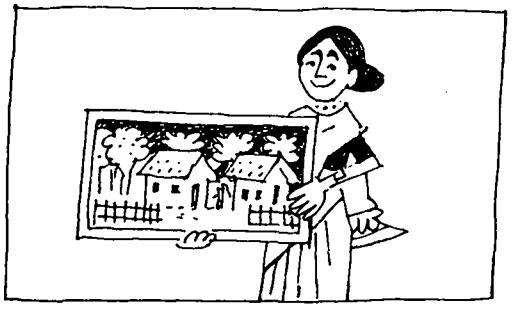
The Facilitator's Attitude. The first concern of a facilitator is to establish their credibility and sincerity among the community. Facilitators are careful to listen to messages from the community and to be receptive to the community's perceived needs and problems so that a sustained rapport and mutual trust can be achieved. Facilitator's must therefore be highly motivated.

Flexi-flans can be used by facilitators...



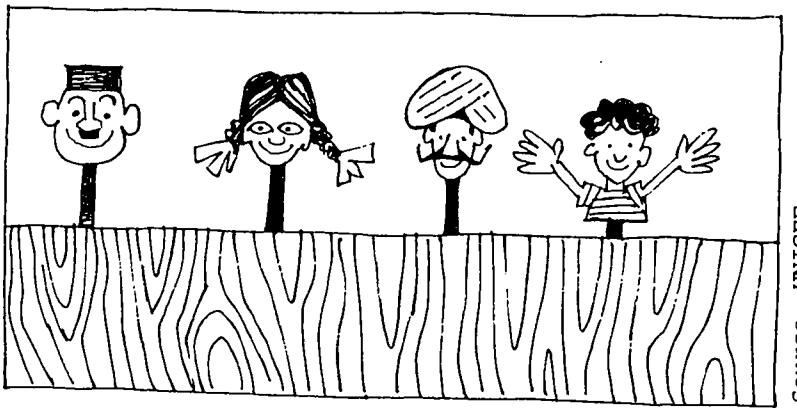
...and community members to tell stories about community problems





Posters (or flash cards) can be used by facilitators to being a "story with a gap", to be completed by small group discussion.

Puppet shows can be used to get group discussions started.



Source: UNICEF

COMMUNICATION AIDS CAN ASSIST IN COMMUNITY EDUCATION AND PARTICIPATION BY CREATING OPPORTUNITIES FOR SMALL GROUPS TO EXPRESS THEIR VIEWS ON COMMUNITY PROBLEMS.

FACILITATORS ATTEMPT TO CREATE A RELAXED ATMOSPHERE AND ENCOURAGE PEOPLE TO SPEAK. THEY FUNCTION PRIMARILY AS LISTENERS, WHILE COMMUNITY MEMBERS EXPRESS THEIR VIEWS ON COMMUNITY PROBLEMS.

Facilitators explore problems and stimulate community members to think about and express their needs. They seek to understand the community's ideas, and its traditional ways of confronting problems. Facilitators attempt to create a relaxed atmosphere and encourage people to speak. They must also be receptive to others' views. In this manner, they play a role in ensuring that there is adequate discussion of project-related issues within the community. Facilitators function primarily as listeners, while community members provide most of the discussion and action as required.

PROCEDURE FOR "GETTING READY"

Establish Criteria

Establish objective criteria for community selection that are measurable and that ensure that the areas to be served are of high priority in relation to stated project objectives. The criteria (or criterion) should be easy to apply in ranking communities in order of priority for service.

Use Criteria to Rank Communities

Use criteria to rank communities into high priority and low priority groups. Use existing data sources or collect new data to determine values for the selected criteria in the communities of interest.

Select Target Communities

Select target communities among the high priority group for initial action.

Select Project Facilitators

Primary health care (PHC) workers, teachers or other community-based workers can be used as project facilitators, with selection based upon their motivation and skills for the job to be performed. It may be necessary to approach government agency representatives to obtain permission to use primary health workers (or others) in these efforts. An approximately equal number of male and female facilitators will be required under typical circumstances within communities.

Train Facilitators for Their Role

In this step, planners organize a training programme for project facilitators or utilize existing training facilities as part of a programme support network. Facilitators should devote attention to learning their role within the project framework. Theirs will be a short-term role within each community, since a local institution will carry on their functions once it has been established. Some of the best facilitators may be absorbed into the programme to train other facilitators, or may serve as facilitators in other communities. When facilitators are from the local community, they may continue to find a role within the local institution established for the future management, operation and maintenance of facilities.

Reject Facilitators Lacking in Skills or Motivation

Planners should reject the services of facilitators who have not gained the necessary skills from the training programme, as well as those who do not appear to be properly motivated to carry out the work.

STEP 1

SUCCESSFUL COMPLETION

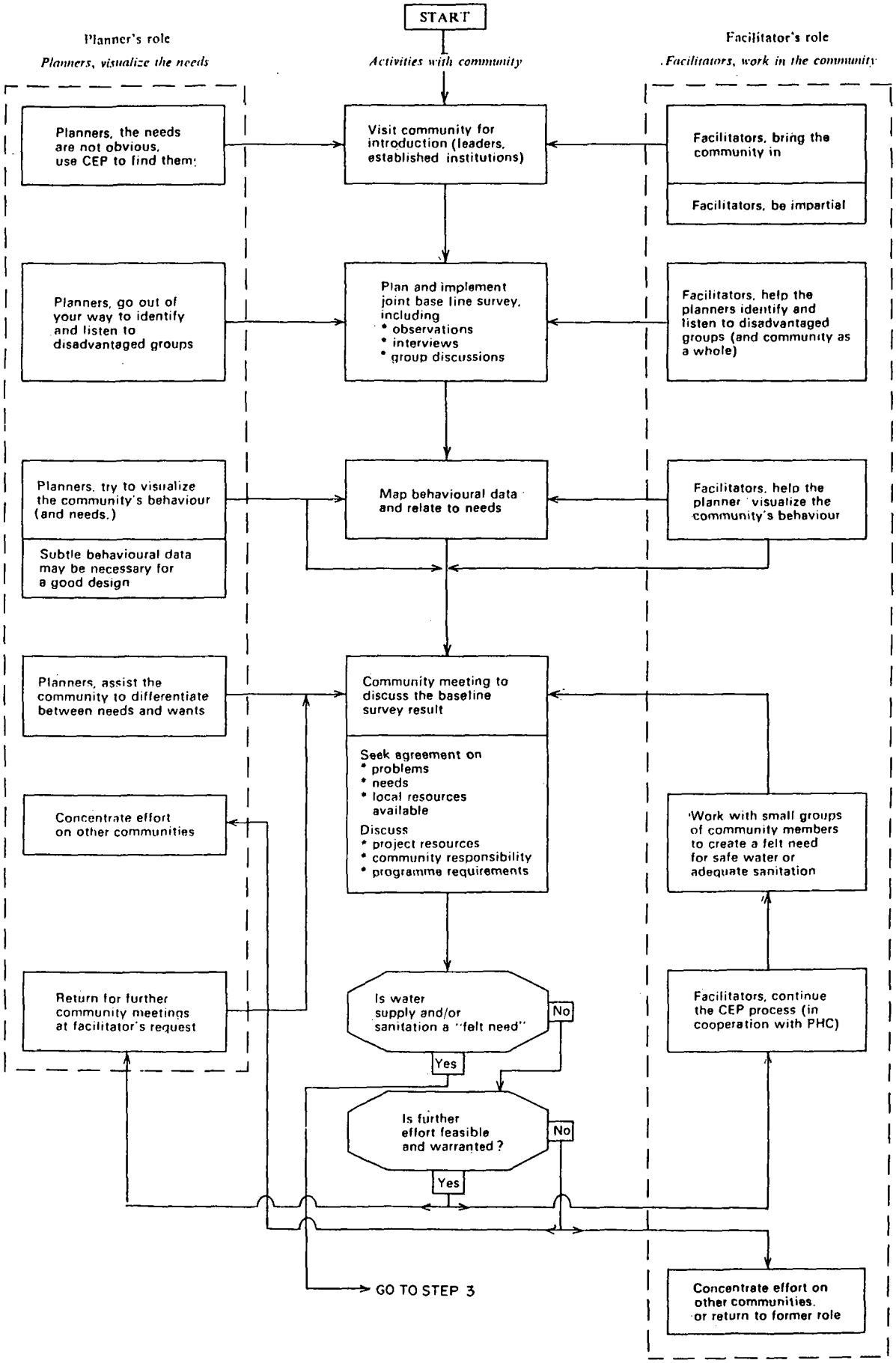
Successful completion has been achieved when:

- Criteria have been established for selection of communities to be served first;
- The selected criteria are measurable;
- The selected criteria ensure that priority for service is given to communities in need, as defined by the project's objectives; and
- Project facilitators have been recruited and trained.

NOW GO TO STEP 2

STEP 2

USE COMMUNITY EDUCATION AND PARTICIPATION (CEP) TO FIND NEEDS



STEP 2

USE COMMUNITY EDUCATION AND PARTICIPATION TO FIND NEEDS

OBJECTIVES OF STEP 2

- To overcome any conceptual gap that may exist between people and planners as a result of their different perceptions of community needs;
- To determine the relevance of actions for water supply and sanitation in relation to overall community needs; and
- To promote in the community a favourable decision on the priority of water supply and sanitation activities in relation to other development needs.

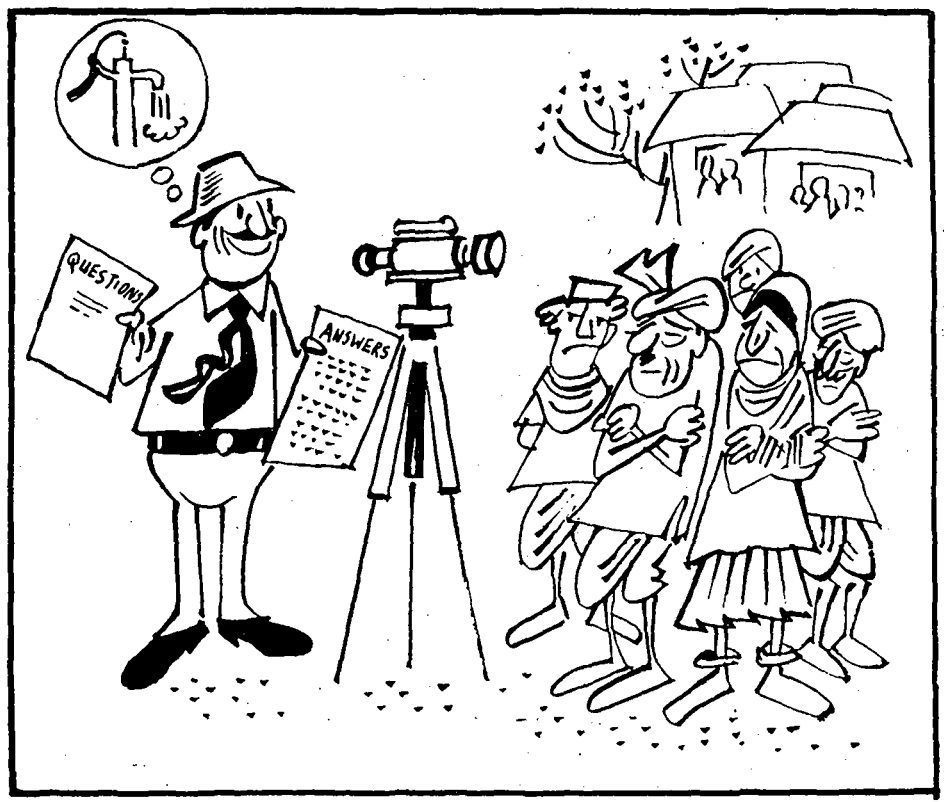
THE MEANING OF COMMUNITY EDUCATION AND PARTICIPATION

Community education and participation (CEP) helps to overcome any gap that may exist between people and planners as a result of their different perceptions of community needs. The objective of CEP is to improve communication with the community so that planners can come to understand community problems, and people can participate in the decision regarding how to meet community needs through a development project[1]. People also come to an understanding of what resources the implementing agency can provide the community as part of a proposed project, and what community resources will have to be mobilized in the process.

[1]Community education and participation (CEP), as used here, is not to be confused with hygiene (or health) education (HE), as their objectives are somewhat different. Hygiene education is a long-term activity designed to change people's attitudes and behaviour over time in relation to personal hygiene, while CEP is a short-term activity designed to assist people to make a decision about how to meet their own needs and to take actions to carry out the decision within a project framework. CEP and HE may be required in the same project however, CEP being carried out in the initial planning stage and HE during or after project implementation to ensure that people understand the value of the facilities provided and have the skills to utilize the facilities correctly.

By "education" is meant the development of a dialogue with the community to raise and discuss the issues involved. Education takes place as planners and facilitators interact with people to examine needs and to help the community decide what should be done. Apart from providing information, the "education" process also has a specific purpose, and that is to help the community decide what action to take. "Participation" means the involvement of the community in the determination of what to do and how to do it. People should be seen as genuine partners, and planners should serve as resource persons instead of authority figures who have total control. Through community education and participation, authority is given to the people to determine how to meet their own needs.

The concept of "participation" can have different meanings to different persons. "Token" participation is not to be confused with active participation. In token efforts, the people are given no real choices, only standard designs that they must accept. Incentives are sometimes used to gain acceptance of the project by a reluctant public. Unfortunately, it is often the case that sufficient time is not provided to build among the people the necessary trust and conviction regarding the need for the project. The planner may believe that, once the technology is in place, the people will grow accustomed to it in time. Yet people may never accept solutions that they have had no part in developing.



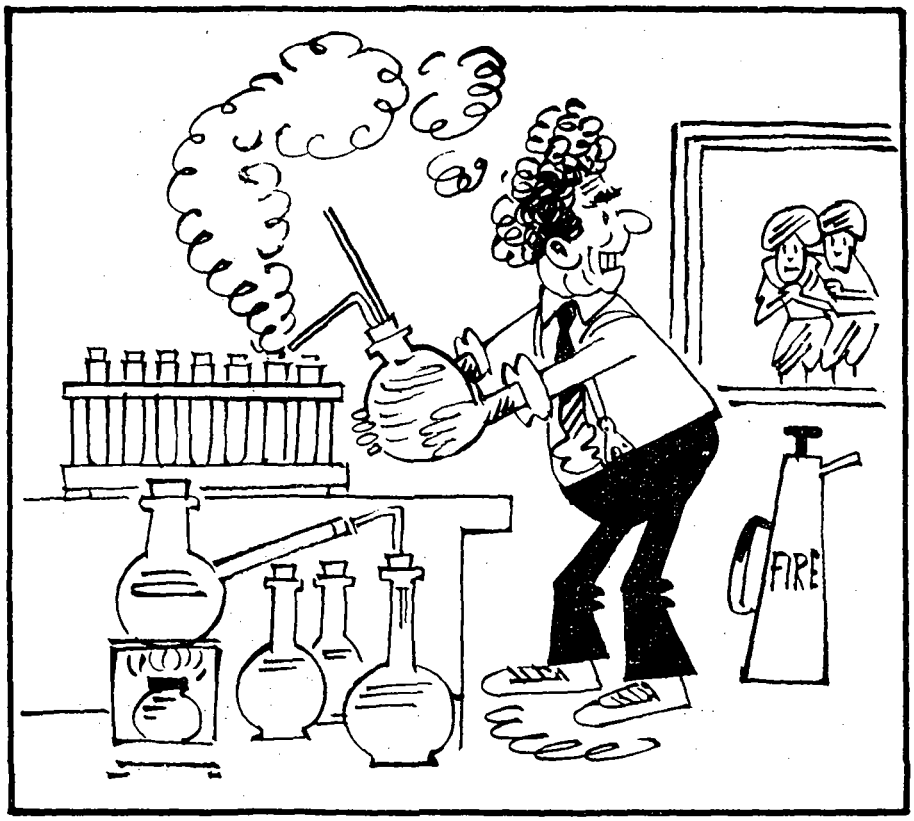
TOKEN PARTICIPATION IS NOT TO BE CONFUSED WITH ACTIVE PARTICIPATION. IN TOKEN EFFORTS, THE PEOPLE ARE GIVEN NO REAL CHOICES, ONLY STANDARD DESIGNS THAT THEY MUST ACCEPT.

INCENTIVES ARE SOMETIMES USED TO GAIN ACCEPTANCE OF THE PROJECT BY A RELUCTANT PUBLIC.

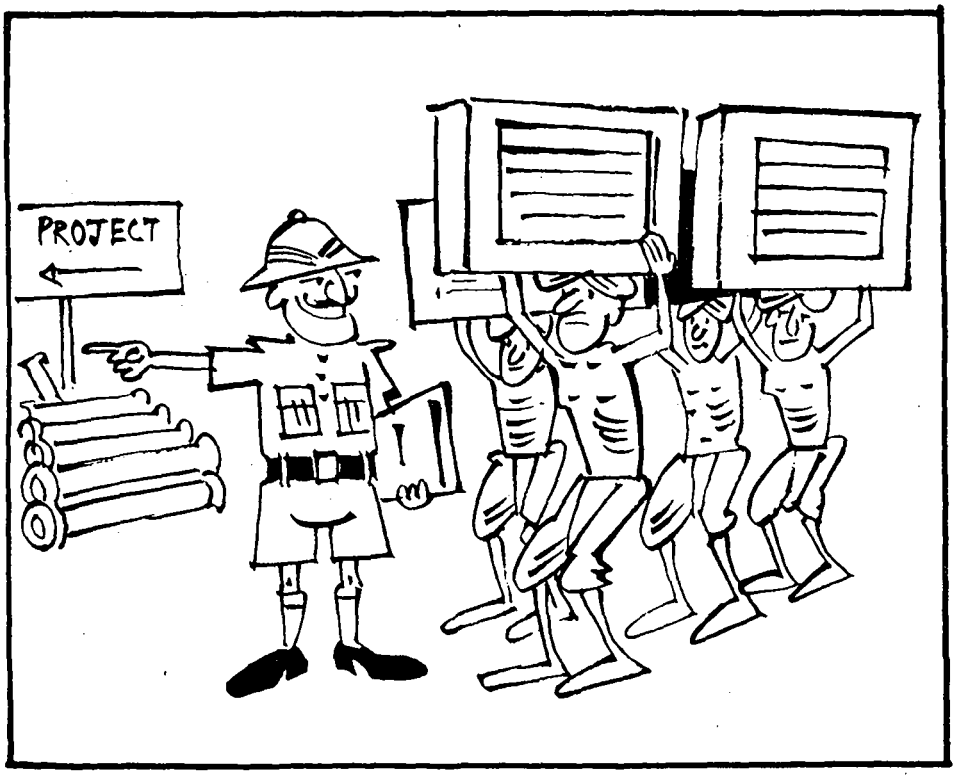
The planners' job is not to develop simple technologies they believe to be appropriate and impose them upon the rural people. If it were, planners could work in isolation and technologies could be developed in the laboratory, mostly on physical criteria. The planner must work closely with the people to decide what options to consider. Imposed technologies are frequently rejected, because people have their own perceptions of what is appropriate.

Another form of token participation occurs when people are asked only to contribute their labour or materials during construction. Here people are asked to shoulder the burden, without first being convinced that the project is necessary, or asked what kind of facilities they would like to have.

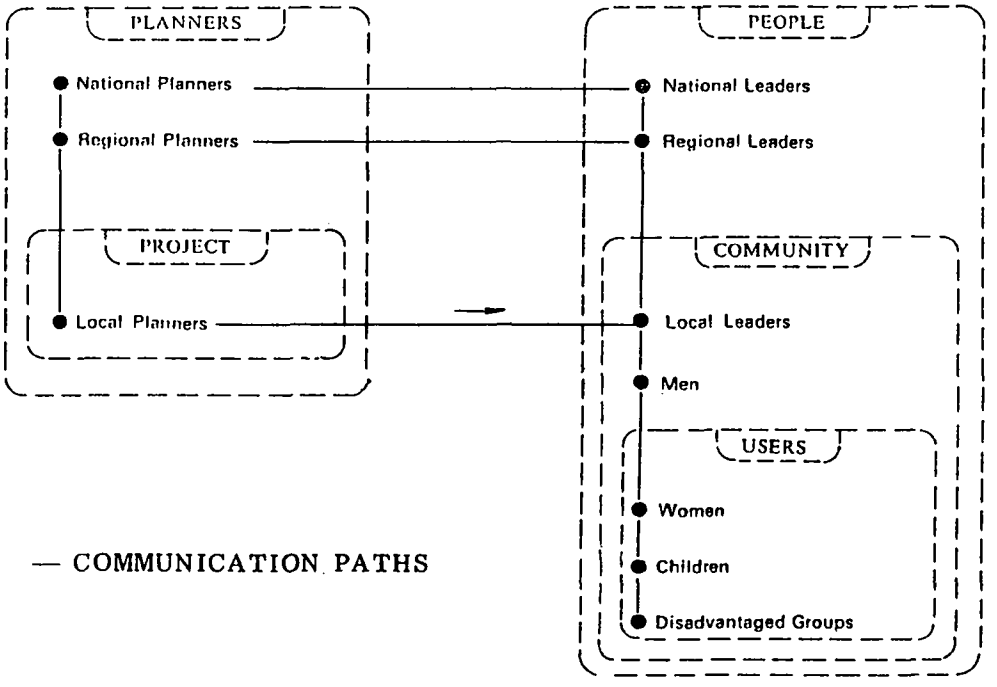
The conceptual gap between people and planners on most projects is partially the result of the limited communication pathways typically used during the planning phase of water supply and sanitation projects. Project planners normally speak with the community through local leaders who are assumed to represent the whole community. Yet village leaders may have priorities that are considerably different from those of other groups in the community. Certain groups (women, children, or others) may, in fact, be excluded from the discussions, even though their views may be important to a successful project design. Thus planners and people often have different views of the perceived needs of the community.



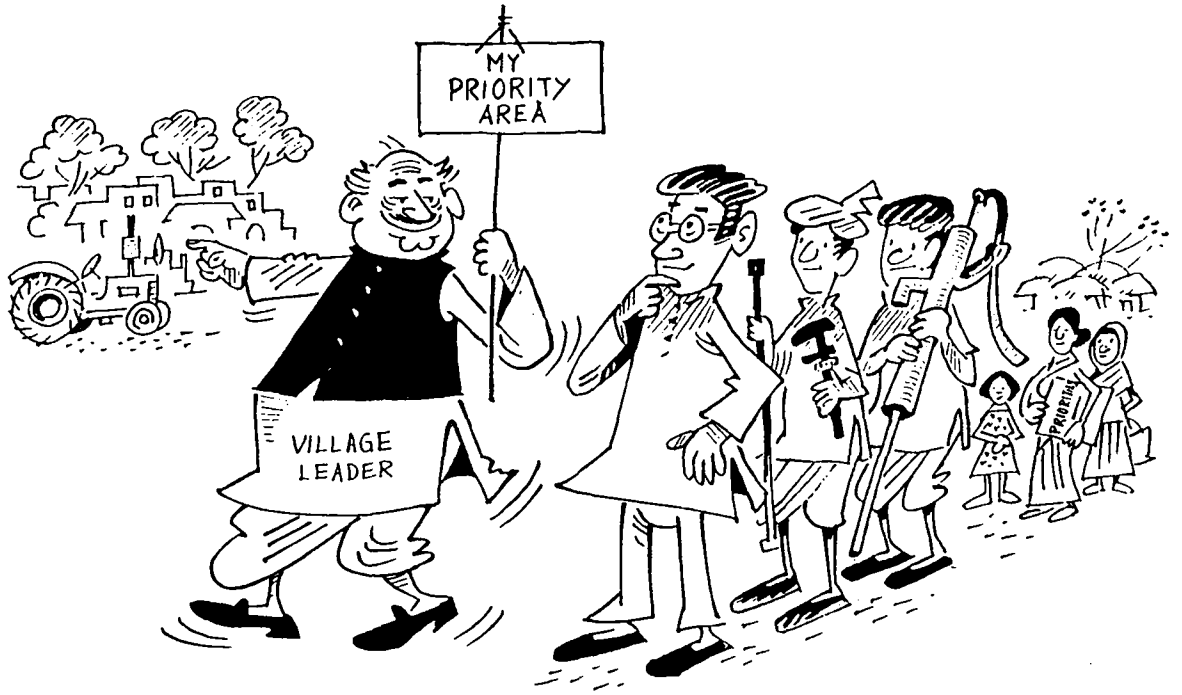
THE PLANNERS' JOB IS NOT TO DEVELOP SIMPLE TECHNOLOGIES THEY BELIEVE TO BE APPROPRIATE AND IMPOSE THEM UPON THE RURAL PEOPLE. IF IT WERE, PLANNERS COULD WORK IN ISOLATION AND TECHNOLOGIES COULD BE DEVELOPED IN THE LABORATORY, MOSTLY ON PHYSICAL CRITERIA.



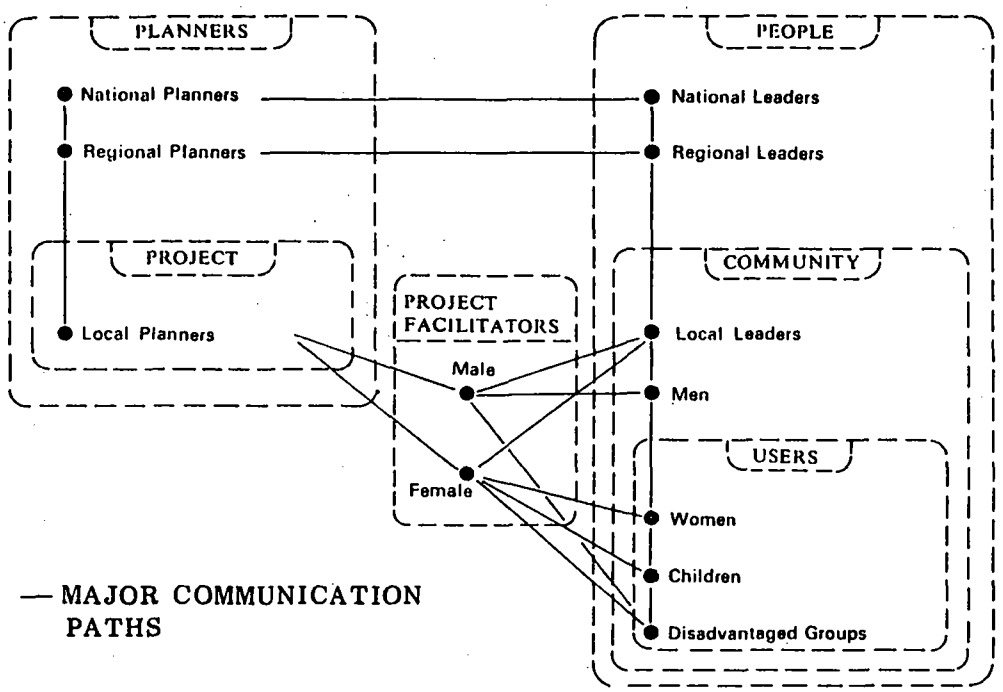
ANOTHER FORM OF TOKEN PARTICIPATION OCCURS WHEN PEOPLE ARE ASKED ONLY TO CONTRIBUTE THEIR LABOUR OR MATERIALS DURING CONSTRUCTION.



PROJECT PLANNERS NORMALLY SPEAK WITH THE COMMUNITY THROUGH LOCAL LEADERS WHO ARE ASSUMED TO REPRESENT THE WHOLE COMMUNITY.



VILLAGE LEADERS MAY HAVE PRIORITIES THAT ARE CONSIDERABLY DIFFERENT FROM THOSE OF OTHER GROUPS IN THE COMMUNITY.



MALE AND FEMALE FACILITATORS CAN WORK ON AN INDIVIDUAL BASIS WITH MEN, WOMEN, CHILDREN AND DISADVANTAGED GROUPS TO BRING THEM INTO THE PLANNING PROCESS AND FIND OUT THEIR NEEDS.

As described, facilitators can be used to overcome the gap between people and planners. Male and female facilitators can work on an individual basis with men, women, children and disadvantaged groups to bring them into the planning process. Effective dialogue with the community takes place when the facilitator and the respondents are closely matched in gender and background. The following paragraphs describe the roles of planners and facilitators in the CEP process.

PARTICIPANTS' ROLES

The Planner's Role

As used here, a "planner" is a person in charge of planning and implementing a water supply and sanitation project, and who directs the activities of the facilitators in the field. Planners may be engineers, sociologists, or specialists of other disciplines who are planning a project. On a large project, a team of persons may be involved, consisting of both technical experts and social scientists.

The successful planner operates in a flexible manner, and never rigidly forces a project on a community. Yet planners often work with several communities at one time, and are not generally able to spend

adequate time in each community to collect data. In any case, planners may not be the best persons to collect data in the community, particularly if they are not familiar with the local language, customs, or habits of the people. For these reasons, project facilitators should be recruited from the ranks of community workers familiar with the area as described in Step 1.

The Facilitator's Role

Facilitators are needed to help planners communicate with the community, and thus overcome existing gaps in understanding between people and planners. The facilitators work in the community, creating opportunities for individuals and small groups of people to express their views, stimulating the community members to voice their needs and priorities. The facilitators carry out this role over a period of a few weeks of intimate contact with the community, and undertake observations, interviews, and small group meetings during this period.

The facilitators help the planners to identify the disadvantaged and weaker groups within the community and to deal with them individually. Facilitators are also useful in determining any political factors within the community that should be taken into account in preliminary planning.

Facilitators should be closely matched in background and customs to the groups they must deal with. Male and female facilitators will be required, so that interviews with men, women and children can take place in a natural manner during the course of data collection. The role of male and female facilitators will be equally important, as the needs of men, women and children should be assessed separately.

In addition to assisting the planners in meeting the community, the facilitator is given specific tasks by the planner for the collection of baseline survey data.

SOME PRECAUTIONS FOR PLANNERS AND FACILITATORS

In determining how planners and facilitators are to carry out their respective roles in the field, certain precautions should be taken. During initial visits to the community, planners should explain that they are trying to find out about community needs so that they can determine, in conjunction with the community, a way in which the needs can be met.

In the process, planners should consider all the needs expressed by the community, and try to rank them in order of priority. The "needs assessment" should not be restricted only to water supply and sanitation needs. It is first necessary to understand how the community views their needs as a whole before the relevance of actions for water and sanitation can be understood.

During initial visits to the community, planners and facilitators must avoid, as far as possible, the promotion of a single technology or solution to the water supply and sanitation problems observed, as this may limit discussion of other possible alternatives by the people.

THE MOST IMPORTANT PIECE OF ADVICE IS FOR THE PLANNERS AND FACILITATORS TO MAINTAIN A RESPECTFUL ATTITUDE DURING VISITS TO THE COMMUNITY.

The most important piece of advice is for the planners and facilitators to maintain a respectful attitude during visits to the community. Such an attitude will not go unnoticed by the community, and will be appreciated.

PROCEDURE FOR USING CEP TO FIND COMMUNITY NEEDS

Although community education and participation (CEP) is emphasized specifically only in Step 2, as described below, the reader will recognize the use of CEP techniques in later steps as well. CEP is used as a vehicle for finding the proper hardware/software mix and for developing community consensus. The following activities within the community are suggested in order to determine the relevance of a water supply and sanitation project to the overall priorities of the people.

Meet the Community

It is first necessary to meet the community, in order to:

- Establish contact with village leaders and existing institutions, where possible, and to inform them of the need for a baseline survey to verify the relevance of water supply and sanitation improvements to overall community concerns;

- Obtain the permission of community leaders for a community needs survey prior to the design and construction of a water supply and sanitation project; and

- Make arrangements for the facilitators to carry out the baseline survey in the community over a period of a few weeks (facilitators should live in the community throughout this period, as required).

Planners and facilitators should visit the community together in order to be introduced to the community leaders and to obtain their permission to proceed with preparations for a joint baseline survey. Arrangements need to be made for male and female facilitators to live in the community for a time to carry out the baseline survey. However, facilitators should not live in the homes of wealthy or influential persons, as this may bias the results of the survey and limit their ability to talk openly with disadvantaged groups.

ARRANGEMENTS NEED TO BE MADE FOR MALE AND FEMALE FACILITATORS TO LIVE IN THE COMMUNITY FOR A TIME TO CARRY OUT THE BASELINE SURVEY.

Conduct a Baseline Community Needs Survey

A baseline needs survey is required, in order to:

- Determine the priority given to water supply and sanitation improvement in relation to other priority needs found within the community; and

- Collect sufficient data to determine the existing habits of the community regarding water supply and waste disposal.

The baseline needs survey may include observations, interviews, and group discussions within the community. These can be carried out by project facilitators with the participation of community members, and hence they should stay in the village for a period of two to six weeks, as required. During this time, project facilitators should develop a close relationship with the community and compile considerable information that will be useful later for developing a good design.

Initially planners and facilitators must determine the approach to be used within the community to conduct the baseline needs survey. The following questions may be considered:

- What methods would be most effective in assessing the needs of the community (for example, observation, small group meetings with disadvantaged groups, or interviews with key informants)?

- How can the needs of women and children best be determined?

- What disadvantaged groups can be identified in the community?

- What methods should be used to approach each disadvantaged group in order to allow them to express their own needs and priorities?

It is also desirable for facilitators to undertake discussions with the leaders of local institutions to determine if an institution and its members might be interested in helping with the community needs assessment. If they are, the ways in which the institution might have an input to the process should be discussed. The same institution may later serve as a focal point for efforts designed to meet the community needs, whether they be for water supply and sanitation or for other needs.

Open-ended questions are often helpful in this process. An open-ended questionnaire can be designed, translated into the local language (this can then be translated back to the original language as a way of checking the accuracy of the translation)[1]. The questionnaire should be pretested to determine if any of the questions are likely to be misinterpreted or are difficult to understand. When it is finalized, the

[1]For information on developing a questionnaire, see Methods for Gathering Socio-Cultural Data for Water Supply and Sanitation Projects, by M. Simpson-Hèbert, 1983. International Bank for Reconstruction and Development, Washington, D.C. TAG Technical Note No.1.

SUGGESTED DATA TO BE OBTAINED IN THE COMMUNITY NEEDS ASSESSMENT

Community Structure

- An understanding of village organizational structures, official/unofficial.
- Identification of different disadvantaged groups with respect to water and sanitation.
- Key leaders and influential persons within community.
- Decision-making processes within the community, particularly the direct and indirect role of women.

Water Usage, Sanitation, Management

- Water rights and ownership and how obtained.
- Seasonal variations in water source.
- Preferred water source for each household for drinking/cooking/laundry/bathing/animals/home garden use (show desired source for each use on a map).
- Time taken or distance travelled for water collection (can be shown on map).
- Household water storage and use of practices for a sample of households, including quantity and source.
- Perception of community needs by the disadvantaged groups, women, children and the community as a whole.
- Household practices for waste water (sullage) disposal.
- Household defecation habits (show on map separately for men, women and children).

Water and Sanitation Beliefs

- General perceptions of community and personal illness; tolerance for disease.
- Concept of "clean" water and sanitation. Perceived relationship between water and health.
- Credibility of official and indigenous medical personnel as opinion leaders.
- Traditional beliefs concerning excreta and sanitation practices.
- Personal hygiene habits/practices.

Community Economic Patterns

- Means of subsistence.
- Preferred spending patterns and ability to pay.
- Cooperative and credit system.
- Indirect measurement of average household income based upon visual determination of housing type and evident amenities.

Education and Communication Behaviour

- General formal and non-formal communication pathways with the outside world.
- Effectiveness of different media for different tasks (entertainment, development education, traditional community events, etc.)
- Audio-visual perceptions; literacy rates; language/dialect.

Technological Alternatives

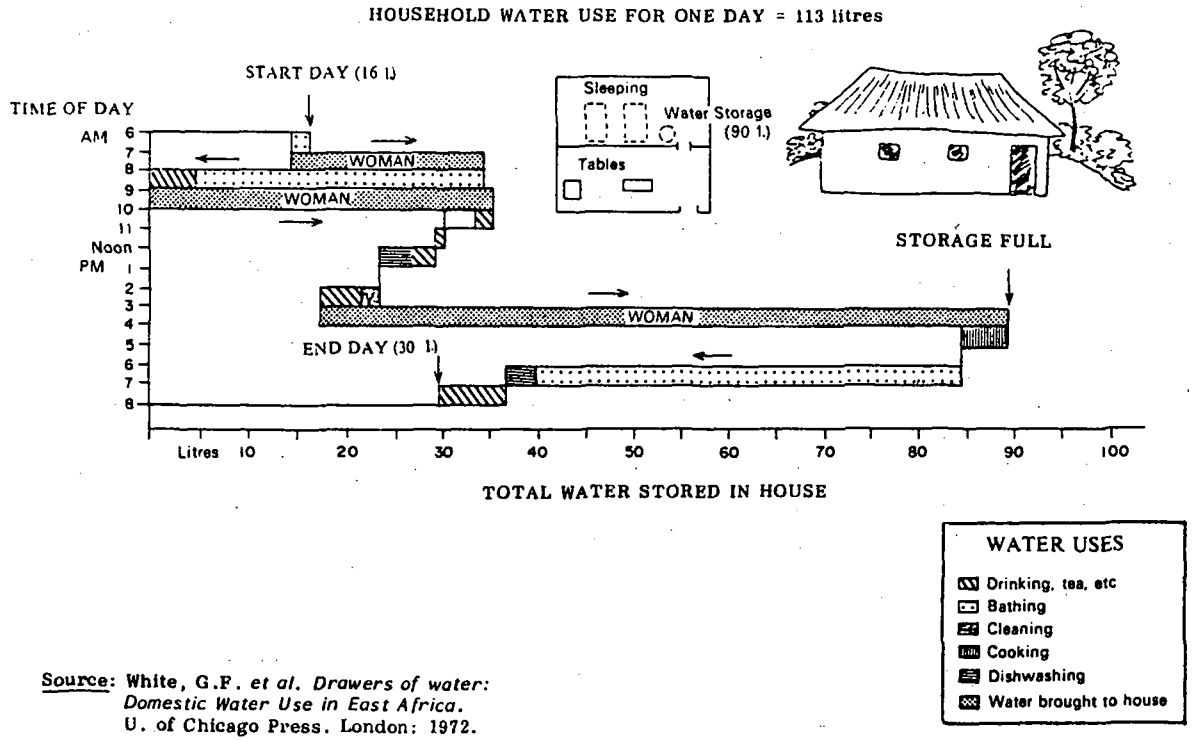
- Data for deciding between technological alternatives including local technical skills, capabilities, and traditional alternatives.

questionnaire can be administered through interviews, to at least 10 per cent of the members of the community. It is important to have separate interviews with equal numbers of men and women, as their needs may differ significantly.

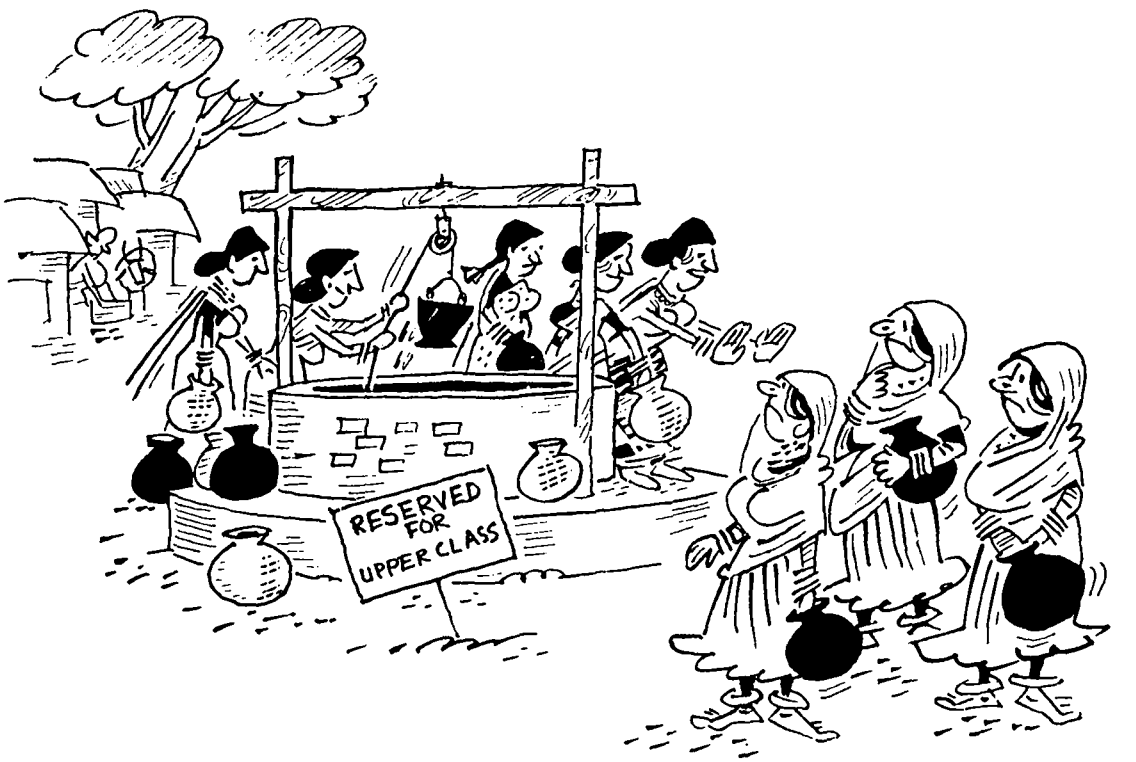
Investigations should also focus on personal hygiene habits within homes. Common practices regarding water treatment (for example, boiling or disinfection) or storage should be determined. A time-and-use study of a few households could indicate the total household water use, the purposes for which it was used, and the time of day when water is usually collected. Such information can be of great help in understanding community needs.

Small group discussions can be carried out by facilitators with members of disadvantaged groups. Techniques such as the use of serialized or unserialized posters, or flexi-flans, can encourage participants to tell stories about their day-to-day life in the community and thus express their views. Photographs, puppets, or other visuals illustrating real scenes and people that villagers recognize may be used to keep the discussion lively. These small group meetings should be scheduled at times that are most convenient for the participants, for example during the morning or afternoon for women, and during the evening hours for men. One way to involve women in such discussions is for a female facilitator to encourage small groups of 5-10 women to gather in individual homes to talk about water and sanitation problems.

A TIME-AND-USE STUDY OF A FEW HOUSEHOLDS COULD INDICATE THE TOTAL HOUSEHOLD WATER USE, THE PURPOSES FOR WHICH IT WAS USED, AND THE TIME OF DAY WHEN WATER IS USUALLY COLLECTED.



Source: White, G.F. *et al. Drawers of water: Domestic Water Use in East Africa.* U. of Chicago Press. London: 1972.

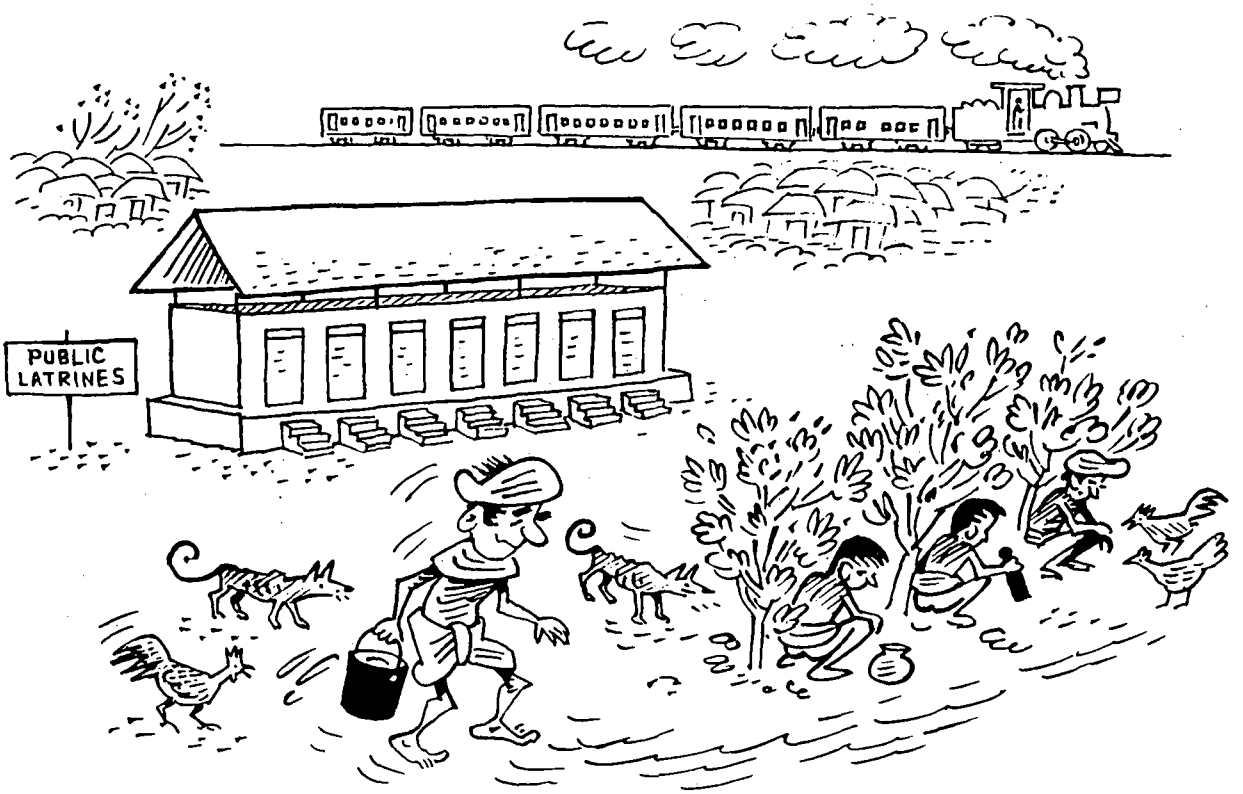


STUDY THE CUSTOMS AND BELIEFS THAT COULD PREVENT COMMUNITY MEMBERS FROM READILY ACCEPTING CHANGES IN WATER SOURCE.

Visual aids can be provided to facilitators as part of the programme support network (see page 63). Training in their use can be given, and funded as part of the project.

During the needs survey, the following questions may need to be answered:

- Why are the needs identified by members of the community more important than others that could be mentioned?
- Are the needs expressed basic needs, or are they other than basic needs?
- Have the opinions of all segments of the community been considered?
- How do the expressed needs of the community relate to the concerns of planners for water supply and sanitation?
- What are the customs and beliefs that may prevent community members from readily accepting changes in water source or defecation areas?
- How can the concerns of various groups within the community be prioritized to represent the felt needs of the whole community?



SUBTLE BEHAVIOURAL DATA MAY BE NECESSARY FOR A GOOD DESIGN.

Here, needs should not be expressed in terms of a specific technological solution. For example, instead of discussing whether handpumps or piped systems are needed, people should be encouraged to express their needs for water in terms of how much is required for different purposes (such as drinking, cooking, washing clothes, bathing and washing dishes) or what quality of water or proximity to the household is required for different purposes. Specific solutions that fulfil their requirements will be discussed later, once they have been clearly defined.

In addition to interviews and group meetings, data is collected by the facilitator by observing the practices of the community at water supply points or defecation areas:

- What are the people's current habits regarding the collection and storage of water for domestic use (and other uses) and the disposal of human wastes?

- At each water supply point (spring, stream, etc.) what practices are carried out (for example, collecting drinking water, bathing, washing clothes, use by animals)?

PLANNERS AND FACILITATORS MUST STRIVE TO UNDERSTAND THE ATTITUDES AND BELIEFS THAT ARE THE BASIS FOR COMMUNITY BEHAVIOUR.

- What traditional sources of water supply and areas for defecation are currently used, and what are their locations? (show on a map)

- Are the existing facilities, if any, functioning and being utilized? If so, which households are using them?

- Has an inventory of existing facilities been made? (Maps showing taps, etc.) If not, map them in a preliminary fashion. The planner may need to assist in this task (see below).

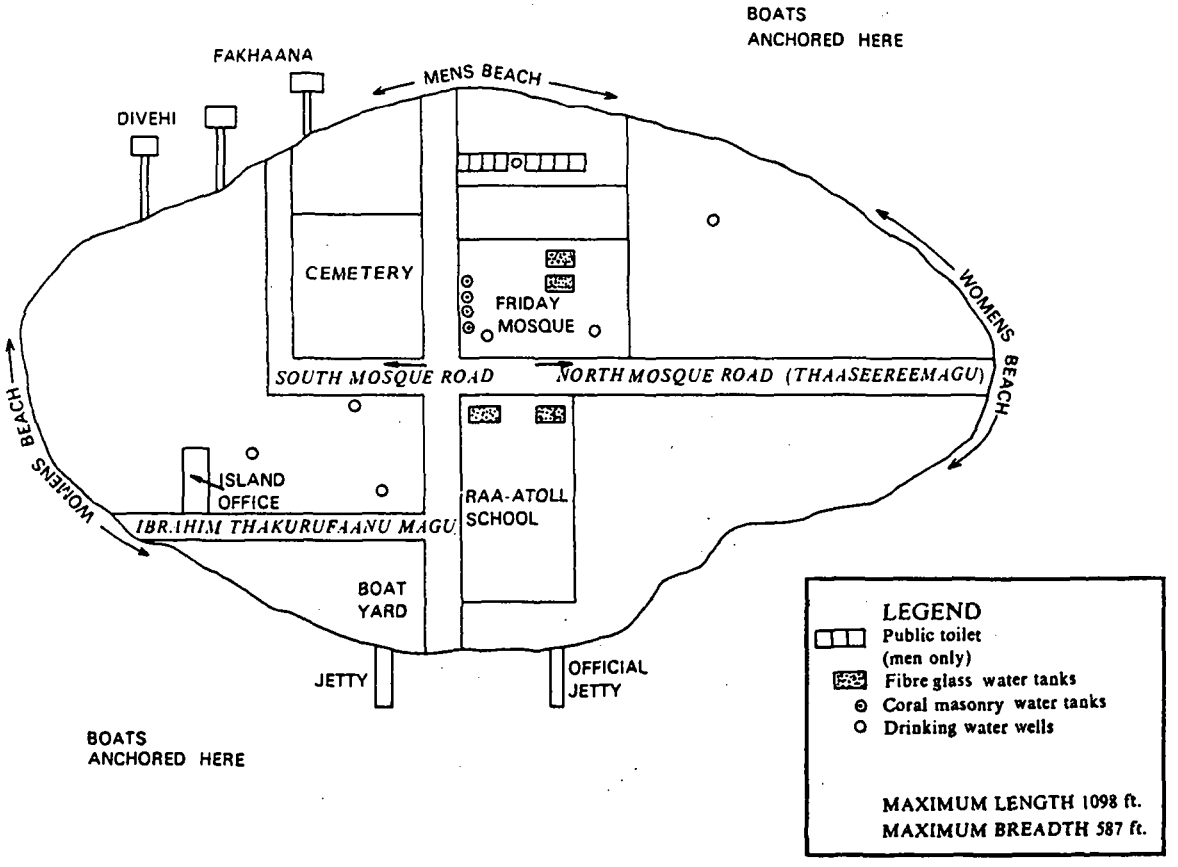
- How could the existing facilities be improved (for example, by the addition of separate facilities for washing clothing)?

Subtle behavioural data may be necessary for a good design. Planners and facilitators must strive to understand attitudes and beliefs that are the basis for existing behaviour.

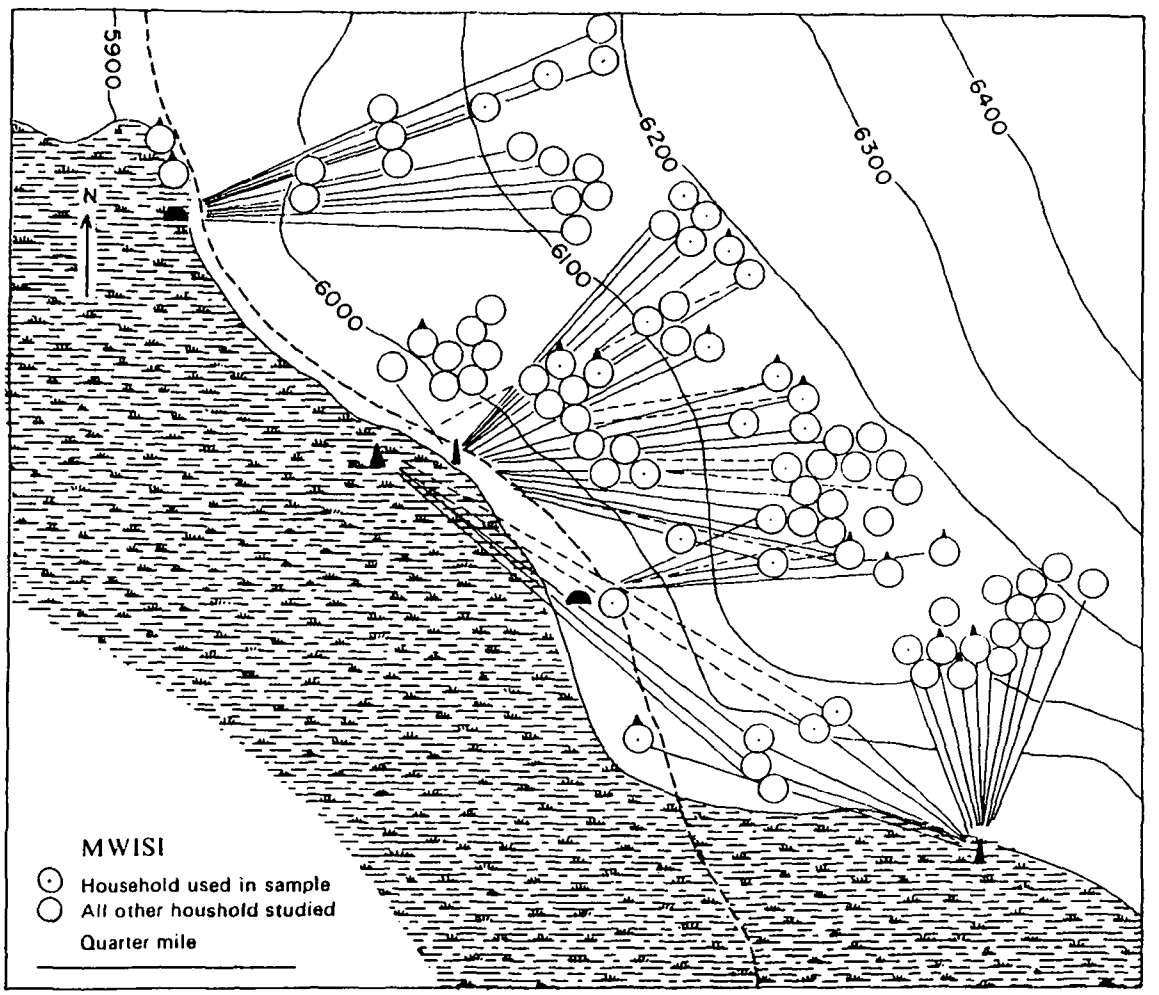
Map Behavioural Data

A most important contribution of the baseline survey to an understanding of how improved water supply and sanitation facilities can meet community needs is a set of maps showing the existing sources of water supply for each household and the defecation sites being used. For water used at home (for drinking, cooking, etc.), the choice of water source is a household decision, since the women or children normally fetch the water and store it for later use. For other water uses, such as bathing or washing clothing, the choice of source may be up to the individual, men and women often bathing at separate sites. Sites for defecation are also chosen by the individual if facilities are not available near each house; thus men, women and children often choose different sites. Such behavioural data can be easily understood when mapped. Children can produce very accurate community maps as a school project.

The information collected from the community needs survey is reviewed by planners and facilitators together and superimposed on a map of the community. In this way, maps can be made showing the households interviewed and the sources of water supply they use, as well as habits regarding waste disposal (excreta, sullage water, and solid wastes). The map(s) can also show all existing water supply and sanitation facilities.



A COMMUNITY BASELINE SURVEY CAN MAP TRADITIONAL DEFECATION AREAS, AND SHOW WHICH PERSONS ARE USING THEM.



Swamp
Road
Motorable track
School
Market
Study household
Other households not studied
Water source:
Unimproved spring
Improved spring
Unimproved well
Improved well
Water standpipe
Rainwater
Stream
Pond
Cistern
Desire line to water source
Contour line in feet
Outline of study area

A COMMUNITY BASELINE SURVEY SHOULD DETERMINE WHICH HOUSEHOLDS ARE USING EACH SOURCE OF WATER SUPPLY.

Source: White, G.F. *et al. Drawers of water: Domestic Water Use in East Africa.* U. of Chicago Press. London: 1972.

Hold a Community Meeting to Discuss Baseline Survey Results

The objectives of this activity are to:

- Discuss the results of the community baseline survey with the community and discuss community problems and needs;
- Discuss local resources identified during the baseline survey that may assist in meeting the needs;
- Discuss whether or not improvements in water supply and sanitation facilities could meet any of the felt needs of the community; and if water supply and/or sanitation is a high priority need
- Present to the community the project/programme resources that are available to meet water supply and sanitation needs, the requirements to be met by the project, and the responsibilities of the community during the process.

During the group meeting, the planners thank the community leaders and others involved in assisting with the community needs survey. It should be stressed that the information they provide on needs that do not include water supply and sanitation will be passed on to other concerned (government) departments. The planners explain (with the help of the facilitators) the necessity of interviewing some groups separately in order to compare different views of the same community problems. Facilitators stress that there were no right or wrong answers to the questions asked, since everyone's viewpoint is valid, and represents their individual concerns.

The results of the baseline survey, including data collected as the result of observations, interviews, and group meetings are presented to a community meeting called with the cooperation of the village leaders. The data that have been mapped, showing the existing water sources and the households that are currently using them, are explained. People are encouraged to discuss these findings. Mapped data showing the current situation regarding the disposal of human wastes, sullage water, and solid wastes are presented. A lively discussion of these findings among community members will result if the presentation has been properly carried out. Planners may also assist the community to differentiate between their needs and wants.

As noted earlier, effective planners avoid promoting a specific technology to meet any of the water supply and sanitation problems that have been expressed, since this could limit the discussion of other alternatives and may polarize the community into groups both for and against the technology suggested.

EVERYONE'S VIEWPOINT IS VALID, AND REPRESENTS THEIR INDIVIDUAL CONCERNS.

Agreement is sought with the people on community problems, needs, and local resources available to meet the needs identified. If improvements in water supply and sanitation emerge as a high priority need, planners discuss the project resources that can be made available and the programme requirements to be met by the project before final approval and the responsibilities of the community during the process. For example, if it is a requirement of the programme that sanitation facilities be constructed at the same time as water supply facilities, this should be explained to the community.

If water supply and sanitation is not a "felt need" of the community and the community is not ready for a project, it is necessary for planners and facilitators to determine whether or not further effort is feasible and warranted in that community. If so, planners and facilitators continue the CEP process to create a felt need for safe water or adequate sanitation. If not, efforts should be concentrated on other communities which are ready for a project.

STEP 2

SUCCESSFUL COMPLETION

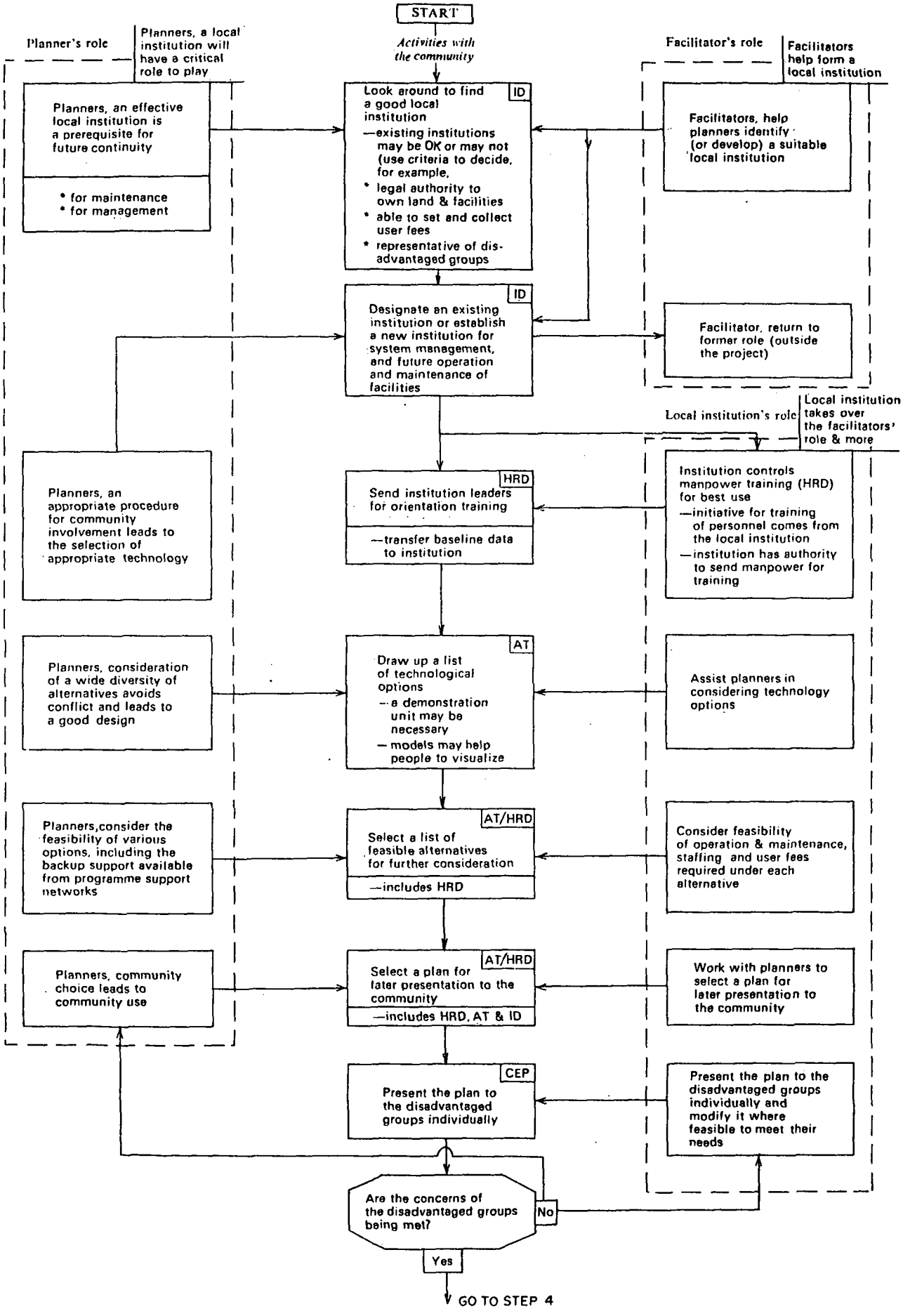
Successful completion has been achieved when:

- Initial contact with the community leaders has been made and permission has been obtained for carrying out the baseline needs survey;
- The community leaders have been briefed about the activities to be undertaken in the village as part of the baseline needs survey;
- Arrangements have been made for facilitators to live in the community to carry out the baseline needs survey;
- Facilitators have lived in the community for two to six weeks (or more, if required) to carry out observations, interviews, and group meetings as part of the community needs survey;
- Planners have assisted the facilitators from time to time and directed their activities;
- Sufficient information has been collected to give an accurate picture of the community's habits and needs regarding water supply and sanitation;
- The data collected on community habits for water supply and excreta disposal have been mapped for later reference; and
- The results of the community needs survey have been presented to the community as a whole through a community meeting.

NOW GO TO STEP 3

STEP 3

PLAN TO MEET NEEDS WITH THE PROPER HARDWARE/SOFTWARE MIX



STEP 3

PLAN TO MEET NEEDS WITH THE PROPER HARDWARE/SOFTWARE MIX

OBJECTIVE OF STEP 3

- For planners, facilitators, and people to work together to develop a project design which incorporates the proper mix of hardware and software to meet the identified community needs.

PARTICIPANTS' ROLES

The Planner's Role

The planner's role in determining the proper hardware/software mix to be used in the project is to work closely with the community, with the help of the facilitators, to develop alternative designs. Each alternative considered will have both hardware (appropriate technology) and software (human resources development and institutional development) components. Of course, not all alternatives will be practical, feasible, or even desirable. The challenge is to find the proper mix of hardware and software that will meet community needs and that will continue to function and be utilized within the existing socio-cultural environment. The planner knows that, by following an appropriate procedure involving the community, hardware and software that meet local needs will be selected. Therefore, the planner does not promote a specific technological solution too early, as it may inhibit discussion of other alternatives.

Unless all of the facilities to be constructed will be owned by individual households, the establishment of an effective local institution should be considered a prerequisite to effective management, operation and maintenance of the new facilities. Planners know that a local institution can serve as a focal point for project inputs as well as for the organization of community inputs, and will make their job easier once it is established.

THE OBJECTIVE OF STEP 3 IS TO DEVELOP A PROJECT DESIGN WHICH INCORPORATES THE PROPER MIX OF HARDWARE AND SOFTWARE TO MEET THE IDENTIFIED COMMUNITY NEEDS.

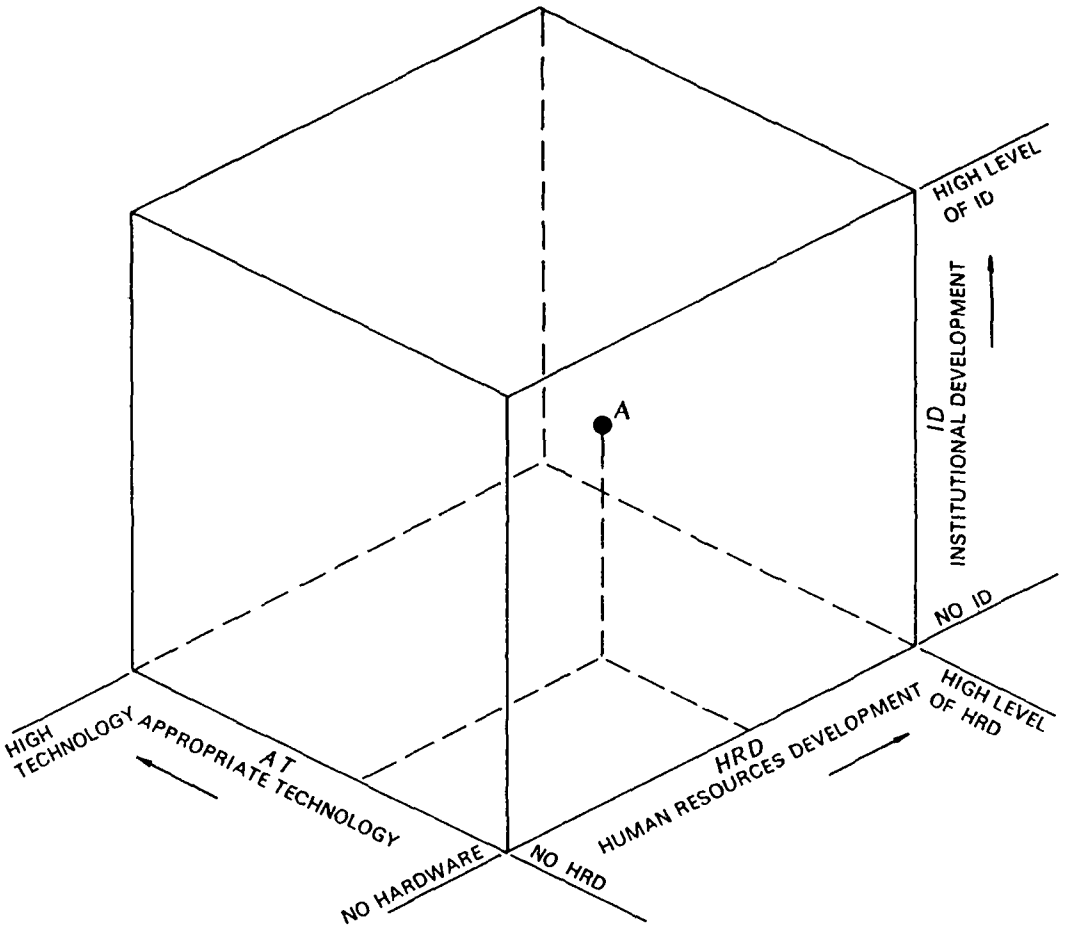
The Facilitator's Role

The facilitators have a short-term role in Step 3 since it may be completed upon establishment of a local institution. The local institution will then assume the duties that the facilitators performed. Thus the facilitators' efforts should be concentrated upon the establishment of a good local institution which fairly represents all interests in the community and which will work with the planner to finalize the remaining aspects of the project.

After the establishment of the local institution, the facilitators can return to their regular duties particularly, although they may find useful service within the local institution, particularly if they are from the local community.

The Local Institution's Role

The local institution takes over the facilitator's role once it has been established and takes on other responsibilities in addition. In Step 3, the local institution is in the process of being established. The leaders of the institution, once they have been selected, are sent for orientation training at training facilities that are part of the programme support network or at a training programme provided specifically as part of the project itself (particularly for pilot-scale efforts).



FIND THE PROPER MIX OF HARDWARE AND SOFTWARE. EACH ALTERNATIVE CONSIDERED (FOR EXAMPLE, ALTERNATIVE 'A' WILL HAVE HARDWARE (AT) AND SOFTWARE (HRD AND ID) COMPONENTS. THE CHALLENGE IS TO FIND THE PROPER MIX OF HARDWARE AND SOFTWARE THAT WILL MEET COMMUNITY NEEDS AND THAT WILL CONTINUE TO FUNCTION AND BE UTILIZED WITHIN THE EXISTING SOCIO-CULTURAL ENVIRONMENT.

After orientation training, the local institution leaders assist planners and people to draw up and consider a list of technological options. Since the local institution will be responsible for the management of facilities after construction, its leaders must consider the feasibility of operation and maintenance, staffing, and the level of user fees required to make the system self-supporting under each alternative. Finally, the local institution works with the planner to select a plan that will later be presented to the community. Step 3 is concluded when representatives of the institution present the plan individually to the disadvantaged groups in order to be sure that it meets their needs. Since the disadvantaged groups have representatives among the leadership of the local institution, this process can be carried out through separate group meetings led by these representatives.

PROCEDURE FOR FINDING THE PROPER HARDWARE/SOFTWARE MIX

Look Around for a Good Local Institution

Planners, facilitators, and people of the community investigate the existing local institutions that might provide future management, operation and maintenance. It may be necessary to establish a new body, or to remodel existing institutions to meet the criteria described below.

PLANNERS, FACILITATORS, AND PEOPLE OF THE COMMUNITY INVESTIGATE THE EXISTING LOCAL INSTITUTIONS THAT MIGHT PROVIDE FUTURE MANAGEMENT, OPERATION AND MAINTENANCE.

The local institution should be constituted such that it has:

- Legal authority to own land, equipment and facilities for water supply and sanitation purposes;
- Authority to set and collect user fees to pay for the support of the system and facilities, and to levy penalties from users for non-payment;
- Authority to hire and dismiss staff as required; and
- Authority to hold a bank account and manage its funds.

The local institution should be led by a representative body made up of users, which contains:

- More women than men (ideally), since women are more often the users of facilities; and
- Users from the disadvantaged groups.

The best results can be expected when the leadership of the local institution is selected in a democratic manner, and when traditional leaders already serving in other community posts are not allowed to serve in the new posts as well.

Several questions must be answered during this process:

- What different types of institutional arrangements could be envisaged to deal with the necessary operational and maintenance functions of the water supply and sanitation facilities?

- What support is necessary at the regional or national level?

- How will the institutional support that is necessary in relation to the technology being suggested?

Designate a Local Institution

After considering the existing institutions and their suitability in relation to the criteria for selection, planners and facilitators work with the community to designate or establish a local institution that will ensure continuity in the future. If an existing institution can meet or be motivated to meet the criteria, it may be given a chance to play this role. However, a new institution may need to be established if the given criteria cannot be met.

The establishment of a local institution is especially critical since the institution will be responsible for the management of the system, and for the future operation and maintenance of the facilities. As regards management, the leaders of the institutions will control the establishment and collection of users fees as well as ensure the availability of manpower and resources for operation and maintenance. Manpower training particularly, when supervised by local bodies, can ensure the continued effectiveness of facilities in the future.

Send Institution Leaders for Orientation and Task-related Training

Just as facilitators were selected in Step 1 based primarily upon commitment and motivation (as well skills and education), so must institution leaders be properly selected for future leadership roles. This is a very important and crucial area!

Institution leaders can receive orientation training as a part of the project, or, preferably, as an activity of the programme support network. An active programme support network can provide refresher training even after the project resources are no longer available. It is particularly important that task training should be provided for individual officers in system management activities, such as accounting for users fees and expenditures, as well as utilization of staff and community relations. Training in participatory problem-solving methods can benefit all institution leaders. Training can be accomplished at district or regional sites where institution leaders from several communities can be trained at one time.

List Technical Options

Working closely with the people, local institution leaders and planners begin to formulate alternatives based upon suggestions received from the community. The planners' knowledge of technology and materials can be utilized in constructing and adapting new ideas based on the ideas expressed in group meetings. Of course, some alternatives that are to be considered may simply reflect the planners' own preferences, those of government officials, or those adopted in other ongoing programmes. The emphasis here is on selecting alternatives that reflect all of the diverse ideas of the community members. No effort is made at this point to eliminate or criticize alternatives, or to show why they may not be feasible. The local institution acts as a facilitator to elicit different viewpoints and to be sure that they are considered as a part of the planning process. Subsequently, some alternatives will be eliminated from consideration for good reasons.

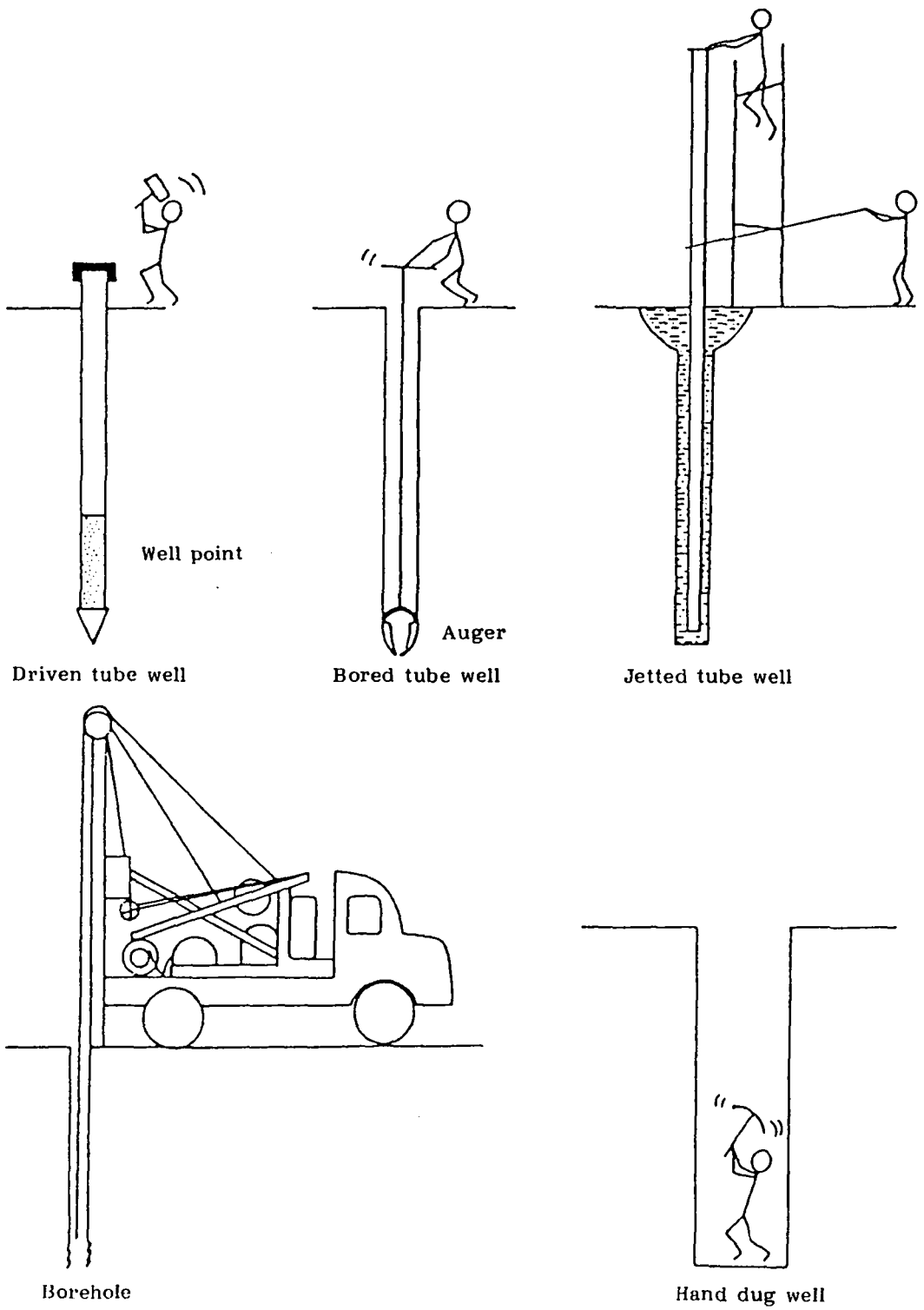
While planners often view the selection of technical options in terms of source of supply or type of waste treatment facility alone, local people often have other concerns. To the people, it is the way in which the water or sanitation facilities can be used that is generally of most concern. Thus, although users may not be concerned whether the water is from ground water or surface water sources, they may be very concerned about its taste, clarity or temperature, and whether or not, for example, bathing and the washing of clothing can take place at the same standpost as the collection of water for other household uses. Source selection is only one part of the problem, since the various technological options that influence the use of water by the people must be considered as well. This includes many of the considerations that planners often group under the term "level of service".

Planners work closely with the local institution and existing community groups to draw up a list of technical alternatives for consideration. This should include not only alternatives for hardware, but also options regarding the method and terms of implementation, and choices that could be delegated to the users themselves such as those related to materials or siting for the proposed facilities.

Several questions must be answered during this process:

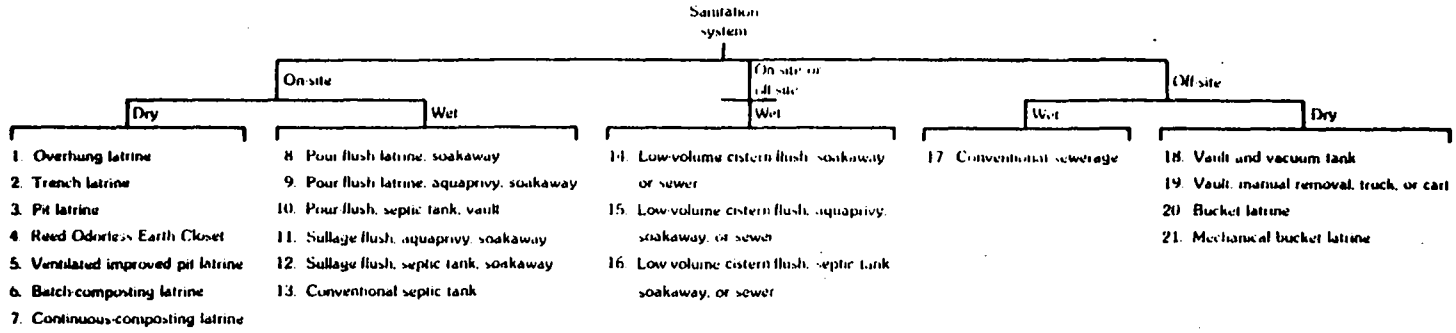
- What technical options should be considered, both from the community's viewpoint and from that of the planners?
- For each option to be considered, what are the expected differences in reliability, convenience and health impact?
- What technical resources are available in the village?
- What financial resources can the community members contribute towards construction, operation and maintenance?
- What government inputs can be expected to support construction, maintenance and training?
- What social and cultural habits might influence the choice of technology?
- What are the total costs, user costs, and expected benefits for each alternative?

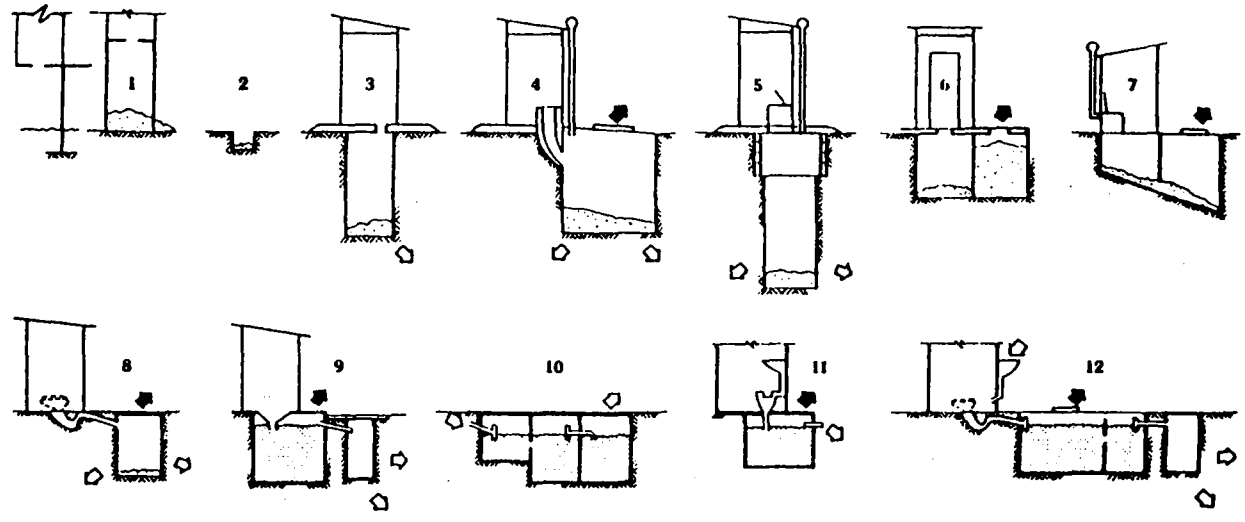
METHODS FOR TAPPING UNDERGROUND WATER



Source: Cairncross and Feachem. "Small Water Supplies." Ross Bulletin 10. Ross Institute of Tropical Hygiene. London: January 1978.

SANITATION ALTERNATIVES

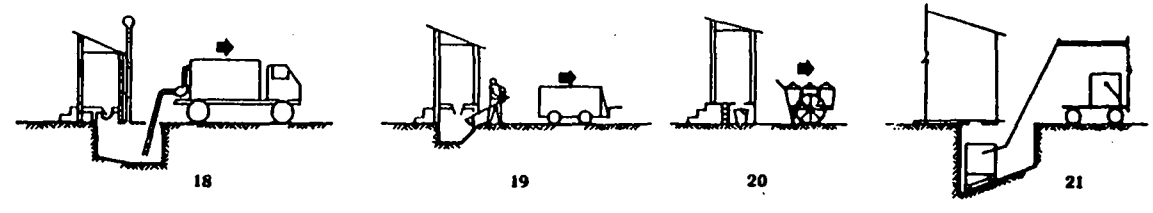




13 Same as 12 except conventional cistern-flush.

14, 15, 16 Same as corresponding configuration in 8 to 12, except for elevated cistern with low volume-flush

17 See standard manuals and texts.

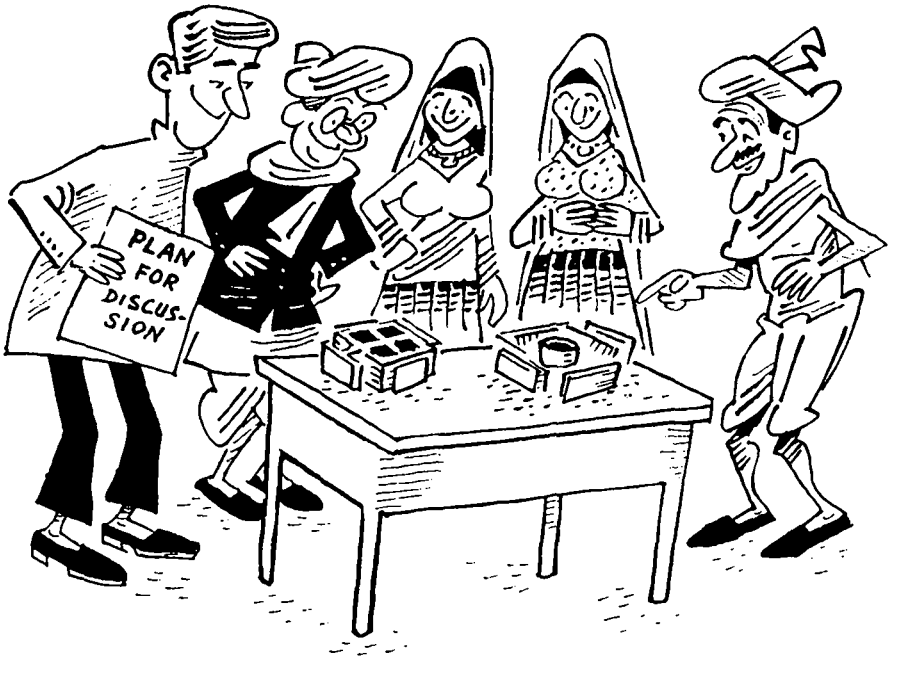


⇨ Movement of liquids; ➡ movement of solids.

Source: The World Bank, Water Supply and Waste Disposal, Poverty and Basic Needs Series (Washington, D.C., September 1980).

A short list of alternative water sources and forms of low-cost sanitation can be drawn up for further consideration, as required. The procedures outlined in the figures on the following pages, while not exhaustive, give an indication of some of the technical considerations that may be important in drawing up a "short list" of alternatives to be discussed with the community. Neither of the figures should be interpreted as providing a ready-made answer for design, but only a short list of alternatives to be considered by the community. Planners can work closely with leaders of the established local institution, as well, to complete the list of level-of-service options available.

For technological options that are unfamiliar to the community, a full-size demonstration unit may be necessary. Alternatively, models made of wood or plaster may serve the same purpose at a lower cost. Small models are particularly useful in group discussions if, for example, the model's walls or latrine doors can be easily moved by the people during discussions to demonstrate their own preferences. Traditional alternatives for water supply and sanitation should be seriously considered, particularly if programme support networks are not available to supply spare parts, materials, or other forms of backup required to ensure the continued functioning and utilization of options involving higher technology.



SMALL MODELS ARE PARTICULARLY USEFUL IN GROUP DISCUSSIONS IF, FOR EXAMPLE, THE MODEL'S WALLS OR LATRINE DOORS CAN BE EASILY MOVED BY THE PEOPLE DURING DISCUSSIONS TO DEMONSTRATE THEIR OWN PREFERENCES.

Several questions must be answered during this process:

- For each technical option, what manpower needs and technical skills will be required for construction, and operation and maintenance?
- What training methods and locations will be used?
- What will be the related costs for training?
- What input could be provided by the private sector (for example, by the local market)?

Select Feasible Alternatives for Further Consideration

Planners use their knowledge of technology or materials to judge the feasibility of the alternatives that have been listed. Only options that can be supported with spare parts, supplies, and other required backup through existing programme support networks should be considered feasible. Where programme support networks do not exist, projects should be as self-sufficient as possible, with no spare parts required other than those that can be purchased in the local market or made from indigenous materials with local skills. Infeasible options are indicated and reasons given for this designation. At this stage, staffing patterns and the user fees required for each alternative are estimated. User fees required for feasible alternatives will normally be less than 5 per cent of the income of the heads of rural households. Consideration should be given to the maximization of benefits to the community, where possible, by choosing technologies and methods of implementation that are labour-intensive rather than capital-intensive. Close coordination between planners and the local institution will allow for a determination of the feasibility of the proposed arrangements as well as social or cultural acceptability.

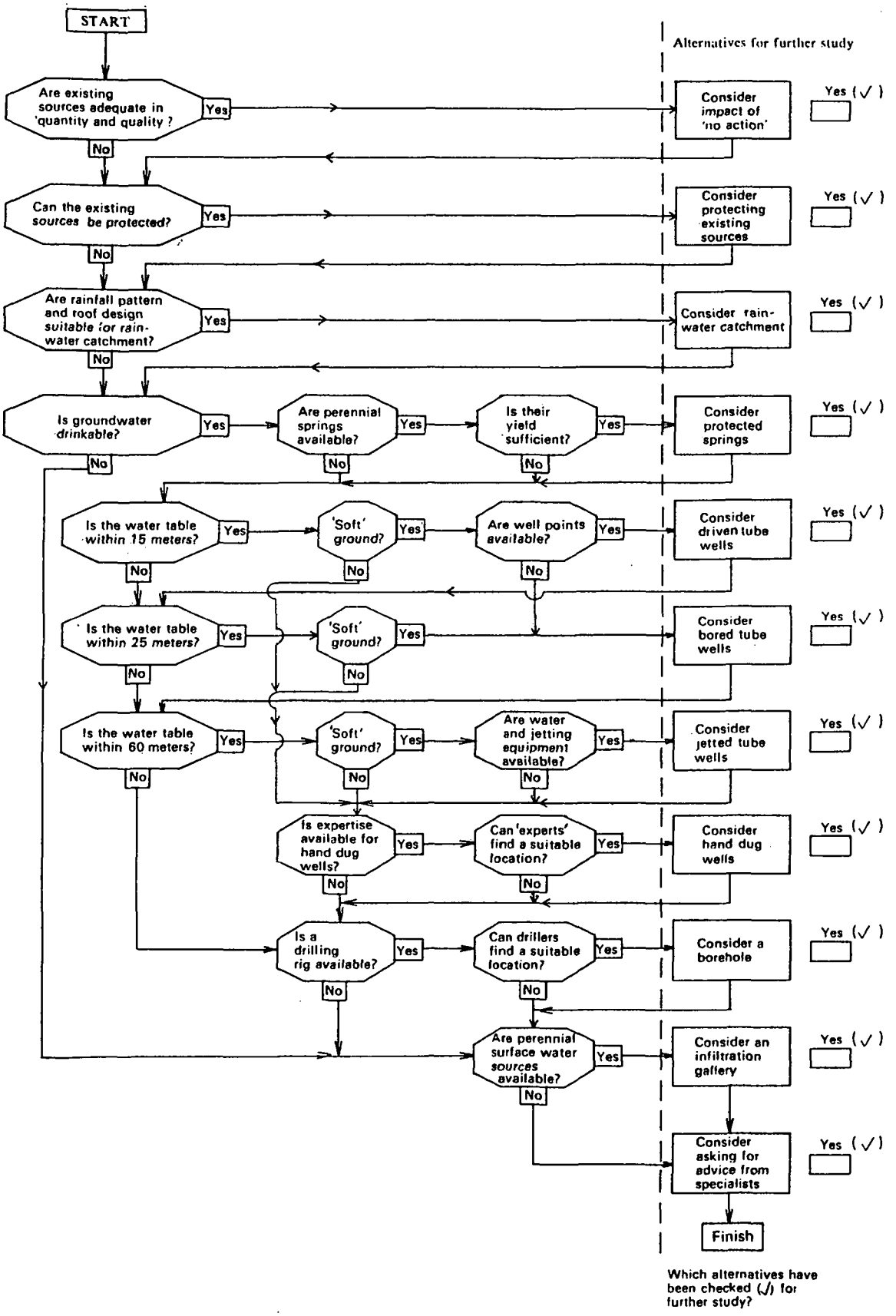
Select a Plan to Present to the Community

Planners work closely with the local institution to select a plan that can later be presented to the community. This is done after a careful consideration of all the possible alternatives listed above, in addition to other considerations that may arise. Some choices may remain to be made by the users themselves during the implementation of the plan (Step 5), such as the type of construction materials to be used to ensure privacy in individual household latrine units.

Present the Plan to the Disadvantaged Groups Individually

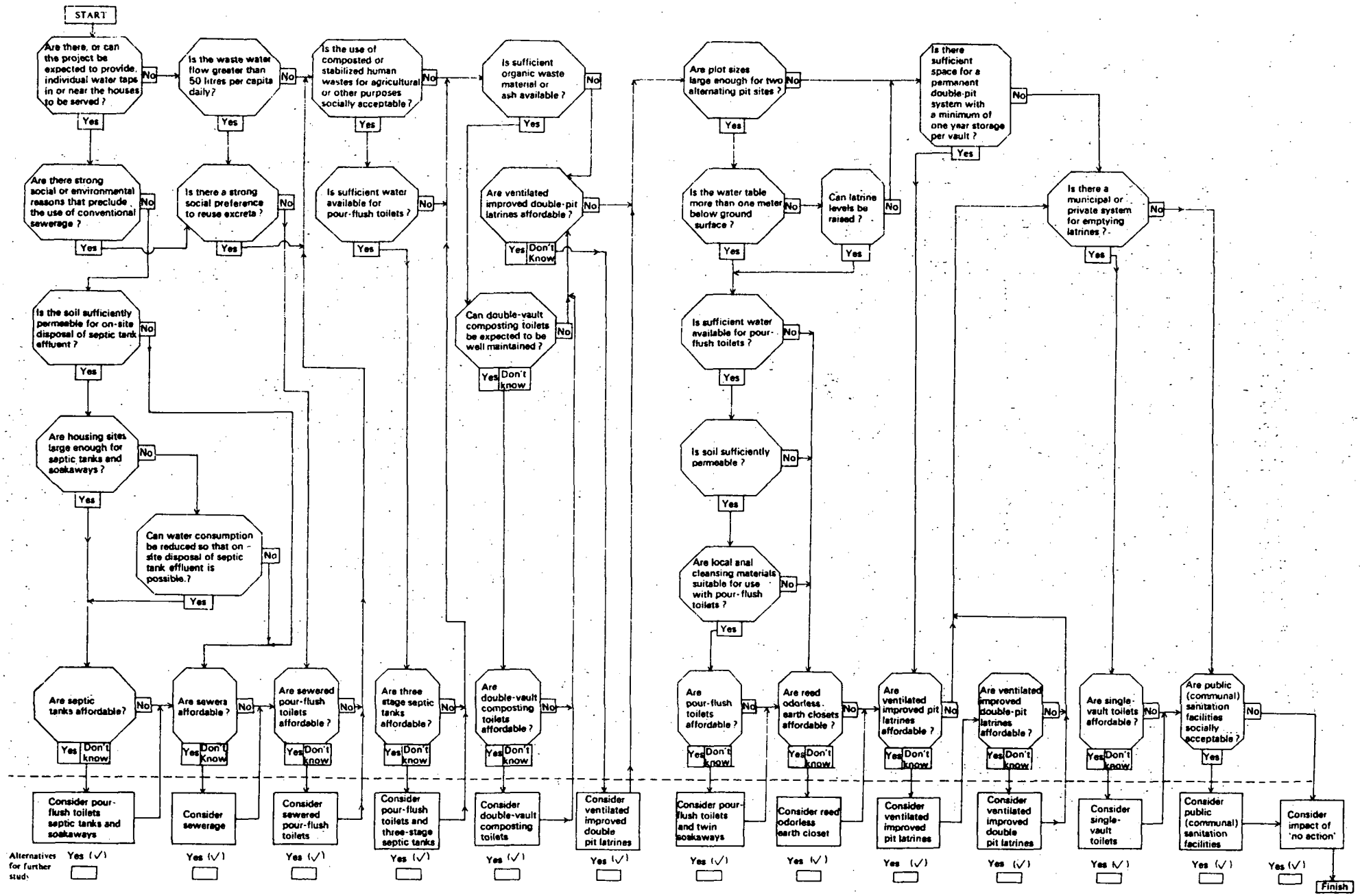
The plan selected is presented to the disadvantaged groups to ensure that their concerns have been met. The disadvantaged groups should be approached individually by the local institution, and small group meetings held where required to review the proposed plan and the method of implementation. For example, in the case of public latrines to be constructed separately for men and women, separate maintenance committees may be required. If the disadvantaged groups are not satisfied, the local institution works closely with the planners to incorporate the concerns expressed, where this is feasible.

DRAWING UP A LIST OF WATER SUPPLY SOURCE ALTERNATIVES FOR COMMUNITIES



Source: Cairncross and Feachem. "Small Water Supplies." Ross Bulletin 10. Ross Institute of Tropical Hygiene. London: January 1978.

SANITATION ALTERNATIVES FOR COMMUNITIES



Source: Kalbermatten, *et al.*, "Appropriate Technology for Water Supply and Sanitation: Technical and Economic Options." The World Bank, Washington, D.C.: December 1980.

STEP 3

SUCCESSFUL COMPLETION

Successful completion has been achieved when:

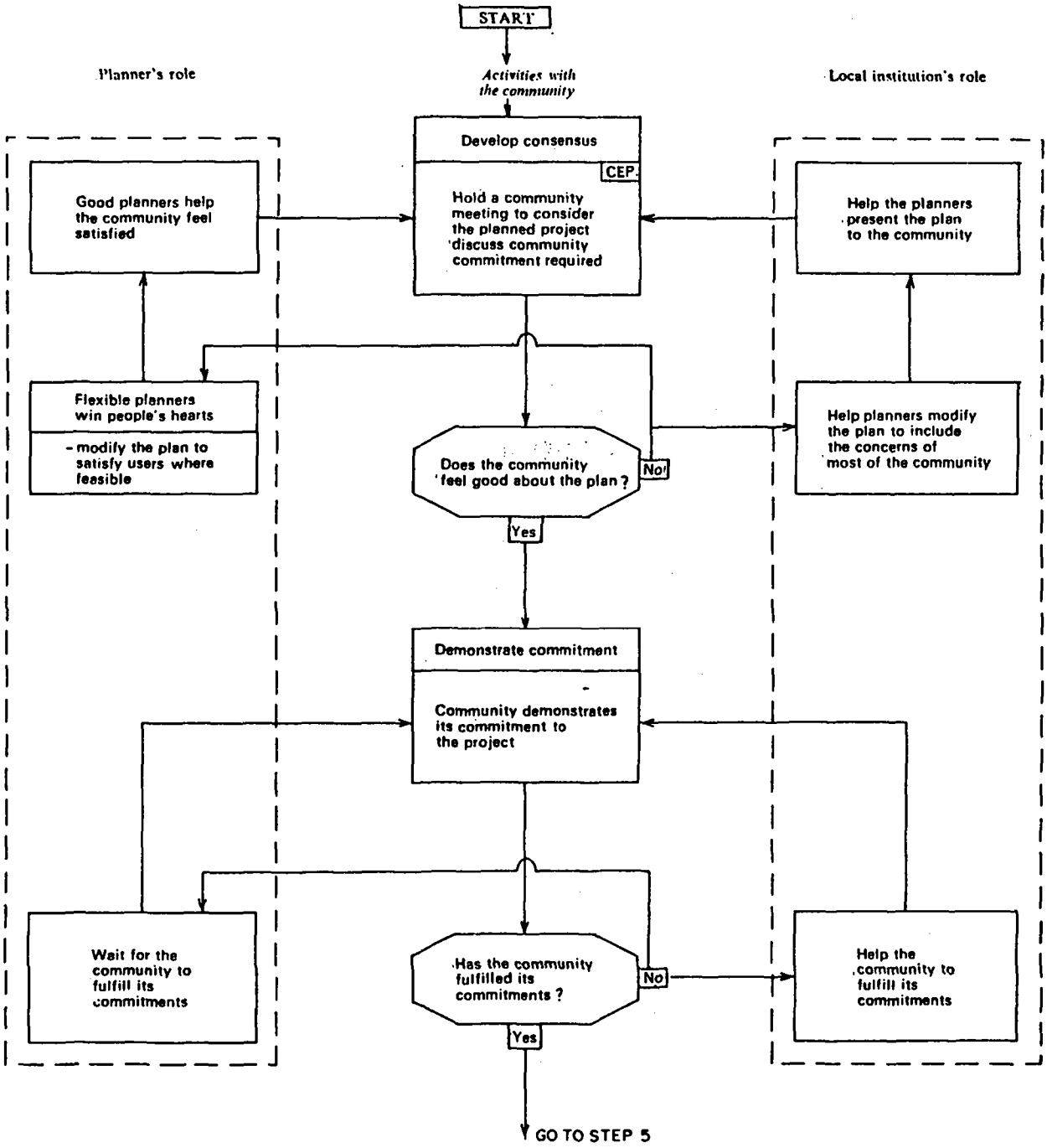
- A good local institution has been designated or established to provide future continuity;
- Institution leaders have been given orientation training;
- A plan has been selected for later presentation to the community which is feasible in both a technical and socio-cultural sense, and which can be supported with back-up, when necessary, by the existing programme support network; and
- The plan meets the needs of the disadvantaged groups, as determined through small group discussions with them individually.

If the concerns of the disadvantaged groups have not been *met, modify the plan to satisfy their needs.*

IF THEY HAVE, GO TO STEP 4

STEP 4

DEVELOP COMMUNITY CONSENSUS AND COMMITMENT TO ENSURE PROJECT SUCCESS



STEP 4

DEVELOP COMMUNITY CONSENSUS AND COMMITMENT TO ENSURE PROJECT SUCCESS

OBJECTIVE OF STEP 4

- To develop a consensus and commitment within the community regarding the planned project.

PARTICIPANTS' ROLES

The Planners' Role

The planners' role in developing a consensus and commitment is to help present the plan developed in Step 3 to a full meeting of the community. The commitment of both the implementing agency and the community must be explained. A flexible attitude should be maintained during this process, and planners need to be sensitive to the concerns that community members express at the meeting. In many cases, consensus will be developed at the very first meeting, since the plan has already been presented individually to the disadvantaged groups. However, certain additional problems may be revealed at the community meeting, and these may require the introduction of slight modifications to the hardware or software in order to satisfy the concerns expressed.

Even if a consensus is reached readily, it may be necessary for planners to wait for some time for the community to fulfill its commitments before construction can begin. For instance, it may be necessary for legal documents to be drawn up giving the rights to the land to the local institution. If a consensus and commitment have been achieved, the planners can feel satisfied that they have done a good job.

The Local Institution's Role

The role of the local institution is to help the planners develop a consensus and commitment within the community. A representative of the institution may present the plan at the community meeting and explain the choices available to users. Commitments required from community members should also be explained. The leaders of the local institution should be

attentive to any concerns expressed by members of the community and should assist planners in developing amendments to the plan so that a consensus can be reached.

In relation to community commitment, the local institution may need to organize the community for whatever demonstration of commitment may be required. For instance, users may be required to join an association by paying a fee before construction can begin.

PROCEDURE FOR DEVELOPING COMMUNITY CONSENSUS AND COMMITMENT

Community Meetings to Consider the Planned Project

After an agreement has been reached with the disadvantaged groups, the planners and local institution present the plan to a meeting of the entire community for review and comment. The objective here is to develop a consensus within the community and to demonstrate commitment where required. Planners, as well as representatives of the local institution realize that a flexible attitude will assist in gaining consensus, and that the community should be able to introduce modifications to the plan as desired and where feasible.

REPRESENTATIVES OF THE INSTITUTION REALIZE THAT A FLEXIBLE ATTITUDE WILL HELP IN DEVELOPING A CONSENSUS, AND THAT MODIFICATIONS TO THE PLAN SHOULD BE MADE AS DESIRED BY THE COMMUNITY, WHERE FEASIBLE.

Additional community meetings may be required if a consensus has not been reached. It is important for the community to feel good about the plan and the method of implementation selected before construction begins, so that the facilities will be fully utilized and that the full collection of user's fees can be achieved.

The Community Demonstrates its Commitment

It is necessary that the community should demonstrate its commitment before construction starts. For example, the local institution may require a legal title to the land where facilities are to be constructed, or the community may first need to protect a spring catchment area. Users may be required to join a users' association, paying membership fees and additional monthly fees to make the system self-supporting as regards operation and maintenance. Construction should be delayed if necessary until these steps have been taken. The degree to which local people participate in this process is a measure of success during this phase. Planners should wait for the community to fulfill its commitments; the local institution should assist the community to organize itself to carry out the required activities.

If the community has not demonstrated its commitment to the progress, wait until it does so before going to Step 5.

STEP 4

SUCCESSFUL COMPLETION

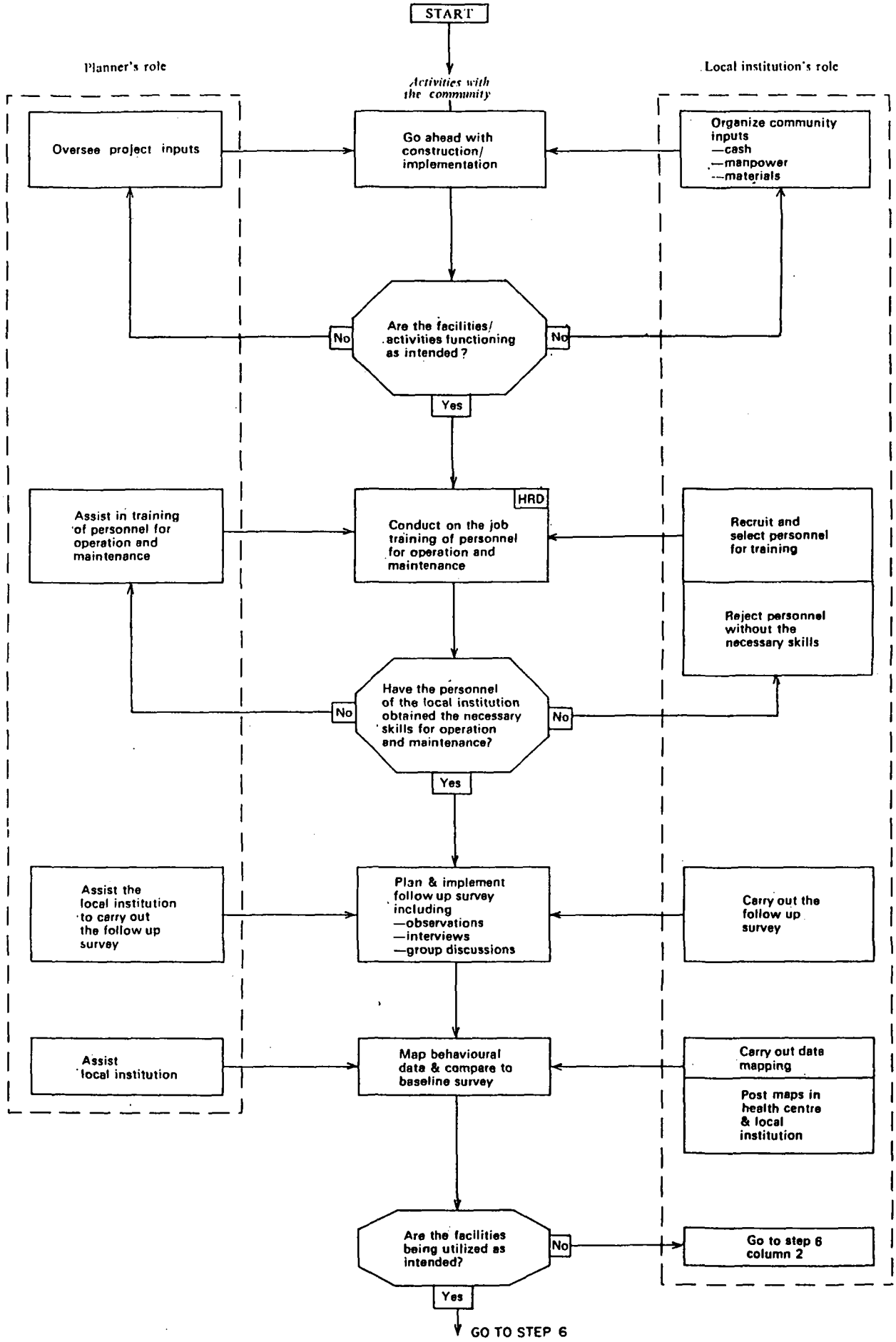
Successful completion has been achieved when:

- Community consensus has developed regarding the planned project; and
- The community has fulfilled its agreed commitments so that construction can begin.

NOW GO TO STEP 5

STEP 5

GO AHEAD AND IMPLEMENT THE SELECTED HARDWARE/SOFTWARE MIX



STEP 5

GO AHEAD AND IMPLEMENT THE SELECTED HARDWARE/SOFTWARE MIX

OBJECTIVE OF STEP 5

- To implement the planned project, as agreed with the community.

PARTICIPANTS' ROLES

The Planners' Role

The planner (or another representative of the implementing agency) oversees project inputs to the community and supervises the technical aspects of construction. The planner also works with the local institution to assist in training personnel for operation and maintenance. The implementing agency may assign responsibility for the actual construction to one or more contractors, either on a turnkey basis or for specific tasks only.

The Local Institution's Role

The local institution organizes community inputs that were agreed upon as a part of the plan - for example, cash, manpower and local materials. The local institution assists in supervising construction where appropriate and works with planners to ensure the smooth implementation of the project. The local institution is also responsible for recruiting and selecting manpower to be trained for the operation and maintenance of the facilities.

The local institution is responsible for carrying out the following tasks:

- Make arrangements regarding community labour and construction;

STRATEGIES TO OVERCOME PROBLEMS IN PROJECT IMPLEMENTATION AND O&M

Project state	Expected problem	Likely causes	Possible communication action	Non-communication actions
Implementation	Delays in self-help (e.g., pit-digging, or erection of superstructure)	Lack of time		Reschedule project to suit householder's free time (e.g., to suit seasonal labour effects)
		Problems in access to materials or money		Provide better access to materials, technical advice, loans, etc.
		Insufficient interest		Eliminate self-help from strategy If self-help critical to project finances, change project area
		Self-help component beyond technical competence of beneficiaries		Revise component or provide external technical assistance, or both
	Mistakes in type of superstructure selected (resulting in contravention of building codes, rapid destruction, etc.)	Lack of necessary information on building codes, etc.	Description and explanation of legal and other constraints and of acceptable options	Revise building codes to accommodate low-income families' options
		Lack of access to alternative materials, cash.	Information on available sources of materials, credit	
Operation and maintenance	Abuse of facilities	Superstitions or beliefs	Motivation or instructions, or both	
		Poor understanding of how technology operates or its limitations		
		Breakdown of supporting services	Motivation or instructions, or both	Improve supporting service
	Poor use	Poor appreciation of the necessity to do so (especially older people, children)	Motivation and education to encourage use by those who are reluctant	
		Inconvenience or unpleasantness involved (e.g.,distance, rain or flooding, lack of light, poor access to water, etc.)		Adjust details of the design of sitting, to the extent possible at this stage
	Poor hygiene practices	Custom	Motivation and education	
		No understanding of the need for better practices, or lack of familiarity with them.	Motivation andeducation	
	Poor maintenance of facilities	Low value placed on facilities	Motivation and education	
		Belief that maintenance is someone else's responsibility	Clarify responsibilities	
		Ignorance of need for maintenance or ofproper maintenance procedures	Motivation and instruction	
		Poor access to necessary materials		Facilitate access to materials
	Lack of adequate revenue	Inability to collect fees/ charges.	Clarify responsibilities	
	Breakdown beyond capacity of local resources to repair	Lack of an effective programme support network		Strengthen or establish programme support network

Source: Adapted from UNDP, Division of Information, Communication and Community Participation (undated)

- Arrange for the provision of community materials and equipment;

- Arrange for the local storage of materials; and

- Continue to keep the community informed on the progress of project implementation and to work with the community in order to be able to determine any problems that develop during the construction phase.

PROCEDURE FOR IMPLEMENTING THE SELECTED HARDWARE/SOFTWARE MIX

Go Ahead with Construction/Implementation

Construction can begin once community consensus and commitment have been demonstrated. Planners (or their representatives, including contractors) oversee project inputs and supervise construction while the local institution organizes community inputs of cash, manpower, and materials. The decisions remaining for individual users can be taken at this time, including the type of construction materials that will be used to ensure privacy in individual household latrine units.

Following construction, the facilities should be tested to see that they are functioning as intended. If there are any problems in the functioning of the facilities, planners should work with the local institution to correct them where appropriate, so that the facilities function as designed.

Conduct On-the-Job Training of Personnel for Operation and Maintenance

The on-the-job training of personnel for operation and maintenance should begin as soon as possible; some elements of this training can start before construction is completed. Some of the personnel of the local institution can assist in the construction process itself. The local institution is in charge of recruiting and selecting the personnel to be trained, and the planner (or contractor) assists in the training of personnel for their intended roles. In order to develop system management, the programme support network is utilized to carry out training activities in accounting and record-keeping. Two to three weeks of on-the-job training in the community may be required before the system is formally turned over to the community. Following the completion of training activities, it should be determined whether or not the personnel have developed the skills necessary to carry out operation and maintenance activities successfully. Personnel who have not derived the necessary skills from training should be rejected by the local institution.

Plan and Implement a Follow-up Survey

Plan and implement a follow-up survey. This may include observations, interviews and small group discussions.

A follow-up survey should be carried out after construction is completed to determine if the facilities have been completed as planned

and are functioning and being utilized as intended. People's habits after the completion of the project are compared with habits that were observed during the baseline survey. It is most important to determine which households are using the new facilities and which are still using the traditional alternatives. Observations, interviews and group discussions may be carried out by the local institution leaders, who will thus be acting as facilitators in assisting the community to voice its views on the completed project and in beginning hygiene education activities if necessary. Hygiene education activities will be particularly important if community members do not have the knowledge or skills to use the facilities correctly, or if they do not recognize the value of the facilities provided.

Map Behavioural Data to Identify Changes

Data collected during the survey is mapped for comparison with the baseline survey maps obtained earlier. Separate maps can be made showing the water sources or defecation sites used by individual households. In this way, the impact of the project upon community habits can be vividly illustrated. Such maps can be posted in the health centre or the local institution for viewing by the community. Households that are still using traditional water sources or defecation areas could be highlighted; hygiene education efforts can target these households for follow-up.

QUESTIONS TO BE ANSWERED DURING IMPLEMENTATION OF THE HARDWARE/SOFTWARE MIX

Are the Facilities/Activities Functioning as Intended?[1]

If they are not, planners should work with the local institution to complete the agreed plan, including both hardware and software.

If they are, conduct on-the-job training of personnel for operation and maintenance (see page 55).

Have the Personnel of the Local Institution Obtained the Necessary Skills for Operation and Maintenance?

If not, planners (or contractors) should work with the local institution to select and train personnel for operation and maintenance.

If they have, plan and implement a follow-up survey (see page 55).

Are the Facilities being Utilized as Intended?[1]

If not, the local institution and programme support network should collaborate to resolve the problem (see Step 6).

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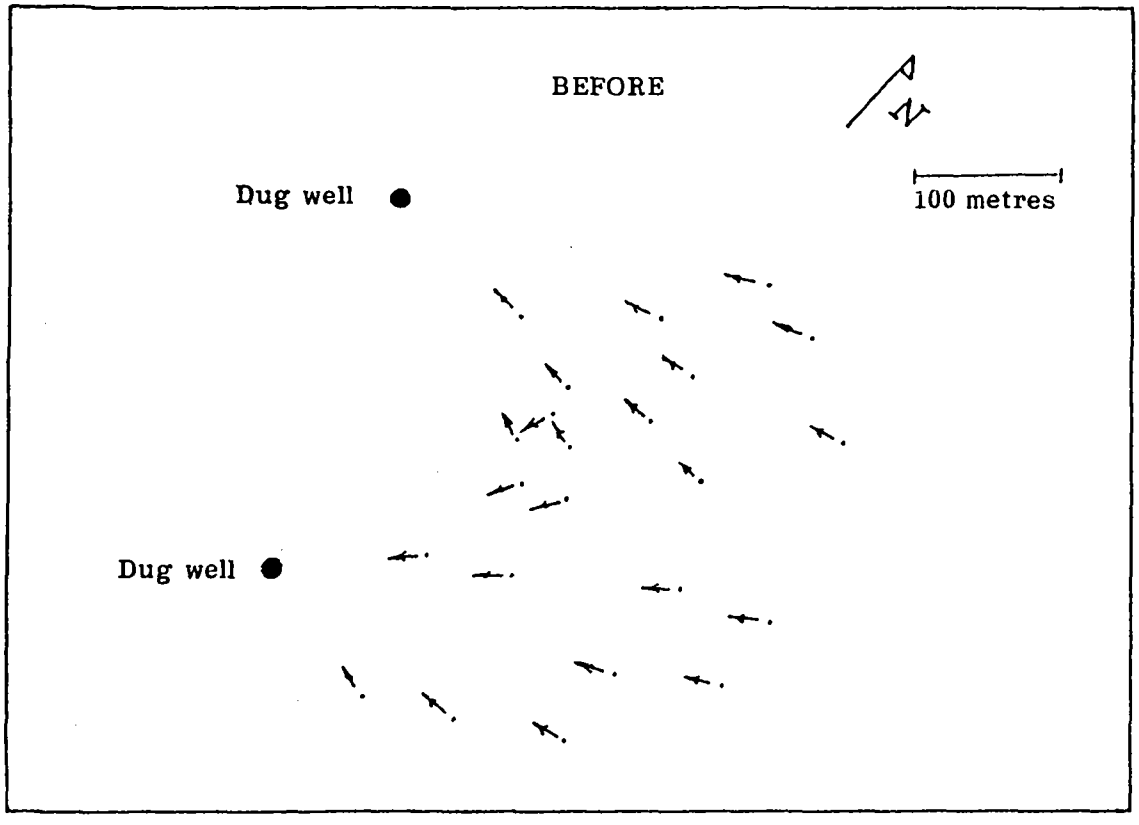
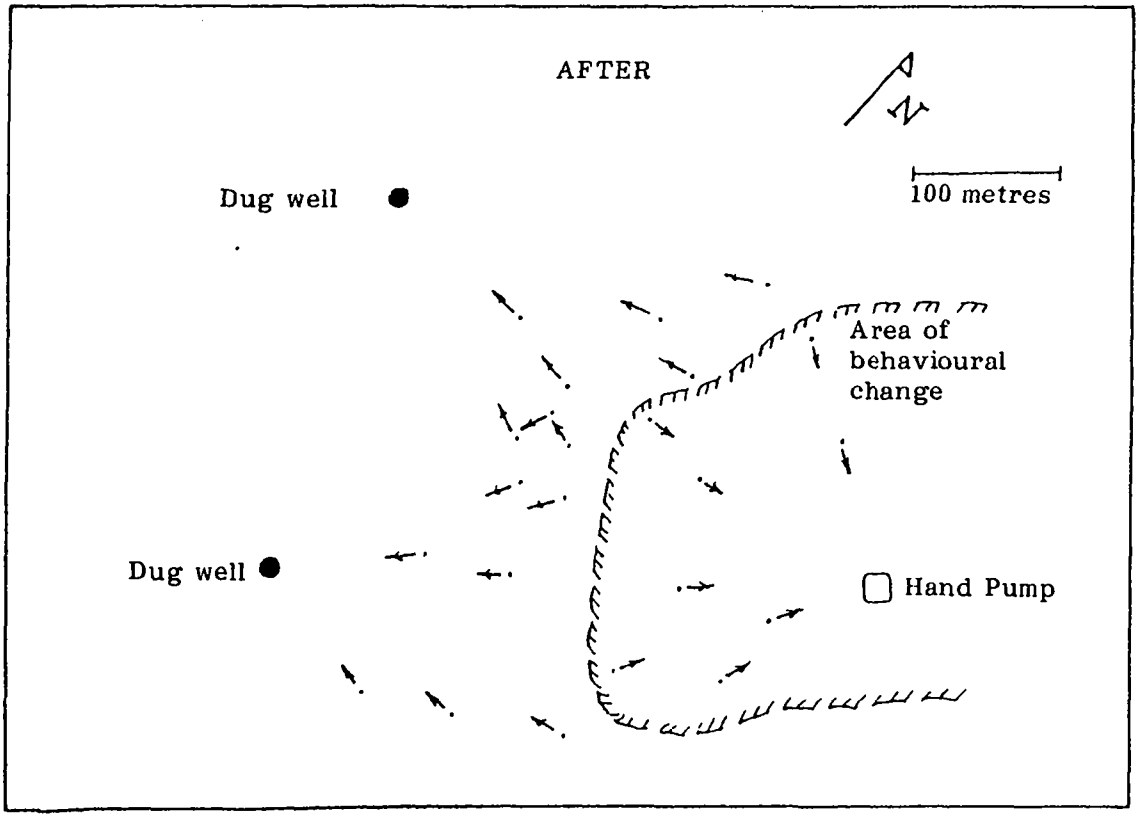
[1]For evaluating the functioning and utilization of facilities, see Minimum Evaluation Procedure (MEP) for Water Supply and Sanitation Projects, 1983, WHO Geneva. Document ETS/83.1, CDD/OPR/83.1.



THE ARROWS INDICATE THE SOURCE USED BY EACH HOUSE, BOTH BEFORE (ABOVE) AND AFTER (BELOW) THE INSTALLATION OF A SINGLE HANDPUMP IN THE COMMUNITY. NOTE THE AREAS IN WHICH BEHAVIOURAL CHANGE TOOK PLACE (BELOW).



Health education efforts can be targeted to effect a change in those households that continue to utilize the traditional water sources and defecation sites. This may be done in cooperation with primary health care workers where appropriate. Training programmes may be planned through a programme support network, to teach the staff of the local institution how to carry out health education activities.

If the facilities are being utilized as intended, go to Step 6.

STEP 5

SUCCESSFUL COMPLETION

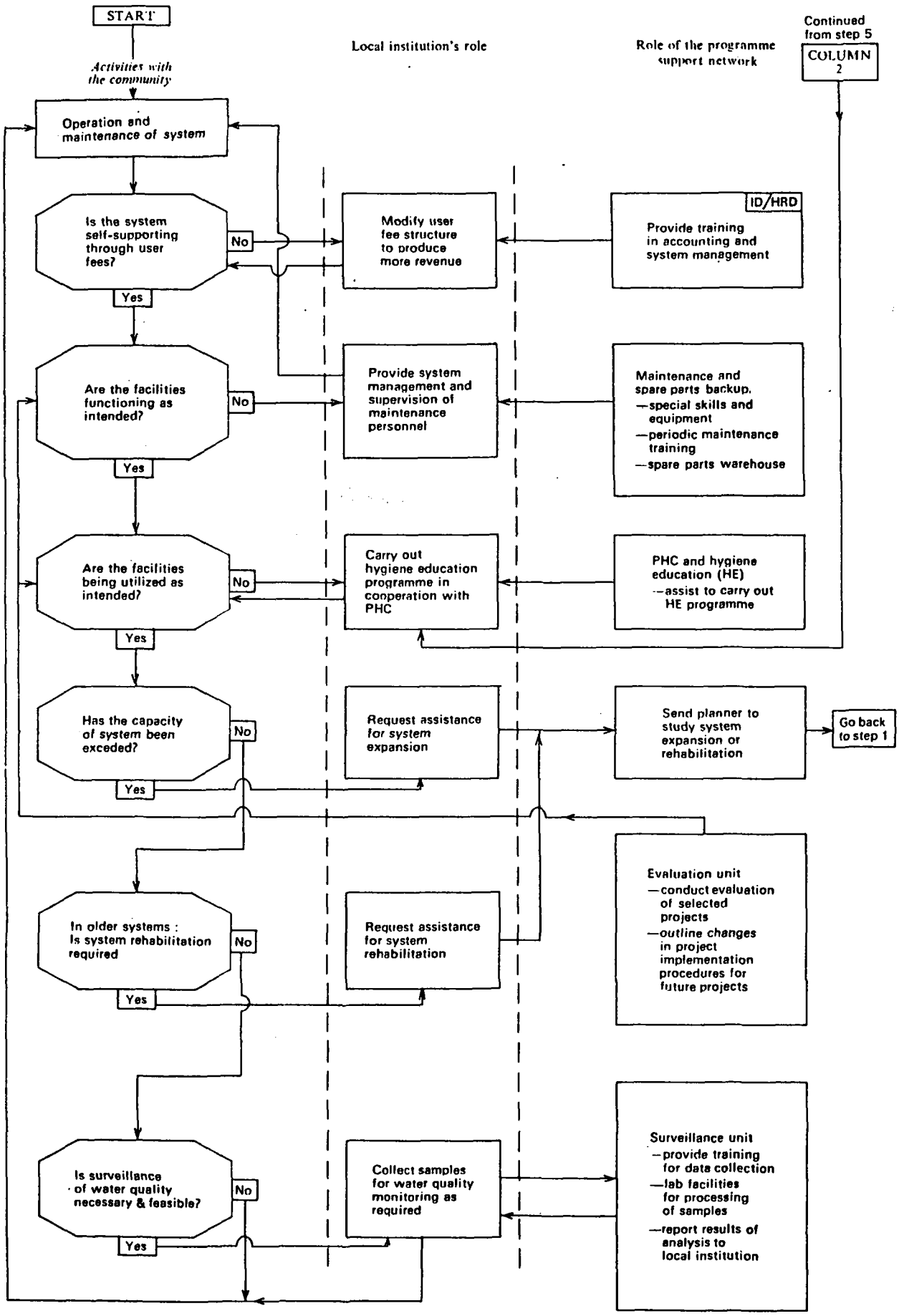
Successful completion has been achieved when:

- The community was kept informed regarding progress during project construction/implementation;
- Construction/implementation has been completed according to the agreed plan, and the facilities are functioning as intended;
- Personnel of the local institutions have been trained for operation and maintenance activities and system management and have the necessary skills to carry out their jobs;
- A follow-up survey has been completed to determine if the facilities are functioning and being utilized as intended; and
- The implementing agency has provided support to the local institution when necessary.

NOW GO TO STEP 6

STEP 6

ESTABLISH LINKAGES WITH PROGRAMME SUPPORT NETWORKS TO ENSURE BACKUP ASSISTANCE WHEN NECESSARY



STEP 6

ESTABLISH LINKAGES WITH A PROGRAMME SUPPORT NETWORK TO ENSURE BACKUP ASSISTANCE WHEN NECESSARY

OBJECTIVE OF STEP 6

- To follow up after the completion of the construction of facilities in order to ensure that support is available when necessary from existing programme support networks.

PARTICIPANTS' ROLES

The Local Institution's Role

The local institution is responsible for management, operation and maintenance. When there is a breakdown in service that cannot be rectified by local manpower or equipment, the problem is referred to the proper back-up support unit, which is a part of the programme support network.

The local institution has the authority to collect user's fees, and manages the resources of the system in such a way that it supports itself on a long-term basis. If user's fees are not sufficient to generate and maintain a reserve for operation and maintenance, then the user's fees should be increased to the required level by the local institution.

If facilities are not being properly utilized, a hygiene education programme is initiated by the local institution (acting as facilitator) with support from existing primary health care units and personnel.

The Role of the Programme Support Network

A programme support network is needed in order to be able to provide backup to the communities and their institutions on request. Such support will require the provision of additional funds and manpower in ongoing programmes. Backup support may be provided in conjunction with other ongoing programmes, such as hygiene education, which may be supported through primary health care units.

Facilities may be required to train management or maintenance personnel under the supervision of the local institutions. Specific training needs should be identified and training curricula developed, such as curricula aimed at training accountants to serve the needs of local institutions.

The programme support network may also include a unit to evaluate projects. This will make it possible to learn from past mistakes, and thus influence the procedures used in future projects.

In some instances, it may be necessary to conduct a surveillance of water quality (or of other parameters) in order to ensure proper quality control. Laboratory facilities may be required at the regional or national level for this purpose. Staff of the local institutions may require training in the collection of water quality samples or other data.

PROCEDURE TO ESTABLISH LINKAGES WITH PROGRAMME SUPPORT NETWORK

System Management, Operation and Maintenance

The routine operation and maintenance[1,2] of the system is carried out under the management and supervision of the local institution, utilizing volunteer or paid manpower. Back-up support may be necessary from programme support networks for spare parts and for training and other activities.

QUESTIONS TO BE ANSWERED BY THE LOCAL INSTITUTION TO ENSURE PROPER SYSTEM MANAGEMENT AND ASSISTANCE WHEN REQUIRED

Is the System Self-supporting Through User Fees?

If not, the local institution is responsible for modifying the structure of user's fees in order that it produces the required higher revenues. The programme support network provides training for institution leaders in accounting procedures and system management.

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[1]For further reference, see: Rural Water Supply Operation and Maintenance, Light Questions to Ask, 1983. WHO, Geneva. Document ETS/83.9.

[2]See Preventive Maintenance of Rural Water Supplies, 1984. WHO, Geneva. Document WHO/CWS/ETS/84.11.

Are these Facilities Functioning as Intended?

If not, the local institution is responsible to carry out corrective measures. The programme support network may supply backup services when required, such as providing special skills and equipment needed for the repair of facilities, training staff in project maintenance, and the provision of stocks of the spare parts where necessary. The programme support evaluation unit[1] should be aware of any chronic problems experienced in non-functioning facilities and determine the causes of these problems in order to suggest changes in future project implementation procedures.

Are the Facilities being Utilized as Intended?

If not, the local institution is responsible for initiating a hygiene education programme in cooperation with available primary health care personnel. The programme support network may include services available from the primary health care and hygiene education units for the training of institution personnel in hygiene education methods. The programme support network may also assist in the evaluation of projects in order to suggest changes in future implementation procedures.

Has the Demand Exceeded the Capacity of the System?

If it has, the local institution is responsible for requesting assistance from the programme support network to investigate the possibilities for expanding the system. The programme support network should send a planner to study the request for augmenting the system, as required.

In Older Systems, is it Necessary to Rehabilitate the System?

If so, the local institution (if already established) should request assistance for system rehabilitation. The programme support network should send a planner to study the request for system rehabilitation as required.

Is Surveillance of Water Quality Necessary and Feasible?

If it is, the local institution should collect samples for water quality monitoring as required. The surveillance unit of the programme support network may assist in providing training of local institution staff in data collection, make available laboratory facilities for the processing of samples, and report results of data analyses to the local institution.

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[1]The following publication may be useful in establishing an evaluation procedure: Minimum Evaluation Procedure (MEP) for Water Supply and Sanitation Projects, 1983. WHO, Geneva. Document ETS/83.1, CDD/OPR/83.1.

STEP 6

SUCCESSFUL COMPLETION

Successful completion has been achieved when:

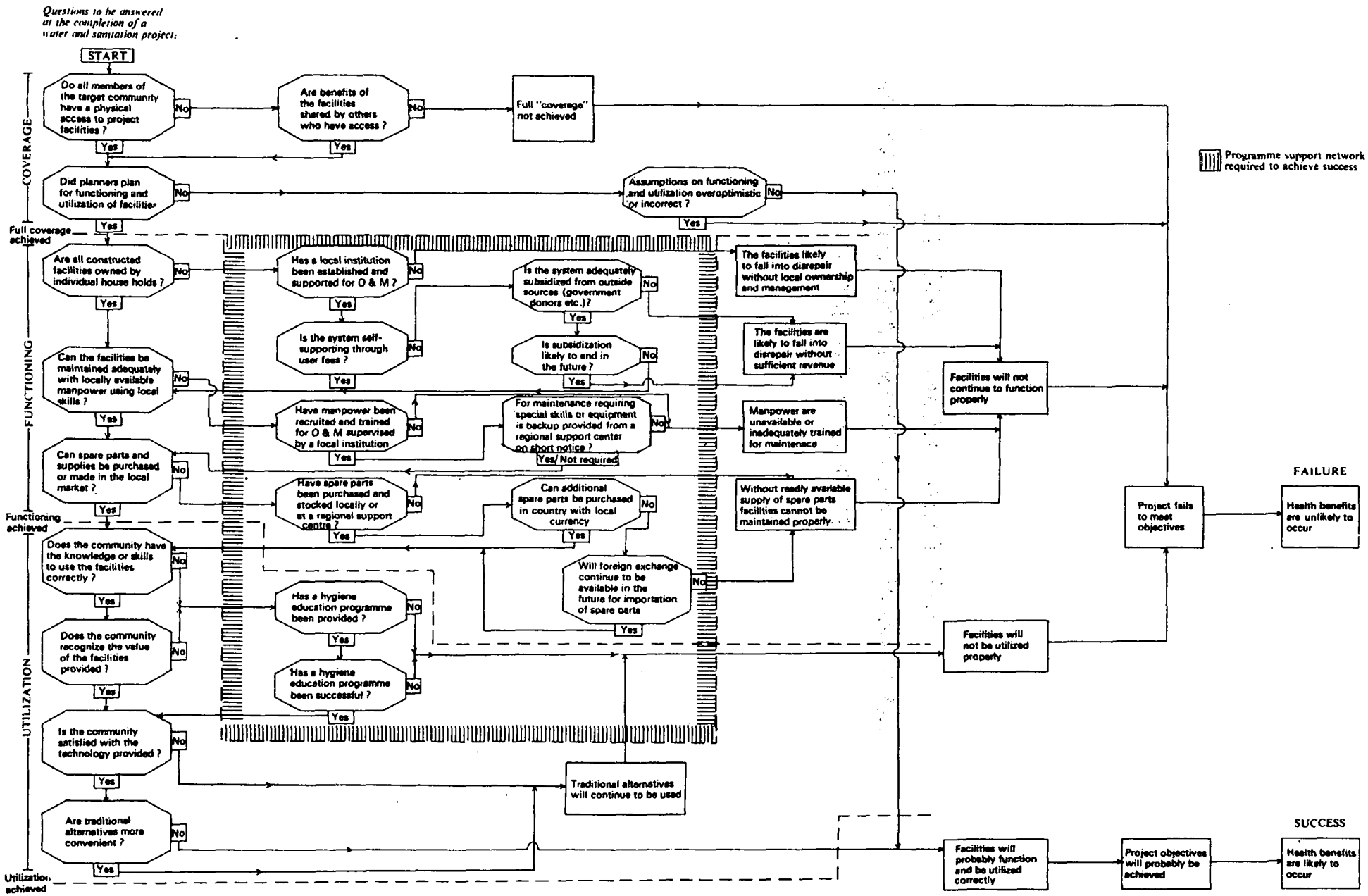
- The operation and maintenance of the facilities are being carried out under the direction of a local institution designated for that purpose;
- The system is self-supporting through the collection of user's fees;
- The facilities are functioning as intended;
- The facilities are being utilized as intended; and
- The local institution has been linked to available programme support networks for future backup support as required.

FINAL NOTE

You have completed the six-step process. Congratulations! The community water supply and sanitation project has an excellent chance for success. Not only has the coverage been achieved, but the functioning and utilization of the facilities have been assured as well.

ENSURING PROJECT SUCCESS:
COVERAGE, FUNCTIONING AND UTILIZATION
SUMMARY CHART

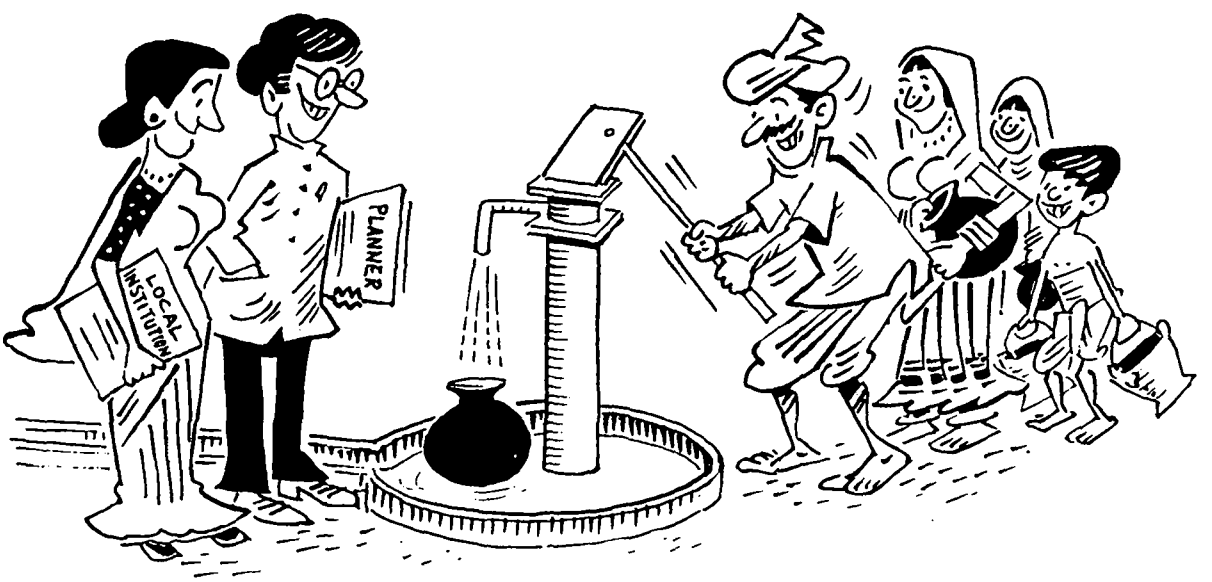
ENSURING PROJECT SUCCESS: COVERAGE, FUNCTIONING AND UTILIZATION



HOW TO IMPROVE RESULTS IN THE FIELD

USE THE GUIDELINES TO OVERCOME MAJOR DIFFICULTIES IN PROJECT PLANNING AND IMPLEMENTATION

It was pointed out earlier in this publication that three major problems had to be overcome in the field if success was to be achieved in community water supply sanitation projects: (1) the conceptual gap between people and planners; (2) the current emphasis on coverage of the population rather than on the continued functioning and utilization of facilities; and (3) the lack of effective backup support to communities, particularly after the completion of the project.



THE SELECTION OF THE PROPER HARDWARE/SOFTWARE MIX CAN ENSURE THAT PROJECTS AND PROGRAMMES GO BEYOND THE MERE COVERAGE OF THE POPULATION WITH FACILITIES, AND THAT FACILITIES WILL CONTINUE TO FUNCTION AND BE UTILIZED FOR LONG PERIODS OF TIME UNDER OFTEN DIFFICULT CONDITIONS.

An appropriate procedure for involving communities can serve to overcome the conceptual gap between people and planners. The six-step procedure that has been outlined can be incorporated into existing programmes to improve the success of projects in the field. In this way, planners will work closely with the people to determine community needs and to develop popular support for actions to meet the needs identified.

The selection of the proper hardware/software mix can ensure that projects and programmes go beyond the mere coverage of the population with facilities, and that facilities will continue to function and be utilized for long periods of time under often difficult conditions. In order to achieve this at the peripheral level where communities are found, local institutions must be established and encouraged to meet needs for water supply and sanitation through incremental improvements beyond traditional alternatives.

Effective backup support to communities after the completion of the project can be provided through properly designed programme support networks. Although projects should be designed to be as self-supporting as possible, programme support networks will be required for back-up support to communities. These networks are particularly necessary for:

- The establishment of local institutions to own and manage (when not all facilities constructed are owned by individual households);

- The training of personnel to carry out operation and maintenance work (when facilities cannot be maintained adequately with local skills);

- The supply of spare parts (when spare parts and supplies for operation and maintenance cannot be purchased or made in the local market); and

- The provision of hygiene education (when the community does not have the knowledge or skills to use the facilities correctly, or does not recognize the value of the facilities provided).

Programme support networks can be dispensed with only when all facilities are to be owned by individual households or when traditional technologies are used. Thus, local institutions are established in most cases to provide local ownership and system management, and are considered a pre-requisite for proper operation and maintenance. A programme support network provides backup to the local institutions as necessary. Back-up support will be required regularly for the first year or two after the establishment of the local institution, but may not be required as frequently after the local institution gains experience and becomes more self-sufficient.

Programme support networks may also usefully develop communication materials to be used as part of the community education and participation process (described in Step 2), and develop training materials and curricula to be used in various training activities as a part of the network support to local institutions (training for system management, operation

and maintenance). The communication of important messages to various media, including radio, television, and print media, is most efficiently done at the programme support level rather than as part of an individual project.

COMPARE EXISTING PROJECT/PROGRAMME PLANNING AND IMPLEMENTATION PROCEDURES TO THOSE CONTAINED IN THE GUIDELINES

A comparison of existing procedures being used in ongoing projects and programmes to those contained in this publication could be a useful starting point in improving the procedures. After making such a comparative study, recommendations could be proposed for the incremental improvement of existing procedures in order to align them more closely to those contained in the guidelines.

It may be appropriate to designate pilot areas for the initial implementation of the approaches suggested here, so that the concepts can be field-tested in limited areas under specific country situations. Programme support networks can be built up gradually, first serving the pilot areas, then larger areas as the procedures are refined, and adapted to meet individual needs.

Financial arrangements for the formation or strengthening of programme support networks will require considerable forethought and innovation; but, once national commitment has been made to the approaches suggested here, bilateral and multilateral donors can be approached for support as necessary. It is far better for sector agencies to concentrate their assistance on the formation of programme support networks that provide backup to local institutions in their attempts to manage their own, self-supporting systems, than to continue to provide water supply and sanitation as a free or heavily subsidized public service to poor rural communities and urban underserved areas.

ORIENT PROJECT PLANNERS AND PROJECT DOCUMENTS TO THE PLANNING PROCEDURES

Planners must be given an orientation in the new procedures if they are to be put into action. The programme support network can provide orientation training for planners in the use of community education and participation and other techniques, as required. It may be necessary to form planning teams at the national or regional level, composed of both technical and social science experts, to spearhead trial efforts using the new procedures. In writing project documents, the necessary activities should be included and an appropriate work schedule provided which gears implementation to the suggested procedures.

SUBJECT HARDWARE TO PILOT TESTING AND CERTIFY IT FOR PROGRAMME USE WHEN IT HAS BEEN SHOWN TO BE "APPROPRIATE"

All hardware items to be used in ongoing programmes (for example, handpumps, meters and standpost valves) should be pilot-tested for reliability and acceptability to users. It can then be certified as "appropriate" for use in ongoing programmes, provided that quality and

SAMPLE BAR CHART OF PRE-PROJECT AND PROJECT ACTIVITIES
(Numbers indicate month of pre-project and project activities)

Item		Pre-project activities						Project activities													
		-6	-5	-4	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Agency identification of project facilitators to conduct needs assessment and community analysis		X																				
Training of facilitators in necessary communication skills as appropriate, and provision of supportive materials			X																			
Needs assessment to determine baseline conditions and ascertain community perceptions				X	X																	
Establishment of local institution for ownership, management, maintenance of facilities and collection of users' fees					X	X																
Orientation training for leaders of local institutions							X															
Selecting the proper hardware/software mix								X	X													
Development of community consensus and commitment										X												
Construction/implementation of the planned hardware/ software mix											X	X	X	X	X	X	X	X	X			
Selection and training of personnel for operation and maintenance, and system management	Selection								X													
	Training										X		X		X		X		X			
Linkup with programme support networks for backup as required																			X			
Communication: meetings with small groups and community as a whole	Small groups			X	X		X	X	X		X	X	X	X	X	X	X	X	X			
	Community					X				X												
Evaluation of community response to project activities																			X			

spare parts can be assured. Programme support networks should be developed to ensure the supply of spare parts for appropriate hardware and to allow for eventual national manufacture of imported items where possible. Catalogues of standardized components and spare parts can be produced for national use. Programmes for the community-level manufacture of some items (for example, latrine slabs or rainwater tanks) should be encouraged through the provision of moulds and the training of trainers in their use. Designs can be standardized after the pilot testing and refinement of such items in limited areas to reflect the preferences of the users.

OTHER ASPECTS

Programme support may also necessitate the establishment of financing arrangements, including a revolving fund whereby local institutions can borrow money to finance the capital cost of water supply and sanitation improvements. Loans can be paid back as required through the collection of user's fees. Such revolving funds could efficiently utilize funds available in government programmes, and promote community self-sufficiency and local responsibility. Bilateral and multilateral donors can be encouraged to sponsor or participate in such programmes.

It may also be necessary to provide office space for local institutions in order to provide a focal point for water supply and sanitation activities. An office constructed as a part of a project can collect user's fees and receive complaints when the system is not operating as expected. Appropriate transport and logistics arrangements are other aspects to be incorporated into programme support networks.

REDUCE SECTOR FRAGMENTATION THROUGH JOINT SUPPORT TO PROGRAMME SUPPORT NETWORKS

Programmes for water supply and sanitation in many developing countries are fragmentated in the sense that more than one agency is often responsible for the implementation of projects in the field. The formation or strengthening of programme support networks offers a good opportunity to combine the efforts of several agencies, and thus avoid further sector fragmentation. Programme support networks could be centralized under an existing agency, or a separate agency could be formed for the purpose. It remains for country experiences in this area to determine successful modes of implementation and to demonstrate feasible approaches.