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Community Education and Participation in the Slow Sand Filtration Project

Report of an International Meeting
held in Voorburg (The Hague),
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INTERNATIONAL REFERENCE CENTRE
FOR
COMMUNITY WATER SUPPLY AND SANITATION

COMMUNITY EDUCATION AND PARTICIPATION
IN THE
SLOW SAND FILTRATION PROJECT

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TABLE OF CONTENTS

| | <u>Page</u> |
|------------------------------------------|-------------|
| Preface | 5 |
| Introduction | 7 |
| 1. Summary of proceedings | 9 |
| 2. Basic approaches | 13 |
| 3. Implementation strategies | 19 |
| 4. Organizational requirements | 25 |
| 5. Outline programme of activities | 29 |

ANNEXES

| | |
|---------------------------------------------------|----|
| 1. List of participants | 35 |
| 2. List of objectives | 37 |
| 3. Summary of keynote address | 39 |
| 4. Summaries of country presentations | 43 |
| 5. List of background papers | 51 |
| 6. Checklist: disease transmission | 53 |
| 7. Checklist: tasks of the community worker | 57 |

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stated policy of the World Health Organization.

PREFACE

In order to promote the large scale application of slow sand filtration for community water supply in developing countries, a number of countries have developed the integrated research and demonstration project on slow sand filtration, in close collaboration with the IRC.

The project comprises applied research programmes, demonstration projects and the exchange of information and the transfer of knowledge and experience as a preparation of large scale implementation programmes. All these activities are implemented in and by the developing countries themselves.

During the first phase of the project applied research programmes have been implemented by Research and Development institutes, in close collaboration with executing agencies in 5 countries, viz. Ghana, India, Kenya, Sudan and Thailand.

Apart from gaining experience with the slow sand filtration process, the specific objective of these programmes was to develop appropriate criteria for the design, construction, operation and maintenance of slow sand filtration schemes under the local conditions.

At present in the second phase of the project the emphasis is placed on the implementation of demonstration programmes. Apart from the participating countries mentioned above, Colombia, Jamaica also joined the core group.

The objective of these programmes is to test and demonstrate alternative implementation strategies for large scale slow sand filtration programmes under different conditions.

The programmes therefore aim at:

1. the development, testing and evaluation of various implementation strategies for slow sand filtration projects at local level, by the implementation of a number of local demonstration projects on the basis of community participation (two to four local projects per country)

2. the development, testing and evaluation of models for the organizational and institutional infrastructure at national and local level, required for the repetition of these projects within the scope of large scale implementation programmes.

The local demonstration projects are implemented in selected villages ranging from appr. 1.500 - 8.000 inhabitants. The project is developed in an integrated way giving due attention to the technical, organizational, social and cultural components. An active involvement of the community in all stages of the project is striven after through education and participation activities. The general responsibility for the programme in each country lies with a Programme Managing Committee in which the various disciplines and agencies involved in the programme are represented.

This specifically concerns:

- water supply agencies at national and regional level
- health service agencies at national and regional level (including health education)
- community development agencies at national and regional level
- national research and development institutes in the field of public health and environmental engineering.

INTRODUCTION

The time is past when services such as water supply were considered simply as service to a population. It is now recognized that the active involvement of the community is necessary if services are to meet needs effectively and efficiently. This is especially true for rural communities whose particular needs cannot be adequately appreciated or foreseen by planners and administrators without close acquaintance with local circumstances. Services should be planned and provided in collaboration with the local population. Of course, this does not mean that national governments should reduce their commitment to providing services, on the grounds that local communities can take over the responsibility. On the contrary, it is now increasingly recognized that the provision of basic services for the entire population is a national responsibility of the highest priority.

The awareness of this responsibility with regard to water supply has led to the adoption of the goal of "Safe water for all by 1990" by the United Nations Water Conference held in Mar del Plata, Argentina, 14-25 March 1977. Slow Sand Filtration is a technical means which can make a significant contribution towards attainment of this goal. Not only is the capital cost low, requiring a minimum of imported equipment, but construction and maintenance are not likely to overstrain the skills which are locally available or can be relatively easily acquired. The object of the Slow Sand Filtration Project is to test and demonstrate these characteristics in the circumstances prevailing in the countries which participate in the project. These represent a wide spectrum of developing countries. For this demonstration to be effective it is important that full advantage should be taken of the possibilities of community involvement in the experimental projects.

This is necessary, in the first place, in order to see how far the work in installation and operation and maintenance of water supply systems which use slow sand filtration can be carried out by local people, given their level of skills. In the second place, it is important as a test of the capacity for collaboration between

national agencies and local countries. Finally, it is required if the purification of the water supply is to have the intended substantial impact on health, since improved health requires not only a clean water supply, but also improved water use, personal hygiene, and sanitation practices. Practices can best be influenced through community involvement - indeed it is doubtful whether they can be essentially influenced without it.

For these reasons, a Community Education and Participation Component has been included as an integral part of the Slow Sand Filtration Project.

In each of the participating countries, therefore, contacts were established with the National Health Service Agency. Following initial consultations between these agencies and the Water Supply Agencies involved in the project, a start was made with the development of specific programmes for community education and participation directed to the villages where the Slow Sand Filtration Demonstration Plants will be established. In order to support the set-up of these programmes a general "Outline on the Community Education and Participation Component of the Slow Sand Filtration Project" has been prepared by Dr. Alastair White under an agreement with the IRC. This general outline and the outlines for the country programmes as prepared by the participants were the working documents for the meeting reported here.

1. SUMMARY OF PROCEEDINGS

The International Meeting on "Extension and Community Participation in the Slow Sand Filtration Project" was held in Voorburg (The Hague) from 29th May till 2nd June 1978. The meeting was attended by representatives of National Health Service Agencies and Water Supply Agencies which are responsible for the Community Education and Participation Component of the respective country programmes.¹⁾ The purpose of the meeting was to enable the participants to become acquainted with one another's programmes and to establish the greatest possible harmonization of these programmes, while recognizing that each country has its own socio-cultural and economic conditions and organizational structures, to which the national programmes will have to be adapted.²⁾

The agenda of the meeting provided for presentations by the participants, for plenary sessions, discussions on the basic topics of the programmes and for discussions on the plans of action which are to result from the basic ideas. A keynote address was directed to the meeting by Dr. Ir. N. Röling of the Department of Extension Education, Agricultural University, Wageningen, the Netherlands.³⁾

In their presentations the participants gave both a brief account of the status of Community Education and Participation in the field of Water Supply and Sanitation in their countries and an introduction on the set-up and implementation of the specific programmes for the Slow Sand Filtration Project.⁴⁾

On the basis of the presentations by the participants and of the document "Outline for the Community Education and Participation

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- 1) The list of participants is given in Annex 1.
 - 2) The list of objectives of the meeting is given in Annex 2.
 - 3) A summary of the keynote address by Dr. Röling is given in Annex 3.
 - 4) The summary of presentations are given in Annex 4, while the papers presented by the participants are listed in Annex 5.

Component of the Slow Sand Filtration Project",⁵⁾ the meeting decided to discuss the following basic topics:

- BASIC APPROACHES, particularly the concept of participation and the programme emphasis within the participation component;
- IMPLEMENTATION STRATEGIES, regarding among other things the community worker and his supervision, the role of community authorities and groups, the information the community worker brings to the community and the information needed about the community and the existing water supply, tasks in operation and maintenance of the water supply, methods of achieving behavior changes and evaluation of the programmes;
- ORGANIZATIONAL REQUIREMENTS, viz. administrative coordination, financial aspects and training implications.

A summary of the discussions on these topics is given in the Chapters 3, 4 and 5 of this report.

Following the discussions on the basic topics, the meeting developed an outline for the programme of activities on community participation in each of the countries, both in working groups and in plenary sessions. The outline comprises the identification and general planning of the various activities relating to:

- the promotion of understanding and commitment at national and local level;
- the programme at village level;
- the programme support at other levels.

A summary description of the outline for the programmes of activities is given in Chapter 6.

Finally, the meeting discussed the on-going literature study on Education and Participation in Community Water Supply and Sanitation Programmes in Developing Countries".⁶⁾

5) See Annex 5: Background paper 6

6) See Annex 5: Background papers 8 and 9

Apart from the specific recommendations for activities in the context of the Slow Sand Filtration Project, the meeting also discussed and adopted the following, more general recommendations

- to include a specific Community Education and Participation Component in all drinking water supply and sanitation programmes interlinked with national primary health care plans
- to establish as a common feature of water supply and sanitation development a formal collaboration between the Water Supply Agency and the Health Service Agency, at all levels. At the local level the coordination will be specifically related to particular water supply and sanitation services, whereas at national level the relationship will be more general and designed to encourage a meaningful coordination of the macro-planning of both agencies;
- to use the Slow Sand Filtration Project to identify potentially effective links between the Health Service Agencies and the Water Supply Agencies which can benefit Water Supply and Sanitation;
- to continue the literature study on Community Education and Participation but with a more narrowly defined scope, i.e. especially where community water supply and sanitation are concerned.

2. BASIC APPROACHES

THE CONCEPT OF PARTICIPATION

Community participation means the active involvement of all members, or at least all sections of the population, in the various stages of the introduction of the development in question - in this case the planning, design, installation, operation, maintenance and use of a new water supply, as well as in the process of behaviour changes in relation to sanitation and personal hygiene. Active and successful community participation in this enterprise can in many cases be expected to lead to a growth in the community's capacity for self-reliant cooperation, which will carry over into other developmental activities.

In the area of health education, the aim is to bring about voluntary changes in practices. People must feel that it is in their own interest to change. This implies not only that it is useless just to tell people to change, but that in explaining why it is in their interest the community worker must be thoroughly familiar with the problems faced by the people. Communication from the people to the community workers, as well as in the other direction, is essential. The best way of providing a continuous two-way communication is through community participation in the process of education itself. This provides for a constant interaction in which information regarding problems and ideas about solutions pass in both directions. It can also have the effect that the example and influence of some community members and the authority of the community as a whole may be brought to bear on the actions of all. When people decide together to adopt a change, there is a good chance that they will do so successfully.

The likelihood of achieving a significant effect on health practices through community participation can be expected to be much greater if the community has also participated in the planning and installation of the water supply. It will be possible to develop a greater interest and deeper understanding of both clean water and of the complementary behaviour changes which are required for the prevention of water related diseases.

In the first place, community participation is essential for community acceptance of the new water supply. It is also necessary to ensure correct use and proper maintenance, to avoid damage, waste, or contamination of the supply and to promote its hygienic use after delivery. To be meaningful, consultation with the community must involve the presentation of alternatives. It should also involve education to enable those consulted to make a reasoned choice.

PRACTICAL IMPLICATIONS OF THE PARTICIPATORY APPROACH: PROGRAMME EMPHASIS

Optimal Community Participation

General goals. It was agreed that community participation should form a central feature of the Slow Sand Filtration Project, both to ensure its successful implementation and to foster the growth of the community's capacity for self-reliant cooperation, which may be extended into other fields.

Community involvement in planning and design of the supply.

The process of consultation with the community must begin before any steps are taken to install the slow sand filtration system, and be developed in parallel with technical engineering work. The health services agency must therefore be involved in the planning of the project from the very beginning, well before the water supply system is introduced.

Involvement of the whole community. As far as possible, community participation should involve consultation with all members of the community. In some cases it is necessary to work primarily with leaders of higher and of lower strata (where communities are divided in this way), or of other groups. In any case, information on the proposed project, including the terms and conditions, the timing, etc., should be made available to the whole community. If leaders are inclined to keep such information to themselves, as may happen in certain cases, efforts must be made to ensure it reaches the others.

Community involvement in construction. The use of communal labour for the construction of the water supply system will be appropriate in some countries, but not in others. For instance, while Colombia has adopted self-help labour schemes, India uses contracted labour. Some participants at the meeting indicated that this was an open question which could be explored further, since there are advantages in terms of the community's commitment when the circumstances make the self-help approach a feasible one.

Community involvement in operation and maintenance. Maintenance of the supply is only partly dependent on community participation. It must be carried out with the collaboration of the community and the Water Agency. The meeting considered it generally desirable that the operator should be a community member, but not necessarily appropriate in all circumstances.

In some countries it may be appropriate that the operator's role is combined with that of community health worker.

Community involvement in discussing and bringing about behaviour changes. It was agreed that the basic approach to health education to be taken in the Project would be through community participation. The approach involves consultation with the local population concerning the appropriate behavioural changes and the ways in which it may be feasible to facilitate and bring about those changes.

Use of local resources. Community participation in the sense of maximum use of local labour, particularly unskilled labour, is desirable - but unlikely to require any special decision in most cases. Any opportunities should be taken to use and to develop other local resources, such as skills, materials, organizational capacity, etc.

Dialogue and feedback: a balance of community control and external guidance.

The community worker as a guide and stimulator of dialogue. It is particularly important to emphasize the two-way flow of

information in the community worker's approach. His role is not to teach but to explore the needs and conditions of the community, together with the community members. The training of the community worker should not only focus on the generation of expert knowledge, but even more on developing the skills required for stimulating and guiding the discussion and subsequent action by the community.

The importance of the knowledge and views of community members.

Community members are the only people who have an intimate knowledge of their own situation, including the larger or smaller difficulties they would face in taking a course of action proposed, like changing health practices. Their knowledge and their views will play as important a part in the process of deciding on the action to be taken, as will the expert knowledge of the health educator.

Ensuring the benefit of all sections of the community

The poorer sections. Steps should be taken to ensure that the benefits of the projects reach the entire community. It may well be that the financial provision should include a subsidy for poorer sections of the community.

Women. Women, in their capacities of mothers and users of water, should be involved as much as possible at every stage in the planning, implementation, and evaluation of the projects. Their contribution is likely to be particularly important for the design of a water supply which will meet their needs as users, and in the discussion of health practices and the practical problems involved in changing them.

3. IMPLEMENTATION STRATEGIES

THE COMMUNITY WORKER AND HIS SUPERVISION

"Community work" rather than "extension"

The role of the project's representative in the community, who will generally be a staff member of the health services department responsible for health education, is a central one in the implementation of the community education and participation component of the project. It was considered by the Meeting that the nature of the role is better expressed by the term "community worker" than "extension agent". It involves more than the extension of services to the community. However the nomenclature will vary from country to country.

The tasks of the community worker

The list of tasks of the community worker as given in Annex 7 will be taken as the basis for the planning of the community work (some points in the list, 8 and 9 in particular, will not be applicable everywhere). Some countries may combine the role of the community worker in the present project with that primary health care worker. If this is done, careful attention should be paid to the relationship between the size of the community and the range of the tasks demanded, in order that the workload should correspond with the time they will have available.

Supervision

Adequate support and supervision of the community worker is essential. Given the innovative nature of the approach, it should go beyond the normal supervision in regular programmes. On-site discussions, at frequent intervals, should, for instance, go into considerable detail on the methods being employed to achieve each objective. (For more detailed suggestions on this question, see Background paper no. 6, section 6, pp 47-48)¹⁾

1) see Annex 5: List of Background papers

THE ROLE OF THE COMMUNITY AUTHORITIES, ORGANIZATIONS AND AD HOC GROUPS

The role of community authorities in administration

The degree of control and financial responsibility of community authority will depend on the circumstances in each country: it will in some cases be a matter for central authorities, while in other cases community authorities may have an important role.

The mobilization of existing organizations

Every effort should be made to mobilize existing organizations of community members in support of the project. This includes all types of groups, clubs, and divisions (e.g. ward organizations) within the community, and home-town associations of community members living elsewhere, if these exist.

The formation of ad hoc groups of community members

Community work will involve the formation of health committees (or similar bodies, as appropriate; where they do not already exist, general development committees might be formed). They should be representative of the community, and therefore generally elected; but it may be necessary to ensure that women or other specific groups are represented. A working committee, which will discuss the details of health-related practices, should not consist simply of the most senior and respected members of the community. It may be appropriate to form an "honorific" main committee, and a working sub-committee.

On the aims of the project

The community worker should inform the whole community in full, the proposals of the project, its purposes and detailed plans, including the water rates or other financial obligations which the population will be expected to bear. These matters must be fully understood before information on community acceptance can be meaningful.

On the need for an improved water supply

It is necessary to explain the need for an improved supply if it is not already an expressed need. This may involve demonstrating the pollution of the existing supply. In some cases the felt need will be for a more accessible supply, and the need for purification should then be explained as well.

On disease transmission

The main element of knowledge the community worker brings for improvement of health practices is the knowledge of the processes of disease transmission, especially in relation to water and sanitation.

The community worker should have a sound knowledge of these processes and should impart this knowledge wherever feasible rather than give prescriptions for actions only. In any case, the dialogue in the community concerning the actions to be taken should be based on a thoughtful use of this knowledge rather than on a set of prescriptions decided outside the community. Annex 6 provides a summary of the information on water-related disease transmission which the community worker should bring to the community. Information on other health related topics should also be given.

Technical information on the water supply system

The community worker should understand the basic technical requirements for operation and preventive maintenance of the water supply, including the basic principles of the functioning of a slow sand filter. The health committee or other group of active collaborators should also be acquainted with this basic information. It will encourage the sense of community responsibility for the supply and enable the community to play a part in the supervision of the operator.

INFORMATION NEEDED ABOUT THE COMMUNITY AND THE EXISTING WATER SUPPLY

Information on the community's response to the project goals

It is necessary, for the planning of the programme, as well as for evaluating its results, to establish first the community's

acceptance of the new water supply and its responsiveness to the encouragement of participation. For this purpose, surveys of attitudes to water supply and of the degree of cooperativeness should be made. Subject to confirmation, the meeting agreed that the methods proposed for carrying out such surveys (Background Paper 6, pp. 20-23) are appropriate, though the questions asked will vary in different countries, and all questionnaires should be carefully prepared and pre-tested.

At all subsequent stages, feedback on community views and problems must be continually sought and appropriate action taken.

Information on community social structure

Data should be gathered on the community's social structure, particularly in those communities where significant social or economic differences between community members exist. The form of enquiry will vary from country to country, but the approaches mentioned in Background Paper 6, pp. 24-25, and in Background Paper 3, Appendix I, pp. 2-4 (for India), are noted as possible models.

Information on water quality and the points where contamination occurs

Tests on water quality are desirable for two educational purposes. First, testing of the existing supply can demonstrate the need for an improved supply. Secondly, tests can demonstrate contamination between the point of delivery of the new supply and the point of ingestion. The importance to be attached to water tests will vary, however according to circumstances: it will be greater, for instance, if the supply is through standposts rather than house connections, and if it is unchlorinated. Logistic feasibility and the expense of testing water quality have also to be taken into account.

ROLES IN OPERATION AND MAINTENANCE OF THE WATER SUPPLY

Responsibility for operation

In view of the importance of the community's commitment to the water supply, the selection, remuneration, supervision and control

of the operator(s) should, wherever possible and appropriate, be a matter for the local community, except for technical supervision which must be a responsibility of the water agency. It is recognized that this will not be possible everywhere, but the involvement of the community in the operation of the supply should be sought in any way feasible in the local circumstances.

Links between operation and other tasks

It is in principle desirable that the operator(s) should play a role in the health education of the community, hence their training and orientation should give them the necessary awareness of the role of clean water in preserving health.

In some cases it may be feasible for the role of operator to be combined with that of community health worker.

This will depend, among other things, on the workload involved in operation itself, and the number of persons trained and hired as operators. It may, for instance, be suitable to train two persons in operation, one of them as the regular operator, the other as manager, able to take over actual operation when the need arises. In that case the manager could also be the community worker responsible for health education and community participation in the project, or could be the general primary health care worker, charged in national plans with bringing primary health care to rural communities (most of the participating countries have such plans).

Regular maintenance

The maintenance carried out by the operator should be complemented by regular visits by technical maintenance staff, say every 3-4 months. The importance of preventive maintenance cannot be over-emphasized.

METHODS OF ACHIEVING BEHAVIOURAL CHANGE

Community involvement in planning the educational approach

The content and methods to be adopted in the approach to behavioural change in the community should be decided in consultation between the community worker and a representative group of community members.

This dialogue should not be limited to the first stages of the planning exercise. It should continue when the detailed plans are worked out and implemented by health education workers. In this way necessary changes in emphasis can be made based on the experience of and feedback from the community.

Making behaviour change physically easier

Any policy to persuade people to change their behaviour should, wherever possible, also provide facilities which make it easier for them to do so. The Meeting considered, in fact, that this element of facilitation was the most important condition for improved health practices. Full attention should therefore be paid to the need for help in obtaining materials, supplies, etc.

Other methods for achieving behavioural change

Apart from the central importance of dialogue and discussion, a judicious mix of other methods and techniques should be employed, as discussed in Background Paper 6, section 5iii (pp. 27-36). They would probably include individual and group learning and discussions, the use of local art forms (e.g. drama presentation), and demonstrations. A community self-survey on health and sanitation would be a useful way of deepening interest and understanding. Other ways of increasing motivation were mentioned. It was recognized that in a number of settings the use of prestige as the principal lever can be of great help. People will do for status reasons what they might not do out of pure health considerations.

Teaching aids

If the community work should require educational aids and materials, these should preferably be produced locally. The Meeting agreed that concern with teaching aids should not be allowed to take up too much time or effort at any level, to the detriment of other educational approaches, since it is face to face communication which is essential.

It might not, for instance, be appropriate to make a film for the programme. The more expensive aids should generally be avoided, but a microscope can be used for demonstration purposes.

EVALUATION

A practical method

The resources and purposes of the project do not allow for an evaluation based on a controlled experimental approach. Data will not, in general, be gathered in communities other than those taking part in the experimental programme. Similarly, it may be difficult to prove a health impact of the project within a short period, though in cases where advantage can be taken of relevant data collected for other purposes, some conclusions may be drawn as to the impact. The method of evaluation will therefore concentrate on assessing the progress of implementation and judging to what extent the immediate goals (health-related practices, etc.) are achieved, rather than on measuring the ultimate results (improved health, a higher stand of living).

Evaluation as an ongoing process to improve implementation

Each step in the implementation of the programme should be evaluated within the perspective of the total programme, as a continuous activity to provide feedback for the improvement of the programme, modifying any aspect requiring modification. In this process the community should be involved. The feedback from the community is an essential element in optimizing the effectiveness of the project.

Overall evaluation of the process of implementation

This will be done on the basis of the assessments of each step in the process. Suggestions as to the method to be followed are given in Background Paper 6, sections 6i and ii. It should include an assessment of the degree of two-way communication achieved.

Evaluation of the effectiveness of the implementation strategy

The evaluation traces the effects of the community work by measuring:

- a) awareness among the population of the facts of disease transmission, and of the recommendations for hygienic practices;
- b) acquisition or installation of new equipment for sanitation or personal hygiene;
- c) reported and observed practices in relation to sanitation and personal hygiene;

- d) degree of contamination at various points between collection and ingestion, in relation to health practices (where feasible).

Evaluation of spread effects

As assessment should also be made as to whether the community participation in the project has facilitated other developments or has served as a springboard for new activities.

4. ORGANIZATIONAL REQUIREMENTS

Administrative coordination

A single agency should have full responsibility for the Community Education and Participation Component of the project, but there should be constant dialogue between the health service agency and the water agency, both at higher and lower levels. Coordination is difficult, and one way of providing for it is through joint committees.

The possibility may be considered of establishing a unit within the water agency, responsible for community relations in liaison with the agency responsible for health education. It should not duplicate the work of the latter, nor have a merely general public relations role, but be concerned with the promotion of water supply and use in the context of community development.

The slow sand filtration project may well serve as an opportunity for developing the coordination between the agencies, which would be a valuable gain for other purposes. Even the informal contacts established may be of use. The health service agency may, for instance, be able to inform the water agency which communities have particularly severe health problems related to their water supply. This will be important information for a "worst first" supply policy.

Liaison between agencies at local level

At local level, project implementation requires not just regular dialogue but a fully integrated policy. This implies a local (perhaps district) coordinating committee. Such a committee might, where appropriate, work under the chairmanship of the local authority. It might then well extend its functions to other developmental activities, with representation of the appropriate departments.

Provision for detailed programming of tests, activities and logistic requirements

The meeting took note of the useful suggestions regarding detailed programming in the background paper no. 7, prepared by Ms. Hermione Lovell of the Institute of Development Studies, Sussex: "Planning

and Evaluation of a Community Extension Programme: Health Extension in Phase 2 of the Slow Sand Filtration Project".

FINANCIAL ASPECTS AND RECORDING OF COSTS

The provisions for financing vary in the participating countries, and were not discussed in detail. It is important from the point of view of evaluation, in order to assess replicability, that full costs should be recorded, including those which are hidden in other budgets, e.g. the use of staff time and transport. This implies that detailed records should be kept, for instance on the time spent on the project by supervisory personnel during implementation.

TRAINING IMPLICATIONS

Agency staff, especially community workers

The project design is innovative, and there should be an introduction course for all those involved. The need for training at both higher and lower levels of staff should be recognized. For the community workers, training in the techniques of dialogue and the stimulation of community participation should itself be conducted through such techniques of dialogue and participation, since trainees will teach in the way they were taught. Even so, it may be difficult for the community worker to use this approach. Senior project organizers must pay frequent visits to project sites, to familiarize themselves with the conditions and to offer support and informal training to the personnel.

Operators

Training will have to be provided for more than one operator at each site, to cover contingencies, even if there is no immediate need for more than one regular operator.

Whether or not the operators are also given the functions of community worker or health worker, they should be trained to assist in the health education of the community.

Community authorities, committee members etc.

Training should be offered to those community leaders who are particularly concerned with the project. It should include health topics and also technical and managerial information about the water supply system. This is necessary if they are to understand its principles and play a part in the supervision of the operators (a part they should play, both because external supervisors cannot be present on a permanent basis and because it will be an expression of community commitment to the project).

5. OUTLINE PROGRAMME OF ACTIVITIES

The country programmes for the Education and Participation Component of the Slow Sand Filtration Project will consist of a series of coordinated activities at various levels. A detailed planning of the programme will, therefore, comprise the identification of these activities providing a record of:

- What is to be achieved and why?
- How will it be achieved?
- To what extent it is to be achieved?
- When is it to be achieved?
- By whom is it to be achieved?
- What means are necessary to achieve it?

Such a detailed planning will, however, be largely determined by the specific conditions and organizational structure in the participating countries and no universal guidelines can be given.

The meeting categorized the actual programme activities under two main headings:

- Programme activities at village level.
- Programme support activities at other levels.

The time sequence of activities is an important feature. Rough planning distinguishes between a preparatory phase, an implementation phase and an evaluation phase.

In view of the innovative character of the project and the close liaison needed between the various agencies involved in the country programmes, the meeting strongly recommended that a series of initial activities be included in the programme under the heading "Creation of understanding and commitment at national and local level".

CREATION OF UNDERSTANDING AND COMMITMENT AT NATIONAL AND LOCAL LEVEL

- Initial contact and consultations between the Water Supply Agency and the Health Service Agency;

- Commitment on basic approaches for the Community Education and Participation Component in the Slow Sand Filtration Country Programmes.
- Commitment on integrated implementation strategies, for the Community Participation and the Technical Engineering Component;
- Evolvement of broad guidelines for the programme of activities including objectives, methodology, evaluative procedures, time phasing, resource allocation, etc;
- Appointment of Project Management Committee at national level;
- Appointment of Coordinating Committees at local level;

PROGRAMME ACTIVITIES AT VILLAGE LEVEL

Preparatory phase

- Establishment of presence by the Health Service Agency;
- Establishment of working relations between community worker and technical engineering staff;
- Consultations/dialogue between the community worker and community members, village authorities, village groups;
- Set-up and implementation of surveys about the community and the existing water supply situation,
- Decision making process for participation of the community in the Slow Sand Filtration Project.

Implementation phase

- Mobilization of community development organisations. Strengthening/ establishment local Project Committee or Group;
- Mobilization of communal resources;
- Implementation of educational programme (group discussions, demonstrations, etc.).

Evaluation phase

- Record keeping and reports according to the plan for the educational programme. This should help in concurrent evaluation and give leads for periodic and terminal evaluation. It can also give rise to modifications in the plan.

PROGRAMME SUPPORT ACTIVITIES AT OTHER LEVELS

Preparatory phase :

- To arrange for instruction/training of staff of collaborating agencies at various levels (district, health centre, village);
- To arrange for additional training of community workers;
- To arrange for additional training of plant caretaker (s)
- To assist in the preparation of specific surveys;
- To assist in the preparation of an educational programme for each village involved, in collaboration with the community itself and the community worker:
- To assist in the preparation, and if necessary procurement of appropriate educational aids/materials;
- To take care of the administrative coordination and financial arrangements (at various levels);
- To design recording procedures;
- To make a time phasing schedule and to prepare for periodic reviews at health centre level;
- To prepare for logistic arrangements.

Implementation phase :

- Continued support and supervision of staff of collaborating agencies concerned with the implementation of the education programmes;
- Periodic progress review of the programme at various levels;
- Continued administrative and organizational coordination of the implementation activities by the agencies involved in the project.

Evaluation phase :

- Evaluation and appraisal of the community educational and participation component of the Slow Sand Filtration Project.

ANNEXES

LIST OF PARTICIPANTS

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LIST OF OBJECTIVES

- To present the proposals for the country programmes on Community Education and Participation in the Slow Sand Filtration Project;
- To review and discuss the basic topics of these programmes and particularly the basic approaches implementation strategies and organizational requirements;
- To agree on a coordinated approach regarding the planning, preparation, implementation and evaluation of the Community Education and Participation Component and the Technical Engineering Component of the country programmes;
- To consult on a harmonization of the Community Education and Participation country programmes on the Slow Sand Filtration Project and to draft a plan of action accordingly;
- To formulate recommendations for further activities and studies related to the Community Education and Participation Component of the Slow Sand Filtration Project.

KEY-NOTE ADDRESS BY DR. IR. N. G. RÖLING, DEPARTMENT
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There is a great need for training in methods for the communication between experts in various fields and the people and communities they will serve.

In agriculture, for instance, a graduate agronomist may be appointed after a four-year training to a job which requires him to teach others how to farm, without having received more than a few hours' coursework in the skills of passing on his knowledge of farming techniques.

Communication is difficult, and a large production potential is neglected because knowledge reaches only a few of those who could potentially take advantage of it.

In extension work with adults, the aim is to influence voluntary decisions (unlike with schoolchildren, who can simply be told what to do). Even in the most authoritarian situation it is impossible to force a farmer to plant a tree, and quite impossible to enforce rules of sanitation and personal hygiene. Before they will wash their hands, people must (1) be able to (2) know the reasons why they should, (3) want to and, of course, (4) clean water must be available. Even extension workers themselves will only work voluntarily.

Thus, people must feel it is in their interest to change their behaviour. It is often too readily assumed that it is just the knowledge of techniques which is lacking, or that mere exhortation is enough.

Family planning campaigns have failed, for instance, where they have concentrated on the message "thou shalt have only two children", rather than making a study of people's problems and the reasons why they may prefer to have more.

What is needed is an ends-based rather than a means-based approach: one should not simply assume that the problem for which a solution is promoted is known. The real problem or bottleneck may be quite different. For instance, if a craft pottery industry is in decline, it may be quite mistaken to provide pottery wheels on the assumption that this improved technology will solve the problem. The real problem might be quite different - for instance, the competition from a factory making cheap aluminium utensils. Or the situation may be more complicated, with a range of problems among the various individual potters. Communication at all levels is essential in order for the problems to be identified. Only after this identification a programme can be planned.

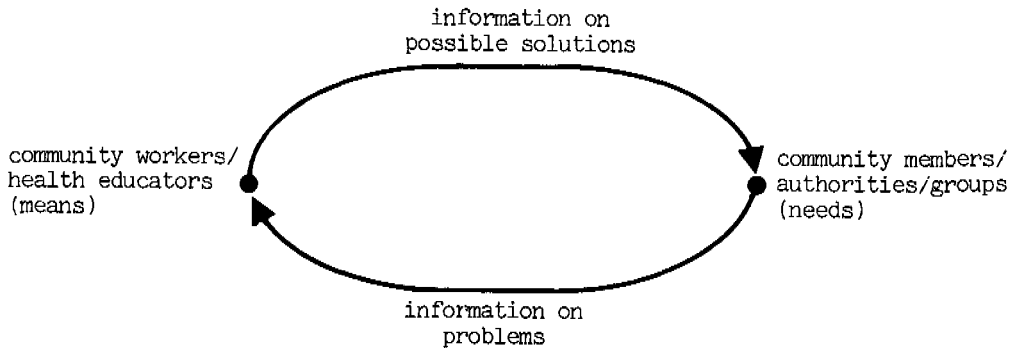
Attention must also be paid to the means by which problems can be solved. Solutions are the results of hard work, of testing, of experience.

Therefore, the crucial need is for linkage: constant interaction in which information about local problems moves from client to agency while information about possible solutions is communicated the other way.

In extension work as a whole, one can distinguish three approaches. When following a DO TO approach, one first decides on the solution to be offered and then looks for people with the problems that fit the solution. Linkage only occurs when such people can be found. Since little consideration is given to the actual problems people face, only those people who have sufficient resources to make use of the solution offered are reached. In agriculture, for example, the progressive and wealthy farmer becomes the self-selected target group for this type of extension work. The DO FOR approach involves careful study of the target group and its problems. Then solutions are developed within the capacity of the change agency on the basis of the knowledge gained about the target group. DO FOR is the usual approach in the commercial sector, from which persons concerned with extension work could well learn. A great advantage of DO FOR is that one has control over the target groups one reaches.

The DO WITH strategy emphasises priority problems of community members/authorities and groups themselves and focuses on removing bottlenecks when solving those problems. As a method, DO WITH emphasises dialogue, participation, consultation and giving clients a degree of control over extension.

Sometimes it is difficult to adopt the DO WITH approach fully in practice, because one is limited in what one can offer. But this applies particularly to agricultural extension work. In health education, with its emphasis on prevention, which yields delayed and direct results, the DO WITH approach is more useful, because feedback is essential and one can take advantage of the influence the members of the target audience have on one another.



SUMMARIES OF COUNTRY PRESENTATIONS

Colombia

Although Colombia has only come into the Slow Sand Filtration Project at a late stage, it has had considerable experience with community participation in water supply, including slow sand filtration. The distinctive feature of the Colombia system is that the extension workers are employees of the same agency which is responsible for supplying water to small communities, the Instituto Nacional de Salud (National Institute of Health, an autonomous agency responsible to the Ministry of Public Health). The Institute has 122 "community development workers" who do not have a high level of education but a continuous practical training programme with high level instructors. Their main task is to foster community participation during and after the construction of the water supply system, including labour for the construction. Before any construction work is commenced, the community, in a general meeting, signs a contract with the Institute, outlining clearly the following items:

- a) The financial terms. Those persons who contribute labour to the construction are compensated in the form of a reduction in subsequent water rates, in proportion to the value of the labour provided. House connections are always built.
- b) The community's commitment to administer and maintain the system when it is completed. Two members of the community are elected by popular vote to be members of the administrative body for the water system, and a third member is provided by the Institute. This body pays an employee to take care of the system.
- c) Plans for the repayment of a percentage of the government's contribution over 10-20 years, according to the economic capacity of each community.

Ghana

The central feature of Ghana's proposals for the project is that it is the intention to integrate it with primary health care and community development in the context of a plan for tackling the basic causes of ill-health. It is envisaged that this will be done

through cooperation between local communities and government agencies. At district level the various agencies such as those on Agriculture, Education, Social Welfare, Health, and the Water and Sewerage Corporation will be coordinated under the authority of the District Chief Executive to adopt an integrated approach towards the felt needs of the communities. As part of this approach, Community Health Workers selected and compensated by the community but trained and supported by the Ministry of Health will have as one of their tasks the organisation of health-related community projects.

It is hoped that this plan will be put into effect shortly, starting with six districts in various parts of the country. The Slow Sand Filtration project sites are located in two of these districts. It should therefore be possible to complement the provision of water with efforts to meet the various community needs in other fields.

The coming phase of the Slow Sand Filtration Project will be coordinated by a committee representing the Ghana Water and Sewerage Corporation, Ministry of Health, Ministry of Economic Planning, Department of Social Welfare and Community Development, University of Ghana, Department of Sociology, and University of Science and Technology (Kumasi), Department of Civil Engineering.

India

The Slow Sand Filtration Project will be implemented at four sites in different states. The site at Burujwada in Maharashtra serves as a pilot plant and a community diagnosis of that village has been completed. In the other three states, implementation of the health education component of the project will depend on the State Health Bureaus. Staff of the District Offices and the Primary Health Centres will be involved as well as the leaders of the communities.

The objectives are to evolve a methodology for assessing the impact of health education and to document, monitor and evaluate all aspects of the educational programme with a view to using the experience in other projects. It provides a chance to study what

can be achieved by health education, in conjunction with improved water supply, when good support and monitoring are possible. The work is carried out by the regular staff. Another objective is to develop suitable educational materials, communication aids and a handbook on rural water supply and sanitation based on the experience gained in the project.

During the preparatory phase there will be:

- orientation of staff concerned, including a 3-4 day workshop where a slow sand filtration plant will be demonstrated
- formation of advisory and planning groups at state, district, and block levels
- a baseline survey of the village and individual families, through which a wide range of health (and education) related information will be collected (as specified in Working Document II).

The preparatory phase will be followed by a planning phase, which includes the development of a plan of operation, the orientation of local concerned staff, and the development of a set of communication materials. A special health education plan will be made for work in schools.

The implementation phase will include the orientation of local leaders, the formation of a village health and welfare committee, and the carrying out of the health education activities. This will be followed by an evaluation phase for which indicators of impact will be assessed, and finally a report-writing phase, which includes the preparation of manuals.

Jamaica

The situation in Jamaica is one where communities are relatively loose-knit, and the National Water Authority has exclusive responsibility for the provision of supplies: supplies are provided with relatively little local community involvement. Normally, individual house connections are installed. Two sites in different districts have been chosen for the Slow Sand Filtration Project.

Little time has been available for developing the plans for the health education component of the project. The principles to be followed will be consistent with national health plans and the felt needs of the communities concerned. The needs will be assessed through a variety of contacts with the communities and their formal and informal leaders, also with the use of formal survey.

The formation of Health Committees, in conjunction with Community Councils where feasible, is part of the overall policy of the Bureau of Health Education, and will be used as a means to develop community participation in the present project. The method of community organization may be complemented by mass media, local media channels to be identified, the group approach method, and the person-to-person method.

Kenya

The Kenyan representative was unable to be present at the Meeting. However, an outline of the extension programme in Kenya was submitted.

Objectives in Kenya include the development of a climate conducive to the exchange of experiences within the community and also with technical personnel, in order to solve the water problems; the development of a "harambee" spirit conducive to a community contribution to the project in the form of labour and other necessary inputs, as well as the development of understanding concerning the nature and transmission of waterborne diseases.

Systematic community diagnosis will include the identification of felt needs, prevalent waterborne diseases, cultural beliefs connected with water, socio-economic information and data concerning the way in which the community is structured and organized, in terms of women's organization, the role of men in the provision of the water supply project.

The educational programmes will be implemented with particular emphasis on community participation. The extension agent must learn from the community as well as vice versa. His major role

should be to guide the discussions so that innovative ideas are not allowed to scatter and be forgotten.

Strategies to be used include community meetings ("barazas"), radio interviews in the project area to be broadcast by the Voice of Kenya (for a "motivating" effect), press coverage, folk media; and meetings of various groups (water committee, women's group, community leaders, listening and discussion group using cassette recorded messages, and school groups).

Community health education takes place to meet felt or real needs. Failure to meet the needs negates the motivation.

Sudan

In the Sudan, slow sand filtration is already used to purify water in the two main areas where cotton is grown under irrigation. The purpose is primarily protection against schistosomiasis. There is little community participation in construction or maintenance.

Problems include low levels of hygiene and sanitation, aggravated by high illiteracy which makes public health programmes difficult. Financial circumstances limit what can be done. Health education units exist in each province, but are hampered by lack of equipment and transport. There are also deficiencies in the supervision of the operation of the slow sand filters, so that water is sometimes not available

Health education, which is difficult because people do not like to change their customs at first, must proceed by cooperation between communities and the agency. The community health workers, who are trained under a nationwide programme, will be able to take an important part in the process.

Thailand

Community health development began in Thailand some 15 years ago. Poor sanitation and water supply are among the main causes of disease. People demand availability of water, but they do not pay much

attention to quality. One of the results is the very great spread of ascariasis and other similar parasites. One could calculate that 100,000 tons of rice are lost to ascariasis alone, in the sense that the people with worms have to eat that much more food just to compensate for what is taken by the worms. Making people conscious of the need for an improved supply can be a difficult task. One of the methods of changing ideas is to use the village temple as a centre of gathering. The monk who is the village head may be provided with a safe supply, and will tell others to use it. Constraints are that people do not like the taste of the new water, and do not want to pay for it. This problem can sometimes be solved by making the water free for a period of six months to a year, by which time they will have got used to it - and their old buckets will no longer be serviceable! With respect to organization, all the personnel who perform health services are involved in promotion. There is a Health Centre for each commune, covering 10 villages. A large part of the responsibility falls on the sanitarian of the Health Centre, who carries out the bulk of the work in the villages. It is important that the villagers should identify their own priorities in the programme, and be committed to them.

LIST OF BACKGROUND PAPERS

1. "Outline for the Community Education and Participation Programme of the Slow Sand Filtration Project in Colombia", by Mr. M. Santacruz.
2. "Outline for the Community Education and Participation Programme of the Slow Sand Filtration Project in Ghana", by Dr. K. P. Nimo
3. "Outline for Community Education and Participation Programme of the Slow Sand Filtration Project in India", by Dr. S. K. Sandhu, Dr. K. S. Sinha and Mr. P. S. Bawa.
4. "Outline for the Community Education and Participation Programme of the Slow Sand Filtration Project in Jamaica", by Mr. B. Muir
5. "Outline for the Community Education and Participation Programme of the Slow Sand Filtration Project in Kenya", by Mr. D. Mbai.
6. "Outline for the Community Education and Participation Component of the Slow Sand Filtration Project", by Dr. A. T. White.
7. "Planning and Evaluation of a Community Extension Programme: Health Extension in Phase 2 of the Slow Sand Filtration Programme", by Ms. H. Lovell of the Institute of Development Studies, Sussex.
8. Preliminary draft "Education and Participation in Community Water Supply and Sanitation Programme in Developing Countries" A Literature Review; by Drs. C. A. van Wijk-Sijbesma to be published in IRC Technical Paper Series (Technical Paper no. 12)
9. Preliminary draft "Education and Participation in Community Water Supply and Sanitation Programmes in Developing Countries; A selected and annotated bibliography by Drs. C. A. van Wijk-Sijbesma to be published in IRC Bulletin Series (Bulletin no. 13).

CHECKLIST: DISEASE TRANSMISSION

The community worker should confer on the community a knowledge of the following facts:

1. Water purification can play an important part in reducing the incidence of many diseases. The faecal-oral category (diseases transmitted by any faecal-oral channel) is of overwhelming importance everywhere in the tropics (together with schistosomiasis). Guinea worms are also of great importance in some communities.
2. The faecal-oral category of disease accounts for a very high proportion of infant and child mortality; in all the poor and relatively poor communities of the world. Recent evidence suggests an even greater role for it in triggering off the spiral of worsening nutritional status and infection than was previously realised.
3. Faecal-oral transmission channels are multiple. The contamination of water before it reaches the point of collection is only one aspect. Slow Sand Filtration will take care of any such contamination. In the Community Education and Participation Component, therefore, primary attention must be paid to preventive measures regarding other faecal-oral transmission routes.
4. The number of possible channels of transmission is also infinite, and in practice many cannot be investigated with any precision; but the best countermeasures can be identified through logic and simple local knowledge. The logic reminds the investigator that all routes lead from A to B - from defaecation to ingestion - which implies that an attack concentrated around these two activities has a prospect of success. The limiting factor will be the difficulty of persuading people to change their behaviour in these respects rather than the imprecision of the task.

5. Local knowledge, primarily of the details of personal habits, can be brought into discussion by local people; but delicacy is involved in encouraging frank discussion.
6. At the point of origin of the faecal-oral transmission routes, the specific matters to be considered will include:
 - a. can the faeces themselves, in the place where they are deposited, start a cycle of infections through:
 - i) being directly exposed to other persons or to domestic animals (instead of being in a latrine hole, covered, or at a good distance from houses, etc.).
 - ii) being exposed to flies (inadequately covered latrine or as above).
 - iii) being moved or transported (either in the case of systems of disposal of nightsoil, or by the way young children's faeces are disposed of).
 - iv) being washed during rains or floods by water which finds its way to ponds, wells, streams, etc. (but this is the one major route which, as far as drinking is concerned, should be taken care of by water purification).
 - v) being washed as above or by irrigation water to water which is waded or bathed in (danger of schistosomiasis).
 - b) could soiled latrines (or potties) themselves be the origin of a chain of infection?
 - c) what about objects (paper, leaves, corncobs, etc.) used for personal cleaning?
 - d) is personal cleansing effectively done? Is the necessary paper, etc. or water frequently unavailable?
 - e) are hands always washed after defaecation? Is it done thoroughly, with soap? (It seems conceivable that this is as important as the use of a latrine, but it is far less often mentioned.)
 - f) what about the disposal of the excreta of babies? If on the ground, is the cleaning up thorough? Could it leave particles on ground or brushes? If babies' clothes are soiled, how are they washed and where is the water thrown?
7. At the other end of the faecal-oral transmission routes, the specific considerations will include the following:

- a) is the washing of hands before preparation of food thorough, with soap?
- b) is there adequate cleaning of receptacles (plates, dishes, cups, etc.) used in preparation and eating of food?
- c) are hands washed before eating? Again, is it thorough, with soap?
- d) do people put fingers into water containers and cups when taking water. Are these containers clean?
- e) is food protected from flies? Are fly-breeding grounds eliminated regularly?

CHECKLIST: TASKS OF THE COMMUNITY WORKER

1. To establish friendly contacts with all sections of the community (p. 20)¹ and maintain a continuous dialogue with all sections throughout the work.
2. To inform all sections of the community of the intentions of the project (p. 20), and inform himself/herself of their views.
3. To form an active group of collaborators, or work with the whole village, to discuss behavioural changes needed (p. 20).
4. To gather baseline information on attitudes to the Slow Sand Filtration supply (pp. 21-22).
5. To develop favourable attitudes to the Slow Sand Filtration supply through dialogue (pp. 8-9).
6. To assess cooperativeness in the community (p. 23).
7. To assess questions of power and of individual and group interest relevant to the Slow Sand Filtration Project (pp. 24-26).
8. To develop a strategy for ensuring that costs are fairly borne and benefits fairly shared (pp. 9, 26, 40-1).
9. To initiate and oversee the organization of community inputs into the construction of the Slow Sand Filters (pp. 9-10, 36-42).
10. To liaise with technical personnel in testing water pollution levels and arrange with them for testing of samples taken at stages following collection (pp. 26-7, 33-4).
11. To arrange selection of an operator (p. 10), and help teach the operator and a group of other community members the operation and maintenance of Slow Sand Filters (pp. 42-45).
12. To compile, together with a collaborating group and/or the whole community, a list of ways in which community members' behaviour needs to be changed, and ways in which changes might be made (p. 20/see also Checklist No. 3).

1) Page references refer to Background document 6 (See Annex 5)

13. To organize group discussions and explain to groups and to individuals the need for changes in behaviour related to health (pp. 18. 29 ff).
14. To use practical demonstration wherever possible, e.g. with a microscope: or show results of testing of water samples (pp. 29, 33); demonstrate hygienic practices.
15. To encourage or organize performances with a health message (p. 30).
16. To arrange for any supplies which will facilitate conformity with the hygiene and sanitation practices recommended, e.g. latrines (pp. 18-19, 34-5)
17. To discuss problems and approaches to their solution with other specialists, such as personnel of other organizations working in the community and doctors (p. 35, Checklist no. 2)
18. To maintain, throughout, the liaison between the community and the water supply organization.
19. To keep a diary of activities and advise the supervisor of problems and what was done to solve them (p. 48).