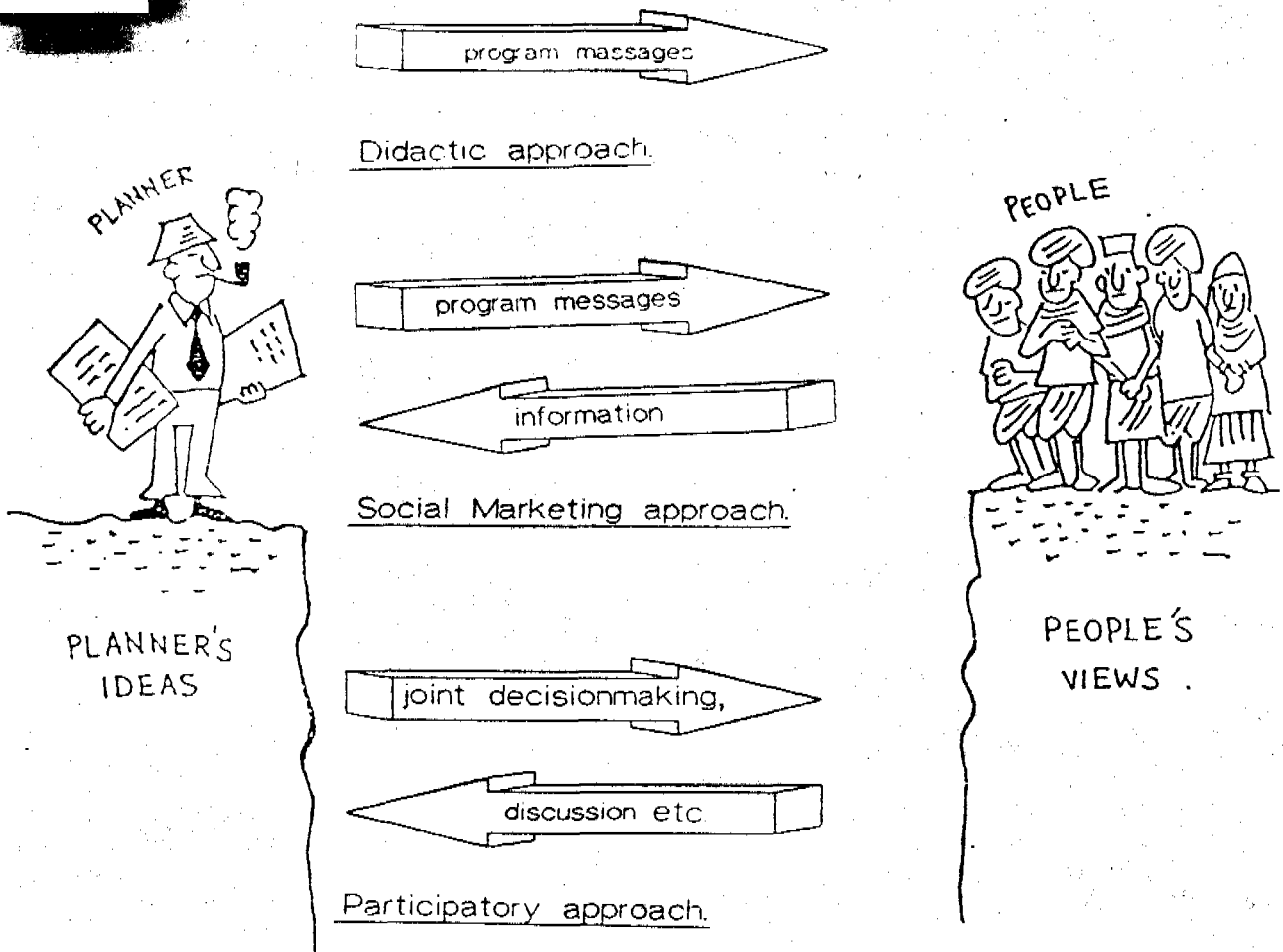


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Communication approaches in rural water supply programs.

Niek Bosma.

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P.s. The illustration on the front page is based on an illustration from a regional Health Paper of SEARO (30).

Communication approaches in rural water supply programs.

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1. Summary.

One of the reasons for rural water supply programs to fail is the fact that the water supply systems are not adapted to the needs and situation of the future users. This is mainly due to the conceptual gap (31) that is caused by different perceptions of the needs and situation of the users between the program staff and the users. This phenomenon can only be avoided if communication between the future users and the program staff is improved. Communication between future users and the program staff is also important for effective health education (being an essential parallel low-cost program) and where necessary for the organization of the future users with regards to joint decision making and the delegation of management of the water supply system.

From the literature (19) three broad approaches to communication can be distinguished:

- 1) The didactic approach. in which the program staff defines the problems of the community, and the solutions to be offered. The program staff knows what is best for the people. Only one-way top down communication between the program and the future users takes place. This approach is also called the to do to-approach.

- 2) The social marketing approach. If this approach is applied, the program staff defines the problem and the tentative solution to be offered, but now this solution is adapted to the local context. For this the program tries to collect and analyze all relevant information about the future users needs, beliefs, behaviour, practices, etc. Consequently the solutions are adapted.
The approach consists of an information flow from the users to the program (the gathered information), and as a result from this, adapted program messages back to the users. These program messages can be seen as a form of public relations. The public relation messages are meant to make people accept the adapted program contents.
The approach can also be called the to do for-approach.

- 3) The participatory approach. If this approach is selected, the program contents and objectives are developed together with the community. Also, the participatory approach concentrates on fostering problem solving capabilities of the community. These capabilities can be used again for ongoing development action.
The approach is characterized by joint decision making with all beneficiaries or their chosen representatives. Joint decision making is seen as a means to come to problem solving capabilities of the community. For the adaption of program contents and the joint decision making, open two-way communication is necessary.
The approach is also called the to do with- or organizational approach, because the future users must be organized for joint decision making or even for delegation of the management of the water supply.

In order to get an impression of the applied communication approaches in practice and to investigate the factors that have an influence on the selection of the communication approach, interviews with 26 selected IHE participants of the post-graduate sanitary engineering course 1989/90 were held. The interviewees are citizens of 11 developing countries and generally have several years of experience in rural water supply.

From these interviews it appeared that in the programs in which the interviewees work(ed), the three described communication approaches are not used in their pure forms. The programs combine elements of these three basic approaches.

In practice the extent to which the program contents is adapted to the needs and situation of the users, and the extent to which all users or their representatives participate in decision making, varies (see figure 1). The three broad communication approaches should be seen as the extremes defining all possible communication approaches.

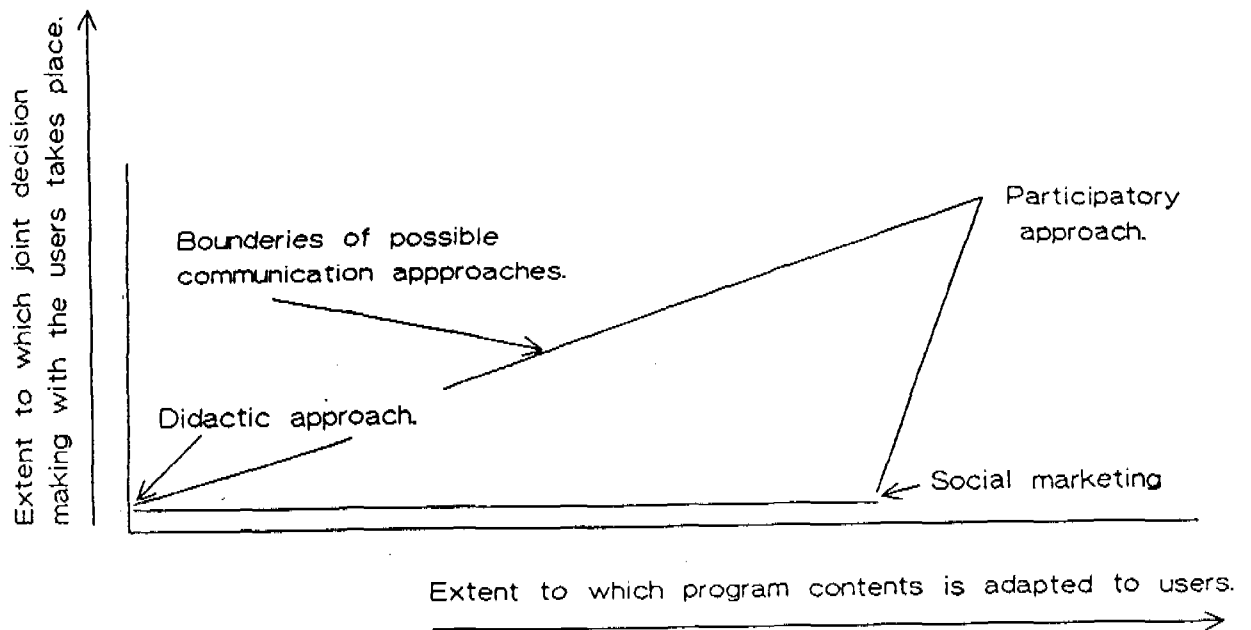


Figure 1: Model showing the three broad communication approaches as extremes defining all possible communication approaches (see chapter 7.2.2.).

It appears that the choice of the communication approaches is influenced by the next factors:

- a) The program objective (implementation of a water supply system only, or also ongoing development action through fostering problem solving capacities of the community).
- b) The program contents (type of desired social change, type of technology)

and the question to whom the management of the water supply will be given)

- c) The program organization (the (financial) capacity of the program organization and the skills of the program agents).
- d) The external environment of the program (the political structure, the physical characteristics, the financial donor, the capacities of the local administration and the target group characteristics).

A determining factor that influences the selection of the communication approach appears to be the choice to whom the management (consisting of operation, maintenance and financial management) of the water supply will be given is found to be

The management can be given to a national organization, the local authorities (or water committees dominated by the local administration), or to the users (users management).

If a national organization or the local organization will manage the water supply, both the social marketing approach and the participatory approach can be chosen, since with both approaches the conceptual gap can be bridged. From the interviews it appears that in this case the programs of the interviewees opt for a social marketing approach.

If one opts for users management a participatory approach is likely to be more effective. From the interviews it appears that users management is hardly practised. The participatory approach is neither applied in its "pure" form.

2. Preface.

During a three year period as a technical assistant in a rural water supply program, I took part in a inspection of a large number of water supply systems. One of the findings of the inspection was that more than 40% of the standposts did not function reliably, or not at all.

This was one of the reasons for me to apply at IHE for a course in sanitary engineering.

After one year of study I think that most causes of failure in water supply programs are non-technical. This was the reason for choosing a non-technical subject for my MSc thesis.

The thesis is written for program planners of water supply programs in developing countries. I will look at problems related to communication between program agents and future users.

Due to time constraints I had to concentrate on rural water supply. I am aware that the objective of improved public health is only reached with an integral effort in the fields of water supply, sanitation and health education.

3. Introduction.

3.1. Problem description.

Systems are not properly designed.

If one would evaluate all decisions that effect the sustainability of a water supply system, one would find that most of them are taken during the planning and design phase.

In this phase, the program planner has to take decisions concerning the level of service, the type of technology, cost recovery and the organization of operation and maintenance.

Since the program planner is new in the program area during this phase, his knowledge about the local situation will often be at a minimum. In this stage of the program there may be a conceptual gap (31) between the users and the planners as a result of their different perceptions of community needs, and insufficient knowledge of the program planner about the local situation. This often results in rigid and inappropriate assumptions from the side of the planner, which may in turn lead to water supply systems that are under-utilized, too expensive, inconvenient, socially unacceptable, or otherwise ill fitted to the community they are meant to serve.

Systems are not properly used.

An improved water supply system does not guarantee that public health improves. The clean water supplied at the tap can be re-contaminated before use. In several publications this phenomenon is described (9, 15, 18, 19, 31). Examples of re-contamination are given: dirty water is sometimes used for priming handpumps, collection and storage of drinking water takes place in open vessels and in vessels which are not cleaned regularly, use of communal cups or buckets to draw water and hands touching the water during collection, storage and use.

Health education can make people aware of the danger of drinking contaminated water, and will lead to proper use of the water. Also health education programs have to be adapted to the future users to bridge a conceptual gap here.

Systems are not properly managed.

Many sources report that water supplies are not functioning because they are not properly operated and maintained (17, 19, 21, 31 and 36). Also problems with financial management are common practice (20).

The problems often relate to staff shortages and budgetary constraints of the (national) organization responsible for operation and maintenance (21 and 36).

3.2. Elaboration of hypothesis.

What can be done?

In order to establish water supply systems that are properly designed and that are properly used, the conceptual gap has to be overcome. The program planning will have to be adapted to the needs and situation of the users. Communication between program agents and the community is essential to obtain this adapted program planning. Users should participate in decision making (joint decision making) concerning the program planning. The program staff can then bring in their (technical) knowledge and the users can bring in their knowledge of local situation.

Participation of the users in operation and maintenance (users management) is a solution to the problems of the national organizations that are now responsible for the management of the water supply (17, 19, 21, 31 and 36). Staff shortages and budgetary constraints will decrease by delegation of tasks from the national organization to the users and by saving labour costs and costs for logistics since simple repairs can now be carried out locally by the users.

If users management has to take place programs should opt for a participatory communication approach (17, 21 and 31). Joint decision making will make the users feel responsible for their water supply system, and will also lead to problem solving capabilities of the users (by participation in the decision making the users learn to identify and solve their own problems).

Hypothesis.

Rural water supply programs should be improved by improving the communication between the program staff and the future users. The conventional didactic approach is in-efficient because this method preserves the conceptual gap.

The communication should be improved by applying a participatory communication approach. Participation of the users in joint decision making will result in a properly adapted program contents and offers a possibility to delegate the management of the water supply from national organizations to the users.

3.3. Study objective.

With the help of literature study current thinking on communication will be investigated.

Besides this we want to investigate how communication between program agents and the future users does take place in practice. We want to do this by interviewing IHE participants of the 1989/90 International Course in Sanitary Engineering who have generally several years of experience in rural water supply in developing countries.

An attempt will be made to determine the factors that have an influence on the choice of the communication approach in the programs for which these interviewees were responsible.

With the obtained theoretical and practical information some concluding remarks will be made. Also some recommendations will be given on how to improve communication between program staff and users of the water supply system.

4. Methodology.

4.1. Introduction.

The present study is based on information obtained from a literature study and interviews with selected participants of the sanitary engineering course at IHE Delft (International Institute for Environmental and Hydraulic Engineering).

The literature study took place during the first 3 months of the study period.

The interviews were elaborated and held in the fourth and fifth month of the study period and were meant to give an impression how communication takes place in practice.

In the last months the interviews were interpreted, and the final report was written.

4.2. The literature study.

The literature study was meant to give an impression of current thinking on communication. Most literature was found in the libraries of the IHE and of the IRC (International Reference Centre at The Hague). The results of the literature survey are worked out in chapter 5. A literature list is given in annex 1.

4.3. The interview.

4.3.1. Description of interviewed population.

The interviewed population consists of 26 IHE-participants, all of whom hold at least a bachelors degree in sanitary or civil engineering and had a minimum of three years of experience in rural water supply. They originate from 11 developing countries. Annex 2 describes the origin and task of the interviewed population.

4.3.2. Description of the procedure.

The research work consists of four steps:

Step 1: Elaboration of an questionnaire with which the participants with experience in rural water supply could be separated from the total population of 96 participants of the sanitary engineering course. The secondary objective of this questionnaire was to get an impression of the work experience of the participants and the kind of program they have been working in. This information was needed for the elaboration of the interviews. Annex 3 gives the questionnaire of this inquiry.

Step 2: Elaboration of a list of preliminary, open ended questions.

Step 3: Pretesting of these questions in five long interviews, in order to adapt the questions and to work out answer categories. This last step has been taken to prevent that the interviewees are too much influenced by the answers of the interviewer.

Step 4: Interviews with the rest of the interviewees. Most questions were asked in an open ended way. The answers were put in answer categories by the interviewer. Annex 3 gives the questionnaire of the interview.

Since also some cases are worked out, sometimes extra interviews with the same participant were held.

4.3.3. Limitations.

The research should be seen as an attempt to determine the communication approach used by the 26 interviewees and the factors that have played a role in the choice of this approach. The conclusions should not be generalised, they only refer to the situation of the interviewed population.

The conclusions give, nevertheless, an impression of the important factors that play a role in the choice of the communication approach.

5.0. Theoretical background.

The conclusion of the introduction was that communication in water supply programs is of paramount importance. In this chapter we want to give an impression of current thinking on communication.

5.1 What is communication.

Communication can be defined as the flow of information (including ideas, emotion, knowledge and skill) between a person or persons and another or others.

We can further explain communication with the S.M.C.R.E.-model (Source, Message, Channel, Receiver, Effect-model) (2) , see figure 5.1.1.

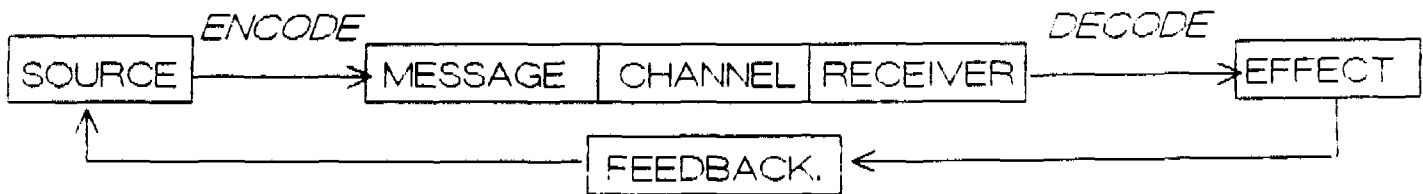


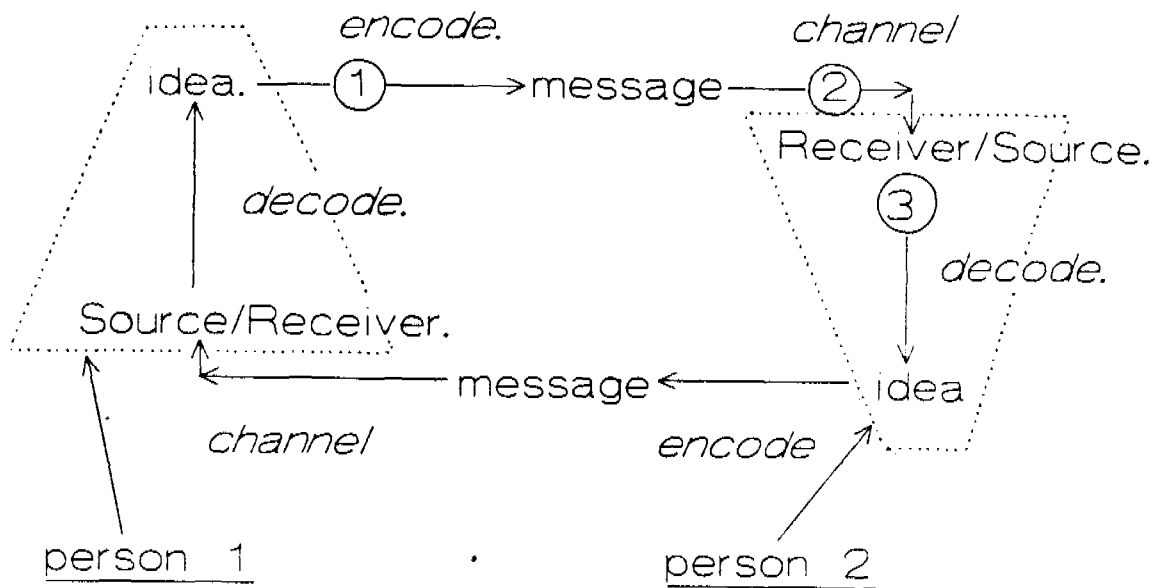
Figure 5.1.1. S.M.C.R.E.-model (2).

The source (a person or an institution) has an idea, which is transferred into a message (the idea is encoded in symbols, as words, gestures, etc.) This message is send through a channel (e.g. speech, articles, radio messages etc.) to the receiver which has to decode the message (in other words, he gives a meaning to the symbols).

This message can give the receiver an idea, on which he can act (the effect of the message).

The source sees this effect (feedback) and uses the observed effect to evaluate and/or adapt the message.

P. Watzlawick mentioned communication as a circular process, without clear beginning and end (38). In figure 5.1.2. the revised S.M.C.R.E.-model for this way of looking to communication is shown. The principle difference with the original S.M.C.R.E. model is that the feedback is just seen as a next message that is now send by the former receiver (now the sender) to the former sender (now the receiver).



Legenda:

- 1 = Potential barrier 1.
- 2 = Potential barrier 2.
- 3 = Potential barrier 3.

Figure 5.1.2.: Revised S.M.R.C.E. model

What can go wrong.

In practice several things can go wrong in the communication process (2). The next barriers can be distinguished (See figure 5.1.2.):

- 1) The source may not encode his idea in a message that can be understood by the receiver due to language or cultural barriers (see potential barrier 1 in figure 5.1.2.).
- 2) The receiver may not receive a properly encoded message due to noise, diversion and filters (messages are consciously, but also sub-consciously filtered, since people tend to eliminate reception of messages not related to the individual's personal goals. See potential barrier 2 in figure 5.1.2.).
- 3) People receive messages, but do not decode them in an idea due to disinterest, apathy, active resistance, hostility and bias of the receiver (see potential barrier 3 in figure 5.1.2.).

How can communication be improved.

In order to improve communication, A. v/d Ban (2) gives the next advices to the sender: a) The sender should use symbols, he shares with the receiver. Hence he should produce messages that can be understood by the receiver. b) The sender should continuously try to make use of feedback, to see if his idea is properly transferred. c) The sender should make use of more channels and messages, if he foresees problems in transmission of the idea (redundancy approach see figure 5.1.3.).

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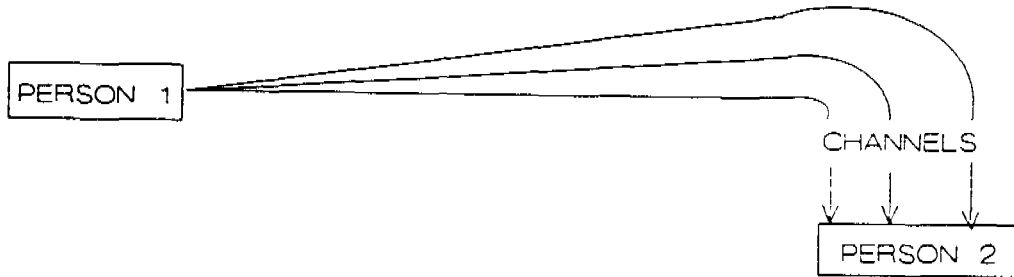


Figure 5.1.3. Redundancy approach.

5.2 The purpose of communication in rural water supply.

In rural water supply programs, communication is used:

- 1) as a means to bring about a desired social change.
- 2) as a means in the decision making process.
- 3) as a means to organize people, in order to come to users management of the system.

1) **Communication as a means to bring about a desired social change.**

Rural water supply programs often aim to bring about a desired social change.

We will distinguish four types of social change of increasing difficulty to bring about, namely cognitive change, action change, behaviour change and value change (23).

* **Cognitive change.**

The aim of cognitive change is to create awareness or knowledge. An example of cognitive change in rural water supply are meetings where users of water supply systems are informed about the facilities that will be implemented, what the financial consequences for the users will be, etc.

Next to cognitive change of users, we should not forget that creating awareness or knowledge of the program staff is also essential. In this respect we should think of the knowledge about the needs and situation of the community the program staff needs to overcome the conceptual gap. This kind of cognitive change of program staff should especially occur in the program planning and implementation phase, when information is gathered and when discussions with people occur.

* **Action change.**

The aim of action change is to induce a maximum number of people to take a specific action during a given period. Promotion of voluntary labour is an example of action change.

Action change is more difficult to bring about than cognitive change. People have to comprehend something and take a specific action based on it.

* **Behaviour change.**

The aim of behaviour change is to help people change some aspect of their behaviour for the sake of their well-being.

Behaviour changes include hygiene education programs and campaigns to motivate people to maintain their water supply facilities and to pay for their water.

Behaviour change is harder to achieve than cognitive or action changes. People must unlearn old habits, learn new habits and freeze to the new pattern of behaviour. Figure 5.2.1. tries to show which steps have to be taken for behaviour changes.

Communication approaches that opt for behaviour change, are sometimes called persuasive communication approaches.

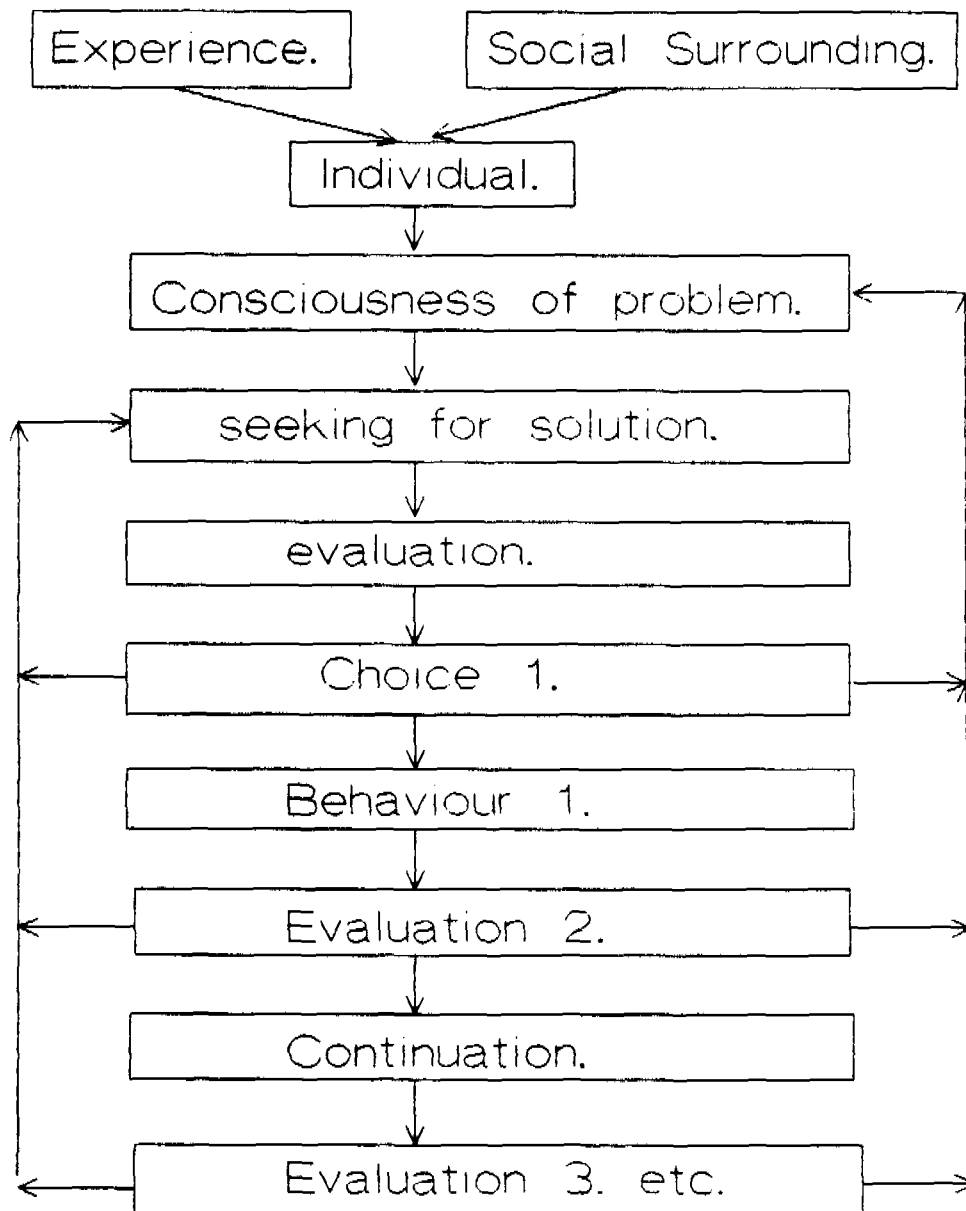


Figure 5.2.1.: The steps that have to be taken to achieve lasting behaviour change (5).

The model of figure 5.2.1. shows how people take choices for their behaviour. The figure will be explained with an example of a program that wants people to cook their drinking water before consumption (25). The model shows that people have to be conscious of a problem before they will begin to change. The program has to make people aware of the health risks of drinking contaminated water (eg. that they can get diarrhoea of it).

If people are conscious of the problem, they begin to seek information to come to a solution. The program can then explain that cooking of contaminated water prevents getting diarrhoea. After this step people evaluate the possible solutions and choose the one which is the best to

their opinion, and change their behaviour. The program should try to influence this choice, and make people choose their solution of the problem.

After behaviour change, an other evaluation follows. During this evaluation the people may become aware that cooking of water is very time consuming and costly. Several things can happen if people are not satisfied with the solution: people will have to choose if they accept the disadvantages, and go on with their behaviour, they will reconsider another solution (eg. getting drinking water from a good source). There is also a danger that people come back to their old behaviour. The program has to convince people to stay with the solution of the program (if they are still sure that their solution of the problem is the right one!).

The most important thing the example shows us is that a program can make people change their behaviour, but if "the quality of the message" is not into agreement with the expectations of the people, the solution may be rejected, and people may come back to their old behaviour.

* **Value change.**

The final class of social change attempts to alter beliefs or values that people hold toward some object or situation. Values are most resistant to change.

An example of values that have an impact on water supply programs is occurring in some Asian countries, where it is difficult to organize the population due to the existence of casts. This kind of values is most resistant to change. Within the frame work of a water supply program it is even quite useless to try it. Kottler (23) even states that many social planners prefer to use the law to require value change.

2. Communication as a means in the decision making process.

Decision making can be described as the process of choosing the optimal way of acting in relation with the available information and with application of the relevant criteria.

We will distinguish two types of decision making, namely, centralised decision making and joint decision making. The type of decision making strongly effects the type of communication involved.

* **Centralised decision making.**

At the start of program planning for water supply programs, there may be a conceptual gap between people and planners as a result of different perceptions of community needs and situation. In centralized decision making, program planners try to overcome this conceptual gap by getting information about community needs and situation before they make decisions. By consulting the community the water supply system is adapted to peoples needs, and it is more probable that the facilities will be properly used.

* **Joined decision making.**

Some programs prefer to take decisions together with the future users. The community is involved in decision making. The advantage of joint decision making is that new information and alternatives from both parties can be brought in easier and discussed directly. Ideally both parties will have comprehension for the decisions that are taken. Transfer of decisions will be more simple and there will be shared

responsibility for the decision.

Besides these more general advantages of joint decision making, there is an other advantage in the special case of rural water supply programs. The future users are involved in solving problems during the planning, construction and the organization of the operation and maintenance system of the facilities. By doing so problem solving capabilities (17) of the future users are fostered. It is now more probable that the users can solve the problems with the water supply system that will occur in future.

Joint decision making has also disadvantages:

- * The decision making process will be more time consuming, since prolonged discussion is normally necessary.
- * Managers are normally reluctant to delegate responsibilities.
- * The decisions are often compromises.
- * In some occasions, decision making is dominated by individual participants (32).

3 Communication as a means to organize people in order to come to users management of the system.

Some programs choose to delegate the management of the water supply to the users. Communication plays an important role in this delegation process. The users have to be made aware of the importance of well organized management. Representatives of the users have to be found, elected and prepared for their task. Besides this, caretakers have to be trained, a structure for fee collection and financial management has to be implemented, etc.

5.3. Approaches to communication.

From literature three broad approaches to communication can be distinguished; the didactic approach, the social marketing approach and the participatory approach. This distinction is often used for health education, but it can also be used for the overall process of communication between program and target groups.

In programs following the didactic approach, the agency itself defines the problems and the solutions to be offered. Subsequently, efforts are made to convince the users to apply these solutions. The users have only limited influence on the program contents. Only centralized decision making takes place (see 5.3.1.).

The social marketing approach aims to promote the (proper) use of the implemented facilities. In order to overcome the conceptual gap, extensive research on the needs and situation of the future users is carried out. By doing so, the program can adapt the design of the facilities to the future users. In other words, users have a means to adjust the program contents. Centralized decision making takes place (see 5.3.2.).

The participatory approach also promotes the use of the facilities, but next to this it organizes the population for joined decision making. Representatives of the population can be organized, eg. in a water committee. This committee can be involved in decision making during planning and construction. The committee even can operate, maintain and manage the water supply facilities (see 5.3.3.).

5.3.1. Didactic approach.

Programs using the didactic approach know what is best for their target group. During program planning only technical information (demographical data, source flows, topography, etc.) is gathered. Besides this communication is mainly flowing in one-way (see figure 5.3.1.). No feed-back and dialogue takes place. Information is only flowing from the program to the future users. This is why the approach is also called the informational approach.

The objective and contents is determined by the program staff. The target group has no direct influence on it.

Advantages and limitations of the didactic approach.

In order to get an better insight in the approach, the advantages and the limitations are worked out.

Advantages of the didactic approach.

- * The approach can be used if peoples needs are obvious and the possibilities, capabilities and motivation of the future users are high enough.
- * The approach does not ask for much research and social skills of the program agents.

Limitations of the approach.

- * The program content is not adapted to the needs and situation of the users. There may be different perceptions of community needs, and inappropriate assumptions can be made during design and planning. There is a big chance that not all people will use the system, or use it in a wrong way, because the system is not adapted to them.
- * When things go wrong in a program, people who are not involved in the program do not feel responsible, and will consequently not react but rather wait for the implementing agency to take remedial measures. Implementing agencies in small scale water supply programs often don't have the resources to react in a proper and fast way.

Program planner -----> Field worker -----> Target group.

Figure 5.3.1.: Information flow model didactic approach.

5.3.2. Social marketing approach.

Social marketing is defined by Kottler (23) as: "the design, implementation, and control of programs, seeking to increase the acceptability of a social idea or cause in a target group(s). It utilizes concepts of market segmentation, consumer research, concept development, communication, facilitation, incentives, and exchange theory to maximize target group response." The main characteristics of a social marketing approach are identification of specific target groups, study of the needs and means of each group, adaption of program contents and methods to the group concerned, pretesting of messages on understanding and acceptability and continued monitoring of results to improve the program.

The objectives of the programs are determined by the program staff, but the target groups can influence the contents. If the target group does not agree with the objective of the program, social marketing will convince people. This is why this approach is also called the persuasive approach.

All decisions are taken by program agents, but through research, pretesting of the program and evaluation during program planning and implementation, a continuous effort is being made to incorporate community information in the program content (see fig. 5.3.2.1.). By doing so, the program can overcome the conceptual gap.

Step by step procedure of social marketing approach.

The essence of social marketing is a vast and special communication system to and from the target groups. This is also clear from the steps involved in the approach (free interpretation of models of Manoff (25), Kottler (23) and J. de Boer (5)).

Step 1: Goal setting.

- * Identify the problems in the water supply.
- * Establish priorities and set up a schedule for all others.
- * Determine objective (see figure 5.3.2.2.)

Step 2: Target market segmentation.

- * Pinpoint the target audience.
- * Conduct necessary research; gather socio-cultural, socio-economical and other data.

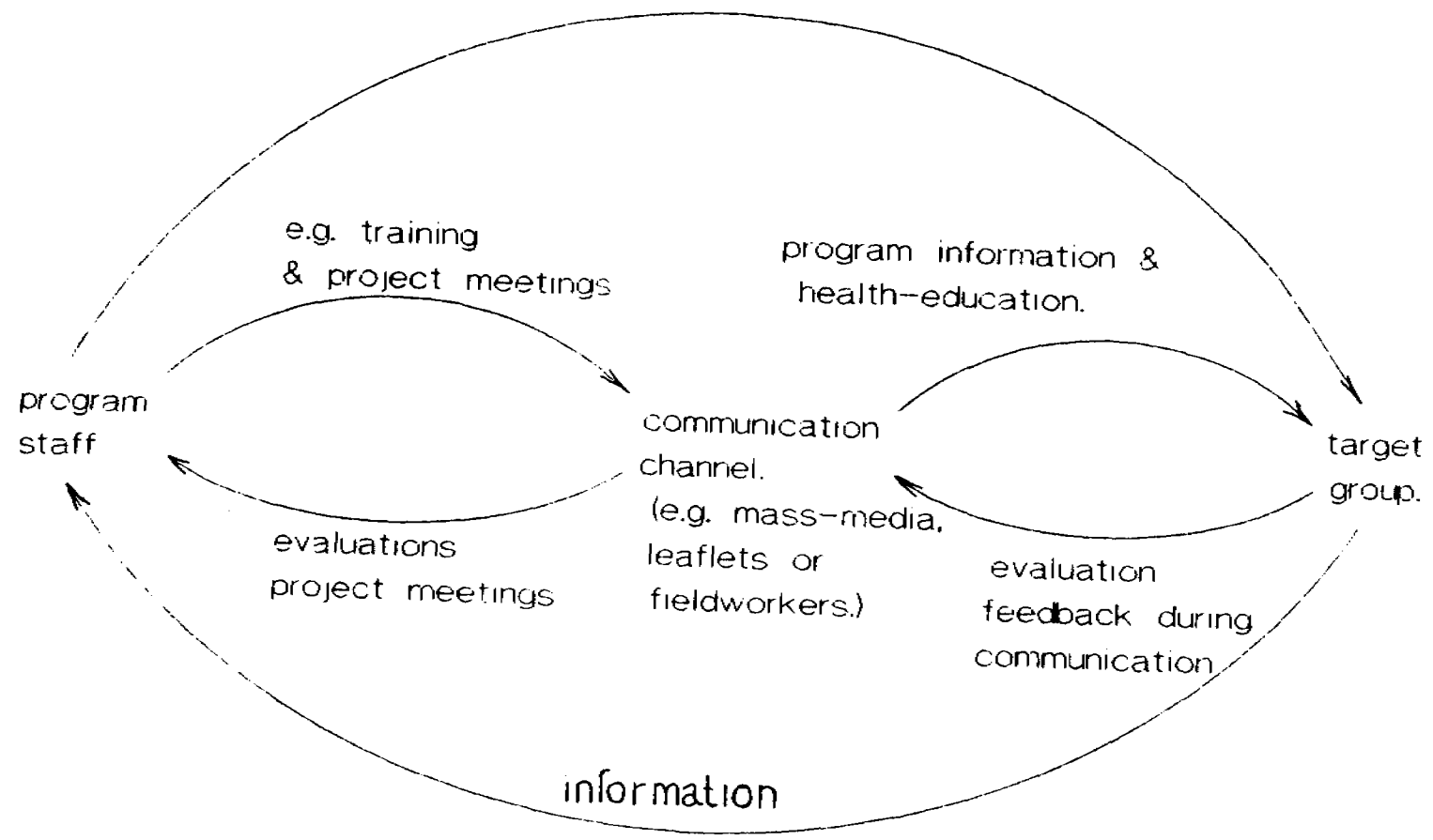


Figure 5.3.2.1. Information flow model of social marketing approach(30).

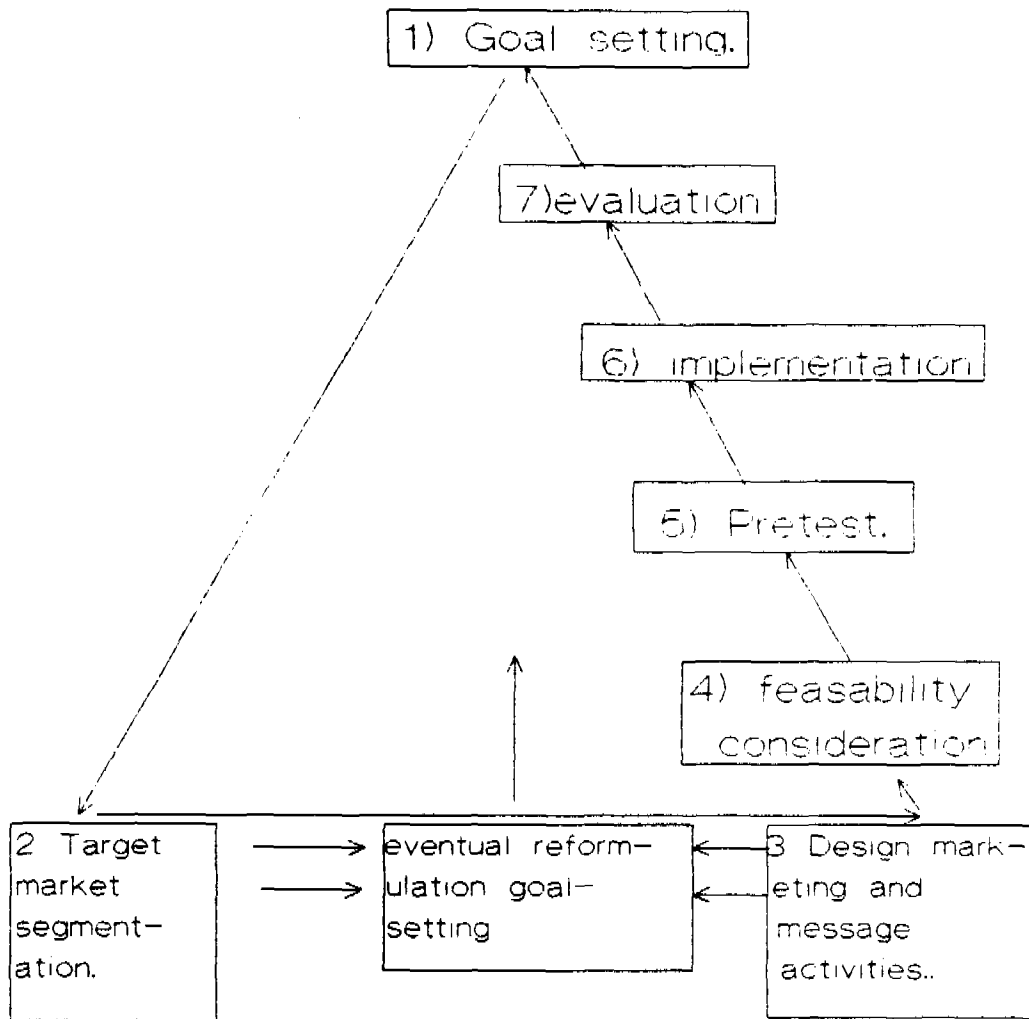


Figure 5.3.2.2. Step by step procedure social marketing approach (5).

Step 3 Design marketing and message activities.

* Design marketing and message activities required for problem solution with the help of marketing mix (four p's: price, place, product (including technical data) and promotion (24).

Step 4 Feasibility consideration.

* Consider if marketing and message activities are feasible for the existing organization.

Step 5 Pretesting.

* By pretesting of the tentative program contents on an at random chosen sample of the target group, important errors are prevented.

Step 6 Implementation.

* The adapted program contents is implemented.

Step 7 Evaluation.

* After program implementation the program contents is evaluated and eventually adapted again.

Advantages and limitations of the social marketing approach.

Advantages of the social marketing approach:

- * Social marketing programs make use of methodologies of commercial marketing. These methodologies have shown to be successful in the commercial as well as the non profit sector. Water supply programs are closely related to the non profit sector.
- * Program content and method are adapted to the needs and situation of the target groups.
- * Required social and technical skills of field workers are limited.
- * In case of behaviour change, it is especially suitable for promoting single facilities and practices to meet an immediate and urgent need of large user groups (for example oral rehydration programs). In this case, large numbers of people can be reached in a short time and at relatively low per capita cost.

Limitations of the social marketing approach.

- * No direct two-way communication is taking place. The bottom-up information is only assured in the research phase, during testing and in the evaluation phase. This makes the approach less flexible.
- * For complex behavioural changes, demanding longer programs, social marketing is less appropriate.
- * The costly, extensive socio-economical research consisting of surveys, interviews etc., necessary for this approach, make it less appropriate for small programs. For bigger programs, the high costs for research will be acceptable since the costs can be divided over more beneficiaries.
- * Marketing traditionally relies on mass-media. Mass-media has quite some disadvantages such as; one way flow of information, mass-media institutions may tend to side with the establishment, danger of widening the gap in knowledge between the categories of receivers (communication gap hypothesis).
Nowadays programs using social marketing have recognized this and use also other influence channels, such as face to face approaches etc..
- * Opponents fear that the approach will be used as a method to sell a "product" whether the future users want it or not.
- * Objectives of programs are determined by the program staff. Most programs have very specialized capacities and expertise and only develop programs to solve certain types of problems. These programs may not necessarily be of high priority to the target group.
- * When things go wrong in a program, people which have not been involved, will not feel responsible and probably won't do anything.

5.3.3 Participatory approach.

The participatory approach is defined by Dr. Alistair White (17) as; "involvement of the local population actively in the decision making concerning development programs or their implementation". It starts with the question: How do I help people achieve what they want to achieve? The program agent must learn to use non-directive, facultative techniques (17, 19) to help people to take the initiative and seek only the technical information needed for problem solving.

Both the program contents and the objectives are determined by the future users and the program-staff together. In this approach, one relies on the open communication structure, where essential information will be brought in by the future users during joint decision making (see figure 5.3.3.1.). Also the field worker can bring in information since they are normally of the same social and ethnic group as the future users.

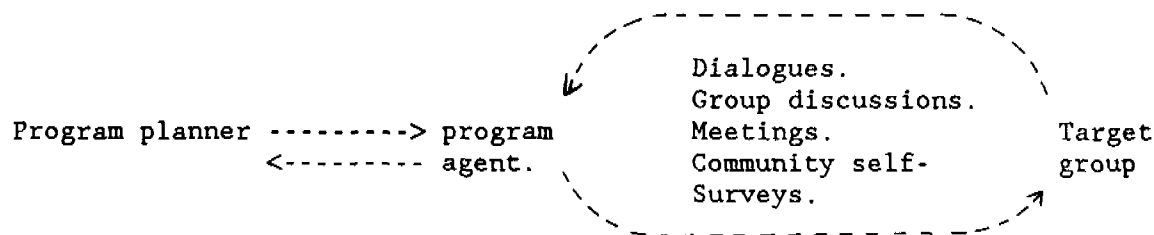


Figure 5.3.3.1.: Information flow participatory approach.

A second important difference between social marketing and the participatory approach is, that with the participatory approach delegated management of the water supply system by the future users is possible. The representatives of the users, that have been involved in joint decision making, can form local water committees that can manage the facilities implemented by the program. This can be a big advantage in cases where the national or regional government institutions can not manage the facilities due to staff shortages or budgetary limitations.

Programs using the participatory approach tend to strive for the ideal of social justice (17, 19, 20). This ideal can, next to the goal of improved public health, be brought nearer by achieving the final goals given in figure 5.3.3.2. For all these goals problem solving capabilities of the future users can be quite helpful. The program knows that fostering problem solving capabilities only for achieving the sub-goals of improved water supply is very difficult, but this disadvantage is accepted because the problem solving capabilities can be used again for achieving other final goals.

Mobilization, organization and training together with flexibility and negotiation are essential elements of this approach.

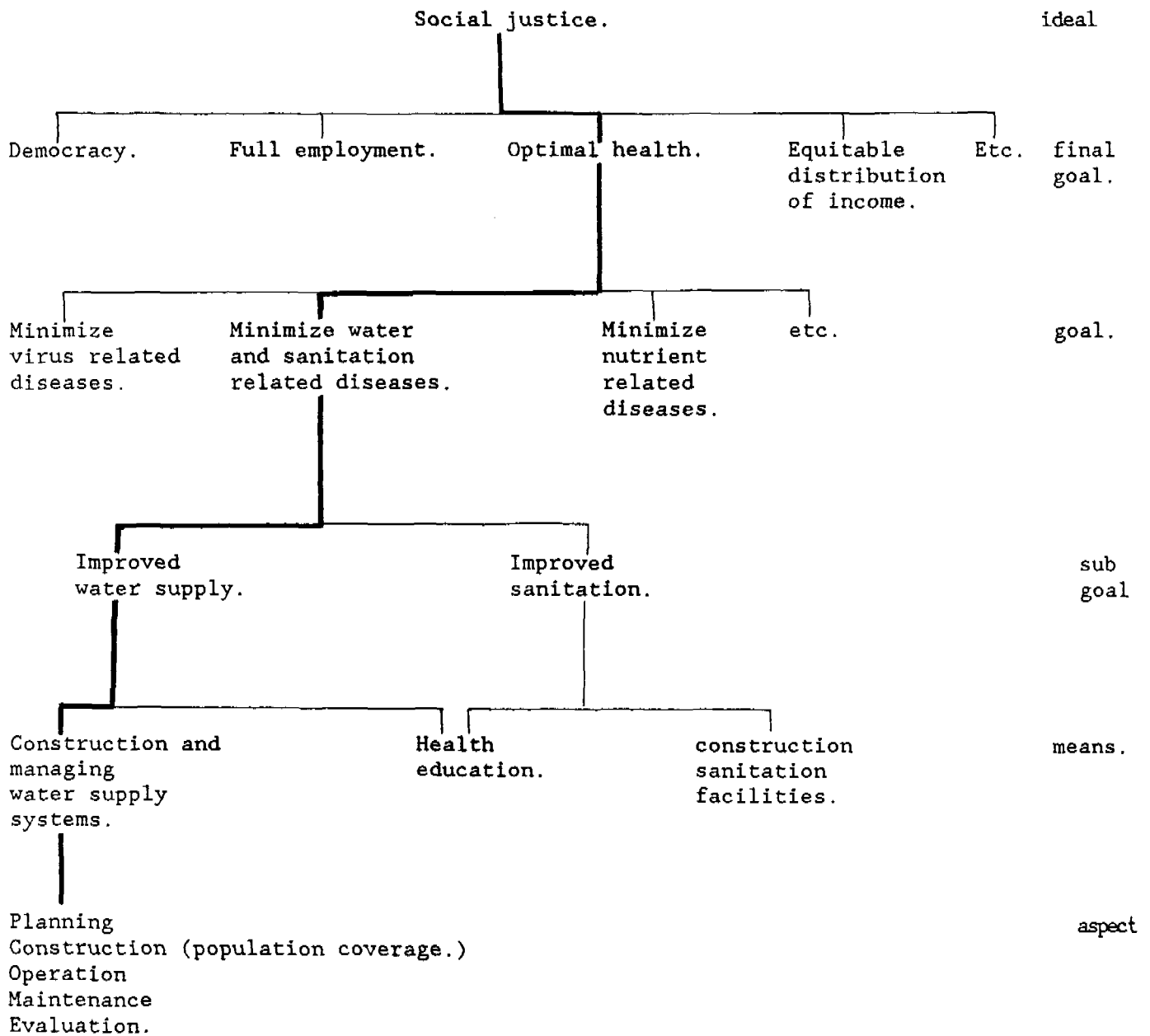


Figure 5.3.3.2.: Goal-means chain of water and sanitation programs.

Step by step procedure participatory approach.

In the SEARO regional papers: "Achieving success in community water supply and sanitation projects" (31), a six-step procedure for the participatory approach is given. In figure 5.3.3.3. this procedure is given.

Advantages and limitations of the participatory approach.

The participatory approach is not always applicable. In order to get insight in the possibilities of the approach, the advantages and limitations are worked out.

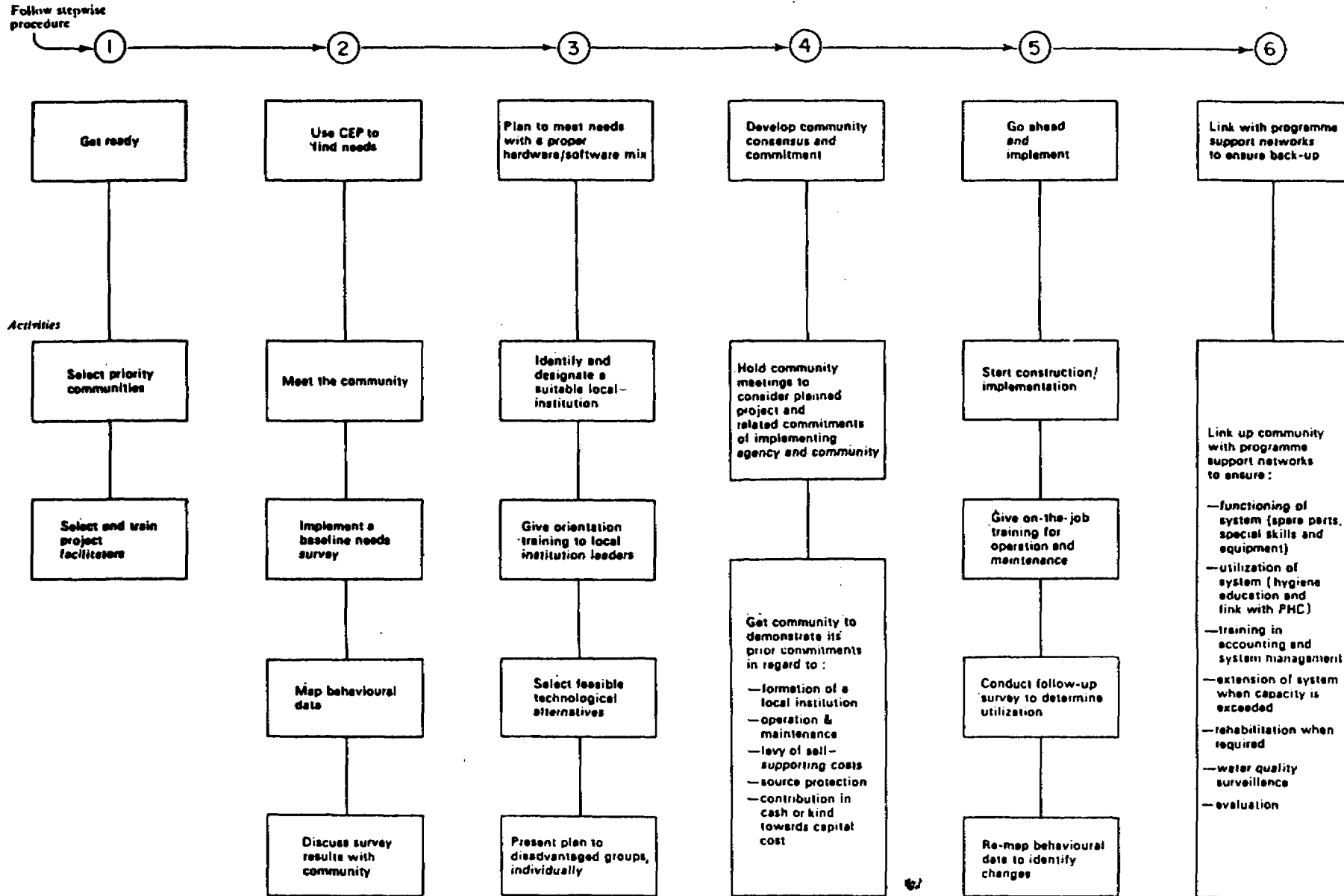
Advantages of the approach.

- * Due to the active involvement of the future users, they may feel responsible for the system, and take action if something goes wrong.
- * The management of small scale water supply systems is often a big problem for local agencies. The problem can partly be solved if the management of the water supply is delegated to the users.
- * Problem solving capabilities are fostered, and can be used for future management of the system but also for ongoing development action.
- * The approach adapts the program to local needs and situation. The conceptual gap is not likely to occur.
- * Costs can be reduced, due to involvement of community in voluntary labour and delegation of management of the water supply.

Limitations of the approach.

- * The intensive collaboration and local flexibility, places high demands on social and technical skills of the whole field staff as well as the program staff. There for, such programs are often relatively small.
- * Long term planning is not possible due to the high flexibility required.
- * There is a possibility that the participatory approach will be used to absolve government from their responsibilities.
- * The approach is often seen as a threat by the authorities. They can be afraid of a shift of power from the centre to the community.
- * In practice it can give more power to local elites, because they are more open to change processes (17).
- * The involvement of the future users can place undue demands on local communities for scarce human and material resources, create unrealistic expectations and foster disillusion, thus inhibiting future cooperation. (17, IRC- Martin 1983)
- * Desired change of traditional paternalistic attitudes of change agents of working with rather than for the community may not be easy.
- * The results from this approach depend to a large extent on the quality, availability and often also the political interest of the representatives of the target group.
It is important that there exists solidarity among the target group as a whole, and that no marked factionalism occurs.

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



* In some situations the future users are involved also in participatory programs in other sectors (e.g. agriculture, forestry etc.). This can lead to "participation weariness".

Figure 5.3.3.3.: Six-step procedure for water supply and sanitation projects.

6. Communication approaches in practice.

In this chapter we want to present the results of the interviews of the 26 IHE-participants with experience in rural water supply. The result will be presented in two ways: First five cases are worked out and after that the results of the interviews will be given.

6.1. Case description.

The cases which are presented here are meant to show some different communication approaches. The cases presented here have been selected to demonstrate the wide range of actual situations. This in order to achieve maximal description and to show the importance of local factors in the selection of the communication approach.

6.1.1. Case Bangladesh.

This case is based on an interview with a interviewee from Bangladesh. The interviewee works in a UNICEF sponsored water supply program for 111 villages. The program only supplies hand pumps.

Communication.

In the planning stage of this program, a masterplan is worked out by technicians from Bangladesh together with social scientists, technicians and field workers from UNICEF. Surveys with future users and interviews with leaders are part of the information gathering process. Much emphasis is put on the elaboration of the masterplan. The whole planning process takes months of work.

After this stage the initiative is given to the future users of the hand pumps. The future users is made aware of the program and can now apply for a handpump. The next criteria for accepting the application are set:

- * A users' group has to consist of approximately 100 people (in the future this will be 75 people).
- * The distance between two handpumps is minimally 500 feet (150 m.).
- * A suitable location of the handpump must have been selected by the future users.
- * The users' group must be organized and a capable care taker must have been selected. In most cases the handpump is to be placed next to his house.

The users' group has to apply for the handpump at the chairman of the parashad (=union, an elected body for approximately 25 villages). He decides if the application is acceptable. In case of a positive decision, he informs the program office.

A technician of the program visits the proposed location, verifies if the criteria are met and decides the type of well to be used.

If undeeep wells are technically feasible, the program only supplies the materials and the future users have to construct the well with technical supervision of the program.

If the ground water is deep, drilled wells are used. Here the drilling team of the program does the work.

Operation and maintenance.

All O&M used to be done by four mechanics for each upasilla (140 villages). With the increasing number of handpumps per village, this system is no more feasible (one mechanic could maximally visit 7 handpumps a day, since all transport is done per bicycle).

Now the preventive maintenance and the simple repairs (change simple spare parts etc.) is done by the local caretakers of each users group.

Complicated repairs are still done by the four mechanics. These mechanics now have time to make monthly visits during which they can advice/educate the local caretakers and sell spare parts.

The training of the caretakers takes place during construction (compulsory) and through facultative two day-training courses after the construction.

Financial management.

The people do not pay for the water. If spare parts have to be bought, collections among the users are held. This does no present problems for simple spare parts. Sometimes the program provides the more expensive spares free of charge. Here the program staff decides if the user group can pay or not.

Observations.

The communication approach is considered to be a big improvement related to the former more didactic communication approach (not described here). Users feel responsible for their own facilities and O&M can partly be delegated to the users.

In poorer regions the system doesn't function optimally. Here people seem to have other priorities than water. Other problems relate to the insufficiency of water in dry seasons and financial problems of the government. (The system of counterpart funding is used. This means that if the government doesn't pay her share of the program costs, UNICEF pays neither. This has lead to problems in continuity of the program.)

6.1.2. Case Nepal.

This case is based on an interview with a Nepalese interviewee. The interviewee works as technician in medium large piped water supply systems (more than 5000 users), under responsibility of the Ministry of Housing and Physical Planning.

Communication approach.

For bigger programs normally a feasibility report is worked out in the planning stage. This feasibility report (consisting of socio-economical report and technical design) is based on surveys, interviews etc. and is elaborated by social scientists, technicians and a team of field workers. Based on these reports the most important decisions related with service level etc. is taken by the Ministry. The feasibility report is also the basis on which financial means can be allocated.

In addition to health-education given by the Ministry of Health, the program provides project oriented health-education. The health-education is organized by the Women Development Section of the Ministry of Housing and Physical Planning. The education is only given to women.

In the planning of construction a local water (or users) committee is formed. This water committee consists of the local leader (from the village panchayat, the lowest administrative body which is elected by the community) who is the chairman, and a number of representatives of the future users. These representatives are appointed by the local leader. At least two women have to be member of the committee.

In some cases public meetings are held to inform the future users before the construction begins, but mostly all communication between the future users and the program takes place via the water committee or the local leader. Other tasks of the water committee are organization of voluntary labour, future management of the system but also control of the contractor during the construction phase. Control of the contractor is necessary since the program supervisors do not stay in the village during construction, and can not visit the site regularly due to the relatively difficult access of rural areas in Nepal.

Operation and maintenance.

Operation and maintenance of the system is placed under responsibility of the water committee. A care taker is selected and trained on site and at special 15 days training courses after the construction.

The water committee decides on the recompense of the care taker. The recompense is payed in cash or kind.

The district headquarters under the responsibility of the Ministry of Housing and Physical Planning, helps the care taker in case of complicated repairs and supply of special spare parts.

Financial management.

The water committee also takes care of financial management. There used to be problems in collection of money for operation and maintenance of the system. For systems with more than 5000 users now a new system is worked

out.

Before starting the construction, the future users agree to do voluntary work at a value of 10% of the total investment cost. The program puts this saved amount of money on a special water account. Only the interest of this money can be used for O&M.(1)

The water committee can only take money from the bank if an agent of the district office also signs. This gives no problems in practice since there is only a bank in the district capital, hence for a visit to the bank one has anyhow to visit the district capital. Also the spare parts can only be bought in the district capital.

This system is relatively new, and can not yet be evaluated. The interviewees think that the system may work. One respondent said that he expected as positive side effect, that users will try to make the system as cheap as possible (2), and that they will properly take care of the money, since it is money which is earned by all future users.

6.1.3. Case India.

This case is mainly based on two interviews with Indian interviewees. Also some side information from the other Indian interviewees is included in this case. The interviewees have all worked in programs providing handpumps and small piped water supply systems.

Communication.

In the programs the interviewees were involved in, direct communication with the future users only takes place during health-education. The rest of the communication takes place via the local leaders (the sarpanch, the elected village authorities and the gram panchayat, the district authority consisting of one member of each sarpanch at least). The only decisions that are not taken by the technician alone, are the choice and the approval of the source and the location of standposts and tanks. For this decisions the local leaders are involved.

During design often surveys are made with a group of field workers under responsibility of the technician (assistant or junior engineer). No social scientists are involved.

The following reasons for not directly involving the future users are given:

- * Standards and masterplans (in which important decisions as service levels are already taken) do not leave much space for possible improvements proposed by the future users.
 - * It was added that decisions taken by the program agents are normally accepted by all. Involvement of representatives of the future users often leads to big conflicts. Differences between casts play a role here.
-

- (1) *The future users can also decide to pay 5% of the investment cost, or to pay 3% of the investment cost and to do voluntary work at a value of 5% of the investment cost. The program also puts than 10% of the investment cost on the special water account.*
- (2) *The respondent refers to cases where the community tries to make the system as expensive as possible in order to maximize the investments in the village.*

- * People are not asked for a contribution, neither for construction nor for O&M. Water is free and considered to be a social service, just like roads etc., provided by the government. Why would the government than ask for involvement of the future users in decision making?
- * Contact with the sarpanch takes place. Since these local leaders also are elected by the future users, involvement of them is seen as involvement of the future users.
- * Time available is limited. Priorities have to be made. Communication with the future users has not a high priority.
- * One interviewee added that the low level of education of the future users makes communication difficult.

Operation and maintenance.

O&M is done by a government agency at district level. In case of breakdowns of the system, the sarpanch sends a special postcard with a standard request to the district office. They take care of the repairs then. This system is said to function well. The only problem here is related with the high costs for logistics in case of simple repairs in villages far from the district capital.

In order to come to a solution to this problem, some years ago experiments with delegated O&M to the sarpanch level have taken place. An extra complication here was that the money still had to come from the government.

This was solved by giving the sarpanch a fixed amount of money per handpump. Evaluation of the results in the state of Rayistan showed that the money was not used for O&M of the handpumps, and that there was a lack of know-how on the local level. Since than O&M is back at the district level again. In the last five year plan now priority is given to improvement of the O&M system on that level (1).

Financial management.

Only users provided with house connections have to pay for water. The collection systems are not always very effective. Defaulting is common practice.

6.1.4. Case Indonesia.

This case is based on interviews two interviewees. The two interviewees work in a Asian Development Bank financed program in South Sumatra, Lampung, Central Java and Yogyakarta. The program implements piped water supply systems.

The communication approach.

In this program, future users are not directly involved in program planning, implementation and future management. The future users are seen as clients of the water supply system.

The planning phase consists of a socio-economical part and a technical part. The socio-economical part is based on surveys and interviews, and is worked out together with social-scientists and field workers. The whole planning phase, which leads to a feasibility report is executed by foreign consultants. On the basis of the report the Ministry of Public Works decides on the service level, etc.

After the design is accepted and financial means are allocated, a public meeting with at random chosen representatives of the future users takes place.

The main purpose of this meeting is to convince people to take house connections. Next to this the future users are informed about the facilities that will be implemented and the financial consequences.

The program will also explain where one can complain or apply for house connections etc. (During construction a special agent of the Ministry of Public Works takes care of communication between the future users and the Ministry.)

Health education is normally organized by the Ministry of Health, but during construction the program organizes also health education sessions. These sessions are organized by a foreign consultant, since the Ministry of Public Works has no specialists to this work themselves.

(1) An other experiment at a program in a semi-urban area, local voluntary caretakers were trained by the program. In this case the local municipality which was responsible for O&M, did not give them authorization to maintain the facilities, because they where afraid for repairs that might lead to the destruction of the facilities.

Operation and maintenance and financial management.

After the construction phase, O&M is taken care of by the district office of the ministry of public works. After reaching the break-even point (when the system is technically functioning, and when costs of O&M can be covered by the collected fees from the future users), O&M is placed under responsibility of the Ministry of Home Affairs.

The main problems in relation with O&M are the high costs for logistics in case of simple repairs, and the relatively high losses.

Financial management.

The users have to pay for water. The objective is to come to full cost recovery. In practice there are problems to achieve this objective. The next problems are indicated:

Problem 1: Not enough application for house connections.

The number of people that apply for house connections are much lower than the assessed numbers in the feasibility report. The paying discipline under the users with a house connection is not high. Due to this, total cost recovery is not possible. Even the break-even point for collection of the amount of money needed for O&M is often not reached in the predicted period. Some reasons for not applying for a house connection are indicated by the interviewees: 1) People who live near to stand posts prefer to use them since water from the standposts is in practice (but not official) free of charge. 2) People do not like the flow restrictors (only a very small, but constant flow is supplied. The users have to take care of a small storage tanks in their house). The interviewees think that much more people will apply if the system with the restrictor is put aside.

Problem 2: Financial losses.

People who can (or do) not afford a house connection, use the public standposts and have to pay a flat rate. Defaulting is common practice (one interviewee thinks that about 25 % of the users pay). This leads to big financial losses.

Interviewees said that they had accepted this situation as a fact that can not be changed, since the government sees water supply as a social service. Hence public standposts can not be disconnected.

The defaulting problem leads now to the unofficial policy that the number of standposts is limited as much as possible.

Next to decreasing financial losses, this policy leads to an increasing number of house connections, since standposts are now further away.

Unfortunately this policy also leads to 20-30% (assessed figure by one of the interviewees) of the potential users that keep on using their traditional sources.

Observations.

- (1) One of the Indonesian interviewees, has been involved in a study of the possibilities of delegated management to the kampong level (lowest administrative level). The objective was to look if simple repairs in areas far from the district office could be dealt with by local caretakers. This in order to decrease costs for logistics and time

losses in case of simple repairs. The interviewee thinks that the system will not be feasible, mainly because there is not enough skill available at the kampong level.

- (2) Two out of six interviewees said that they had doubts if the feasibility reports were always elaborated very carefully. They observed that these reports are always very much alike. Assessments are not always very realistic.

6.1.5. Case Nigeria.

This case is based on an interview with a Nigerian interviewee. The interviewee works for a mainly government financed program that implements piped water supply systems.

Communication.

In the program of the interviewee direct involvement of the future users in the program is almost not taking place. All decisions are taken by the program agents alone. Local authorities are systematically being informed and asked for their opinion. Socio-economical information is only gathered for the elaboration of masterplans.

The only involvement of the future users takes place after the facilities are constructed. Then a complains committee is appointed by the program. Local leaders and other influential persons are asked to be member. The tasks of the committee is to hear complains related with payments, not effective systems etc., the committee informs the ministry if necessary. Further involvement of the users is considered not to be useful, the technicians have enough experience to make proper designs. Health-education is not taking place, "since program agents don't want to preach". Other activities are given higher priorities.

Operation and maintenance.

O&M is done by technicians at the district level (100.000 persons). The technicians work under responsibility of the minister of public works. This system seems to function quite well. The main problems relate with the import of spare parts which have to be payed in foreign currency. This becomes problematic since the local currency has been devaluated considerably. Also financial problems take place.

Financial management.

The financial problems the program is dealing with, are caused by the amount of money payed by the future users. The flat rates which have been set by the government are to low to cover the costs which are made. The agency collects fees in case of house connections. Defaulting leads to disconnection. Local leaders (chiefs at ward level) collect money in case of standposts. This collection system is efficient.

6.2. Contents interviews.

6.2.1. Introduction.

For the description of the results of the interviews, the same sequence as the one followed during the interviews is chosen.

In annex 4, the questionnaire used during the interviews is given.

The answers on the questions are presented more extensive on the basis of the answer categories that appeared most often (see annex 5). In annex 5 some questions are left away that during elaboration were found to be uninteresting, or that gave contradictory results.

We will start to describe some findings in relation with the communication approach in general and on communication during program planning and during the construction phase. Besides this findings about water committees, operation and maintenance and the financial management are presented.

6.2.2. The communication approach.

With the help of figure 6.2.1.1., 6.2.1.2., and 6.2.1.3, the interviewees were asked how decision making is taking place (see chapter 5.2.). In 11 out of 26 cases information from the target group is gathered before the program staff takes the decision (see figure 6.2.1.2.). Two interviewees do not gather information from the target group before decision making (see figure 6.2.1.2.). In no case systematic joint decision making does take place (see figure 6.2.1.3.). In two cases the interviewees said to follow an approach between figure 6.2.1.1. and 6.2.1.2. (hence the program contents is, to a certain extent, adapted to the future users), in 11 cases an approach between figure 6.2.1.2. and 6.2.1.3. (hence joint decision making is, to a certain extent, taking place).

In 22 out of the 26 cases the interviewees said that there had been a shift in policy towards an approach where more often information about the target group is gathered or where joint decision making takes place (Hence a shift from figure 6.2.1.2. towards figure 6.2.1.3.).

In the two cases where no information from the target group was gathered, hence where a didactic approach was followed (see chapter 5.3.1.), the interviewees said that they didn't need such information. They said that they knew from experience that their system can be operated, maintained and payed for.

In the cases where no joint decision making is taking place, but where information from the target group is gathered and included in the program contents, a social marketing approach is followed (see chapter 5.3.2.).

The reasons for not involving the target group in joint decision making is the lack of time (the approach is found to be too labour-intensive), and the fact that joint decision making is just not policy of the program.

Systematical joint decision making does take place in non of the cases. In the cases where joint decision making took place (11 out of 26 cases), the partner in decision making is the local authority or the water committee, which in all but one case is dominated by the local authorities (see chapter 6.2.4.). In other words; if joint decision making does take place the local authorities are always the mediator between the users and the program.

One can not state that in programs where joint decision making with the local administration takes place apply a participatory approach. For a participatory approach the local population (=future users) should be involved actively in the decision making (18). This is not the case here, the future users can be by-passed completely if only communication with the

local administration takes place.

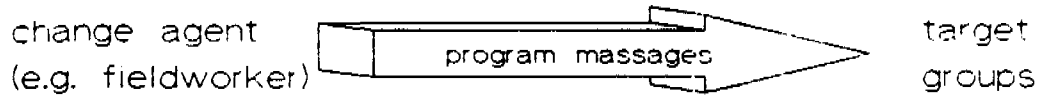
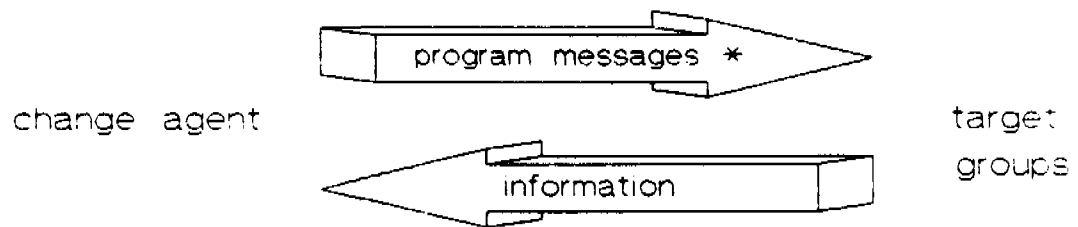
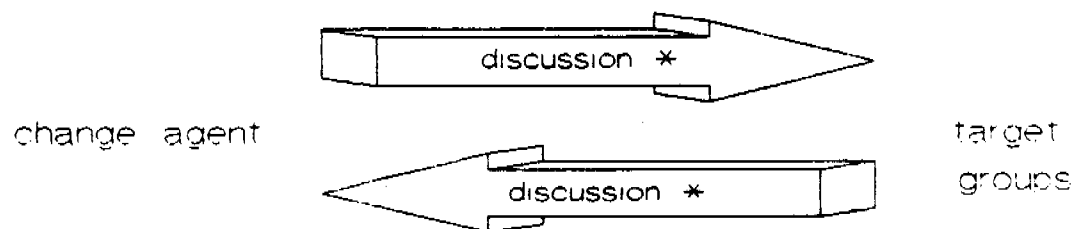


Figure 1: Communication model Didactic approach.



* Adapted Health education, technical information etc.

Figure 2: Communication model Social Marketing approach.



* joint decisionmaking in group discussions etc.

Figure 3: Communication model Participatory approach.

Figures 6.1.1./2./3. Models of the three communication approaches.

The interviewees consider that participation of the local administration in decision making is an improvement in relation with the didactic approach, because O&M can be delegated and the fact that the community feels responsible for the system now.

Public meetings are held most often before beginning the construction (14 out of 26 cases), and in the design phase (11 out of 26 cases). In 4 cases no public meetings were held. The purpose of the meetings is most often to inform future users about the facilities that will be implemented and the financial consequences of the new system. Also health education is given in public meetings.

People are attracted to come to the meetings by dramas (Bangladesh), cinemas and free transport to the meeting place (India).

The health education organized by the program, is most often given complementary to existing programs organized by the ministry of public health.

6.2.3. Communication during program planning.

Most interviewees have experience in program planning. Most often in the (technical) design of the system (22 out of 26 cases).

During design the technician is assisted by field workers (13 out of 22 cases), or social scientists (9 out of 22 cases).

Often only information needed for the technical design is gathered (12 out of 22 cases). In 10 cases one also gathers information to decide which service level is affordable for the people.

The used information sources are local authorities (21 out of 22 cases), local water committees if they exist already in this stage, surveys (12 out of 22) and informal discussions with teachers, local health workers, etc.

Some extra questions were asked about the determination of the place of the standpost (or handpump). This is done since it will show more clearly which communication approach is used in practice.

For the determination of the place of the standpost the next possibilities are distinguished:

- 1) The technician decides alone. He bases his decision on standards and his experience (6 out of 22 cases).
- 2) The technician proposes a place which is discussed with the future users. Change of the place is possible now (10 out of 22 cases).
- 3) The technician proposes a place which is only discussed with the local authorities alone (4 Indian cases).

In two cases only house connections were constructed. Here (Thailand) standposts are only applied to limit the consumption in case of a limiting quantity of water available.

6.2.4. Communication during program implementation.

In 16 out of 20 cases where the interviewees have experience in this phase, the future users are informed about the facilities that will be implemented. Information of the future users takes place in public meetings before the beginning of the construction. In 5 cases only local authorities are informed.

In 17 out of 20 cases future users sometimes propose improvements of the original design. In 18 cases changes in the original design can still be made if the financial consequences are not too big.

Most other communication in this phase takes place via local leaders and/or the water committee. In three (Indonesian) cases a special "communication-agent" is posted in the area. This agent takes care of all communication between the program and the future users. He organizes also regular special meetings.

6.2.5. Water committees.

Elaboration of the results show that in 10 out of 26 cases always local water committees are formed. In two cases sometimes a water committee was formed (experiments in India and Indonesia).

The water committees are not autonomous. In all cases the committee is appointed by the local leaders. In Nepal and Tanzania respectively 2 and 3 women have to be member of the committee. In Tanzania the local health worker and the water technician have to be member and in Indonesia a member of the local development committee (the cooperative) has to be appointed. In the other cases everyone can be appointed/asked by the local leader.

The tasks of the water committee is with one exception, were the only task is to hear complains, to operate, maintain and manage the system. Other tasks are organization of voluntary labour, report of major breakdowns and even control of the contractor during construction of the facilities (Nepal).

6.2.6. Operation and maintenance.

O&M is delegated to local authorities or water committees in 10 out of 26 cases. In 5 cases O&M was sometimes delegated. In the other cases O&M was done by a national organization, normally the implementing agency or a special, sometimes semi-autonomous agency at district level.

These agencies were normally also under final responsibility of the implementing ministry.

All programs that do not delegate O&M, face the problem of the high costs for logistics in case of simple repairs at water supply systems far from the (regional) office of the organization responsible for O&M. This does not mean that interviewees that face this kind of problems agree with the Dutch policy to encourage users management in such situations (see question 7.6., annex 5), only the interviewee from Kenya agreed.

Interviewees from India stated that experience with users management was bad (see India case). Interviewees from Indonesia, Philippine, Nigeria and Thailand stated that O&M at the district level still enjoys more confidence. The interviewees often stated that organizing the target group is too difficult since the target group is not homogeneous and since they consider

the level of thinking (literacy, knowledge of the benefits, organizational capacities, local skills and abilities) of the target group, to be too low (see question 3.6.5., annex 5).

In cases where O&M was delegated to the local administration or a water committee dominated by the local administration, not much problems were faced with care takers who were not motivated (4 of 15), or not capable (1 of 15).

In all cases a government support organization was available for complicated repairs, supply of spares and training of care takers.

In all cases care takers are trained on site. In 14 out of 15 cases care takers can be trained at special training courses which can be visited facultatively.

Other problems that often were faced in all programs is the lack of money. Often there are problems with the availability of spare parts due to import restrictions, a big diversity of spare parts and a lack of standardisation of handpumps.

6.2.7. Financial management.

The users of the water supply systems which have a house connection all have to pay.

Sometimes users of standposts can use water free of charge (see cases India and Nepal).

Often there are financial problems (23 out of 26). Defaulting is common practice (12 out of 20 cases). Other problems that occur are that people can not pay and return to their old sources (Kenya where a kiosk system is used and Indonesia, see Indonesia case), and that money is not put on a special water account, but that it is mixed with other government income (Kenya and Thailand).

6.2.8. Indicated problems.

The problems in relation with rural water supply, that were indicated most often by the interviewees were:

- * All programs that do not delegate O&M, face the problem of the high costs for logistics in case of simple repairs at water supply systems far from the (regional) office of the organization responsible for O&M.
- * Communication and delegation with the future users is difficult since the users' group is not homogeneous and the level of thinking (literacy, knowledge of the benefits, organizational capacities, local skills and abilities) of the users is considered to be too low (see 6.2.6.).
- * Often programs face problems with the availability of spare parts due to import restrictions, a big diversity of spare parts and a lack of standardisation of handpumps.
- * Financial problems due to defaulting do often occur. Other financial problems that occur are that people can not pay and return to their old sources, and that money is not put on a special water account, but that it is mixed with other government income (see chapter 6.2.7.).

7.0. Analysis.

Introduction.

In chapter 5 and 6, current thinking on communication and the interview results are described. In this chapter, we will try to come to conclusions and recommendations by further analysis of current thinking on communication and the interview results.

The analysis will consist of two chapters:

- * Chapter 7.1., in which the factors that play a role in the selection of the communication approach are analyzed. This chapter will result in two tables, which are given in annex 6.
- * Chapter 7.2., in which the communication approach applied in the programs of the interviewees will be analyzed.

7.1. Which factors play a role in the selection of communication approaches.

7.1.1. Introduction.

A. van der Ban's (2) spiral model (see figure 7.1.1.) of the elaboration process for extension programs can help to get insight in the selection process of communication approaches.

According to Van der Ban the elaboration of a program as a process where decisions about the objective, target group, program contents, program method and organization do mutually influence each other.

The program staff can not take all decisions at once. Van der Ban advises to start with global decision making and gathering of information. After this first stage one can come back to the same points in order to define the decisions. This process can be repeated until the program is worked out to satisfaction of the program staff.

One can best start with the points that have the biggest influence on other decisions, hence one can best start with the goal and the target group.

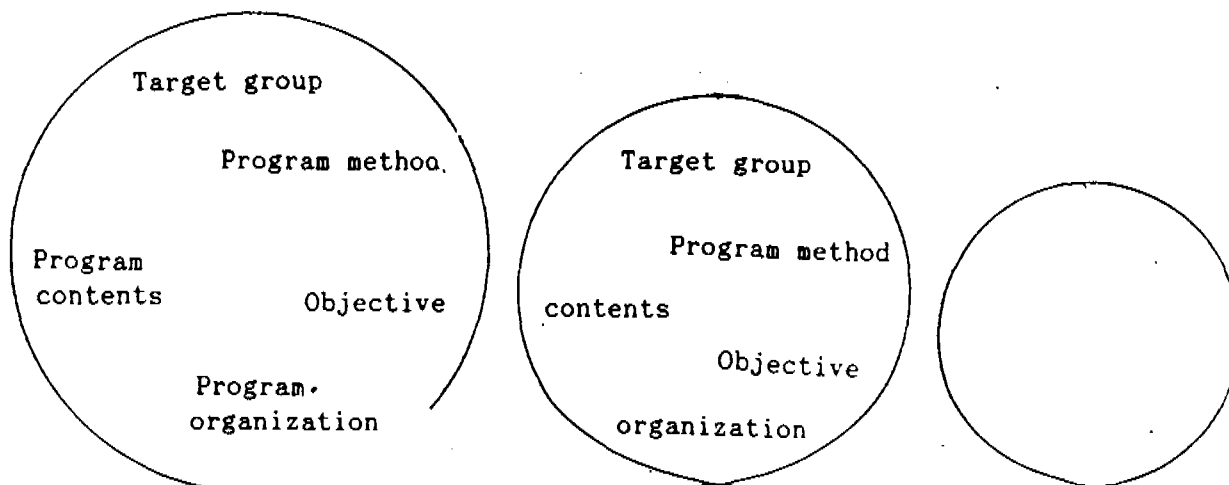


Figure 7.1.1. The spiral model of the elaboration process of an extension program (2).

Decisions on the communication approach are part of the elaboration process of the program method. In figure 7.1.1. we see that the choice of the program method is influenced by the objective, the target group, the program contents and the organization (see also figure 7.1.2.).

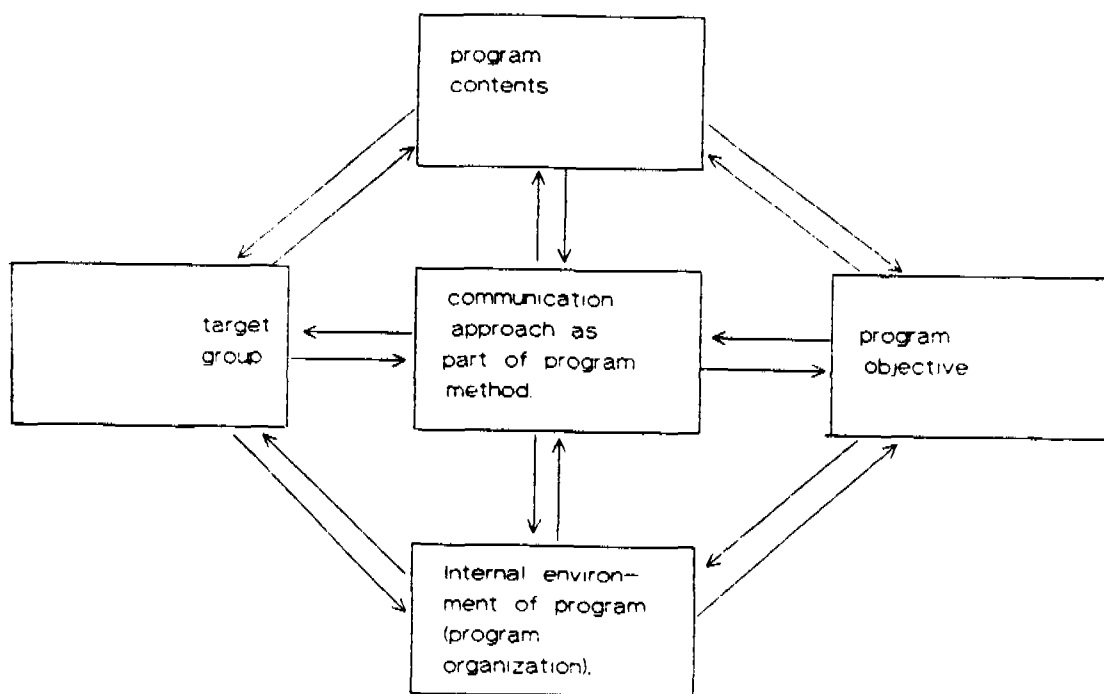


Figure 7.1.2. Model showing the factors influencing the selection of the communication approach.

Figure 7.1.2. gives a rather simplified picture of the selection process. In reality there are more factors influencing the selection of the communication approach.

A broader model can be elaborated with the help of the contingency approach for the elaboration of the organization structure of enterprises (32). This approach postulates that the functioning of an enterprise (or program) is determined for a large extent by the external environment of the enterprise or program.

The external environment of a rural water supply consists of: the political structure, the physical characteristics, financial donors, local administrative structure and the target group.

Adaption of figure 7.1.2. to this way of looking to the process leads to figure 7.1.3. This figure shows that the selection of the communication approach is, besides the program objective, the program contents and the program organization, not only influenced by the target group, but by the whole external environment.

In this thesis we will make use of this way of looking to the selection process. In chapter 7.1.2. up to chapter 7.1.5. the four basic factors that influence the selection of the communication approach are further analyzed.

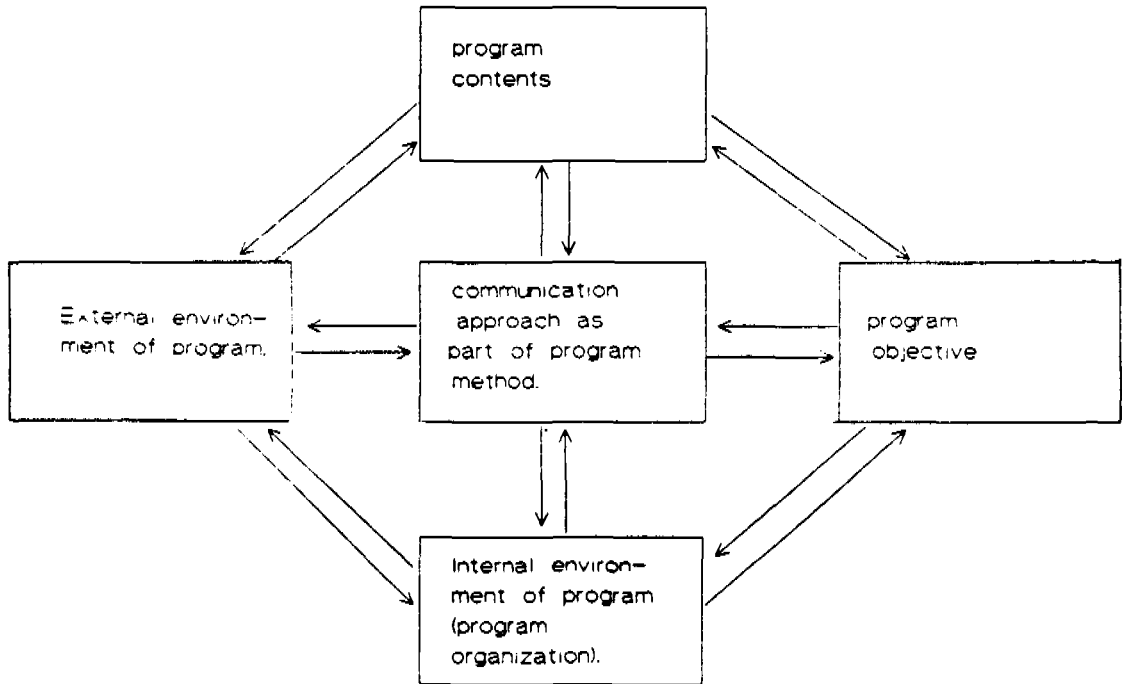


Figure 7.1.3. Adapted model showing the factors influencing the selection of the communication approach.

7.1.2. The program objective.

Each program strives for ideals and has its final goals, goals, sub goals and means to achieve the goals. This is not always done in a conscious way. This can lead to exchange of means and goals, but there is also a danger that people strive for ideals, not realising which goals they have to achieve for this.

These problems can be prevented if people work out a ideal-means model for their organisation. Figure 7.1.2.1. gives this model for a water supply program.

The difference between the participatory approach and the other approaches is related with the program philosophy. The program philosophy of programs following a participatory approach can be described as: how do we help them to solve their own problems (to do with). Hence these programs do not only opt for an improved water supply, but they also want to foster problem solving capacities that can be used again for achieving the final goals given in figure 7.1.2.1.

The communication approach of a program following a participatory approach will be characterized by joint decision making with the users, since joint decision making is the main means to come to problem solving capabilities of the future users.

In programs using the didactic approach or the social marketing approach one normally opts for sub goals as implementation of improved water supply systems etc. (see fig 7.1.1.).

This objective does not result in special requirements for the communication approach.

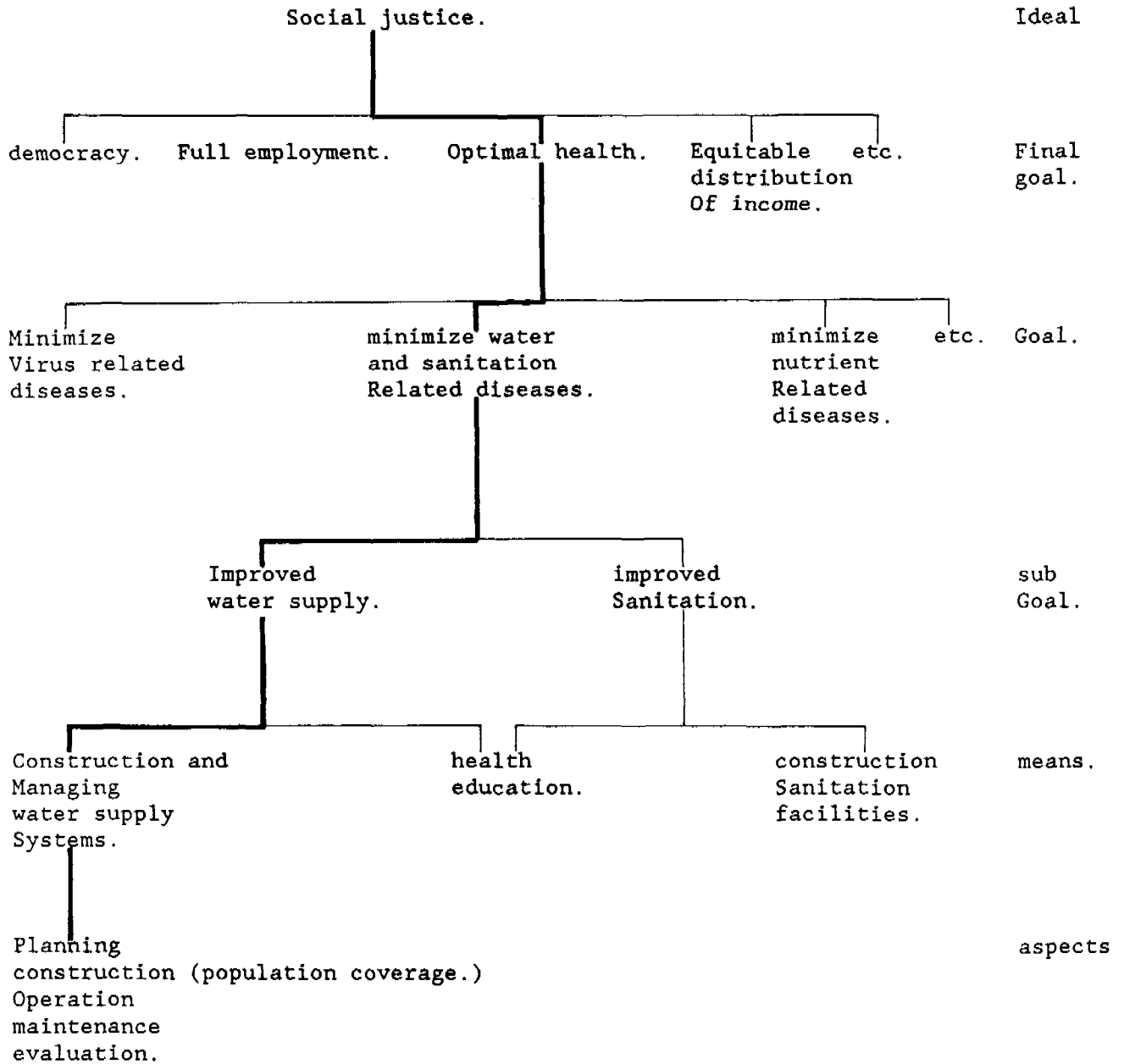


Figure 7.1.2.1.: Goal-means chain of water and sanitation programs.

7.1.3. The program contents.

The type of social change the program wants to bring about, the question to whom the management of the water supply will be given and the type of technology, have the biggest influence on the selection of the communication approach. We will analyze these three points.

7.1.3.1. What kind of social change the program wants to bring about?

In chapter 5.2. the types of social change are described. We distinguished: cognitive change, action change, behaviour change and value change.

The programs of the interviewees often try to bring about cognitive change (eg. giving information to the users about new facilities and the (financial) consequences of the new water supply system) and action change (eg. voluntary labour and promotion of house connections). These social changes are tried to bring about by organizing public meetings at the start of the implementation stage. In one case (see Indonesia case) a special "communication agent" is posted in the program area. His main task is to assist the people in applying for a house connection.

If programs want to bring cognitive changes, any of the three communication approaches (the didactic, the social marketing and the participatory approach) can be applied (see chapter 5.3. (19, 24)).

In the programs of the interviewees, health-education is the only form of behaviour change of the users the programs try to bring about.

From literature (5, 19, 24, 31) it becomes clear that if lasting behaviour change has to be brought about, intensive and long lasting communication between the program and the users will be necessary (see chapter 5.3.3.). Health education programs have to adapt their messages to the target group and the program has to accompany the target group through the stages of the behaviour change process (see chapter 5.2. and figure 5.2.1.).

If programs really opt for complex behaviour change, one will have to opt for a participatory approach in at least the health education component of the program.

During the interview not enough questions were asked to be sure if communication was intensive enough to bring about behaviour change.

7.1.3.2. Who will manage the water supply?

In the introduction (see chapter 3.1.) the importance of good management for an implemented water supply system has already been explained. A water supply system will have to be operated and maintained. In addition proper financial management will have to take place (20).

From the interview results it appeared that the management of the water supply system can be given to: (1) a national organization, (2) the local administration and (3) the users.

The choice between these three options determines to a large extent which communication approach should be applied. If a program opts for users management, the program will have to apply a participatory approach because only by applying the participatory approach:

- * the users will feel responsible for the system.
- * problem solving capacities of the users will be fostered. By participating in decision making the users will learn to solve their own problems related with future management (see chapter 5.3.3).

If the management of the water supply is not given to the users, the national organization or the local administration will be responsible and will solve the future problems with the water supply system. Consequently it is not necessary (but not useless neither!) to apply a participatory approach in this case. Both a social marketing approach and a participatory approach can be applied now (with both approaches the conceptual gap can be bridged).

The management is given to:			
	National organization.	Local administration.	Users.

Communication appr. that should be applied.	Social Marketing or participatory approach.	Social Marketing or participatory approach.	Participatory approach.

Table 7.1.3.2.: Influence of the choice to whom management is given on the choice of the communication approach.

Now that the importance of the choice to whom the management of the water supply system is given is apparent, the factors that influence this choice will further be analyzed.

1) The management is left with the national organization.

From the interview results it appeared that in 10 out of 26 cases the responsibility for the management of the water supply is given to a national organization (see chapter 6.2.6.).

Reasons for leaving the management of the water supply at the national level can be:

- * the type of technology is too complex to delegate the management of the water supply. This was the case in Thailand, Indonesia and Nigeria where pumped water supply systems were implemented.

- * the distance to the nearest office of the national organization is not too large. Hence the costs for logistics will not be too high (see chapter 6.2.6.)
- * the limited capacity of the local administration or the users to manage the system. Hence leaving the management at the national organization is the only alternative.

2) The management is delegated to the local administration.

In 15 out of 26 cases the management of the water supply is always or sometimes delegated to the local administration, or to a water committee dominated by the local administration (see chapter 6.2.5. and 6.2.6.).

The main reason to choose for this option is that in this way the program can solve the problems related with staff shortages and budgetary constraints caused by the sometimes highly inefficient centralized management system. The inefficiency is related with the high costs for logistics and labour for simple repairs, specially in program areas far from the (regional) office of the national organization (see 6.2.6.).

Management of the water supply can only be delegated to the local administration if:

- * the technology is not too complex.
- * the local administration is capable to accept these tasks.

There are several factors which can reduce the effectiveness of the local administration managing the water supply system (20). These are:

- * Local administrative bodies may be established at a level above that of a single village or community. This widens the physical and psychological distance to the users. Besides, the water supply system may cover only part of the administrative area, or cut across two adjacent administrative areas.
- * Local administrations have many other tasks, which compete with the water supply system for time and money.
- * Responsibility and authority accumulate within a small group. This increases the chance that funds meant for maintenance and repair of the water supply system are spend for other purposes (see case india).

3) The management of the water supply is delegated to the users.

In only 1 out of 26 cases the management of the water supply is delegated to the users (users management). The main reason to opt for users management is also that in this way the problems with budgetary constraints and staff shortages of the national organization can be solved. Programs opt for users management if the local administration is not capable to accept more tasks, or if delegation of more tasks to the local administration is not convenient (see above).

Users management is only possible if:

- * the technology is simple.
- * the target group is homogeneous and has enough (potential) skills to manage the system (see 5.3.3. and 6.2.6).
- * the program agents have enough social skills to apply the participatory approach which should be applied in this case (see chapter 5.3.3.).

Table 7.1.3.2. gives an overview of the factors influencing the choice to whom the management of the water supply system will be given.

Factor. The management is given to:

	National organization.	Local administration.	Users.
Type of Technology	All types possible.	Simple technology.	Simple technology. (Handpumps or gravity piped water supply)
Physical characteristics.	Distance nearest office organization not too large.	Big distance no problem.	Big distance no problem.
Capacity local administration.	Of no importance.	Capacity and skills available to accept more tasks.	Often chosen if local administration is not capable to accept more tasks.
Target group.	Of no importance.	Of no importance.	Should be homogeneous, enough (potential) skills available.
Program agents.	Only limited social skills necessary.	Only limited social skills necessary.	Social skills necessary.

Table 7.1.3.2.: Overview of the factors influencing the choice to whom the responsibility for the management of the water supply system will be given.

7.1.3.3. The type of technology.

The type of technology is only indirectly determining the communication approach. Delegation of the management to the local administration or the users is only possible if the technology is not too complex. In chapter 7.1.3.2., the importance of the question to whom the management of the system will be given has already been explained.

The choice of the type of technology is influenced again by the physical characteristics of the program area (the topographical and hydrological situation) and the target group characteristics (see chapter 7.1.5.5.)

7.1.4. The internal environment of the program.

With the internal environment of the program is meant the whole program organization, with all its possibilities and impossibilities. The (financial) capacities and skills of the program agents determine to a large extent the communication approach. These two points will be further analyzed.

7.1.4.1. The costs of the communication approach.

In literature not much information about the costs of communication approaches is available.

In the program background of a program by the Republic of Honduras and USAID (37) figures on the costs of the social marketing approach are given. From the total program costs of \$18.200.000, one million was used for the health communication component. In this program extensive use of mass communication media was made. For this reason this program is not a good example of a social marketing approach as it is seen in this thesis.

Figures on the cost of the community participation component vary from 7 to 17% of the overall program costs (20).

In table 7.1.4.1. an impression of the program costs for the three main cost groups are given. The costs for planning, the investment costs and costs for the management of the water supply are given in relation with the costs of a program following the didactic approach (D.A.).

Cost groups.	Social Marketing Approach (S.M.).	Participatory Approach (P.A.).
Planning costs. (1)	Higher than D.A. (extensive information gathering).	Higher than D.A. since involvement of users costs money. (More program agents with as well techn. as social skills are needed for a longer time).
Investment costs:		
* Materials.	Same as D.A.	Same as D.A.
* Labour costs. (2)	Same as D.A.	Due to flexible planning more labour costs for program agents. Costs can decrease due to voluntary labour.
Costs for management of water supply.	Same as D.A.	Can be considerably cheaper as S.M. and D.A., if management of water supply is delegated to the future users.

Table 7.1.4.1. Program costs for Social Marketing and Participatory Approaches in relation with program costs for Didactic Approach (D.A).

-
- (1) *This only proves that planning without considering community needs and situation is cheaper at short notice. If the system is not used or not properly used, operated and maintained, the whole investment can be lost.*
- (2) *Also programs not using the participatory approach often make use of voluntary labour. It should be realised that participation of the users in voluntary labour doesn't mean that a participatory approach is used (read definition participatory approach in chapter 5.3.3.).*

7.1.4.2. The number of program agents and their skills.

In chapter 5.3. an indication of the necessary skills and the number of program agents for each communication approach can be found. In table 7.1.4.2. a recapitulation is given.

Description	Didactic appr.	Soc. Mark.Appr.	Partic. Appr.
Number of agents.	Only for technical work.	Idem, but also specialists for program planning.	Bigger number of agents for communication with future users.
Necessary skills.	Agents with technical and limited social skills.	Agents with technical and limited social skills & social scientists for program planning.	Agents with technical as well as social skills during program planning and implementation.

Table 7.1.4.2. The number of program agents and the necessary skills needed for the three approaches.

The interviews gave the impression that the implementing agencies often do not have enough agents with the necessary social skills. Often (expensive) consultants (partly) elaborate the program planning (Indonesia, India, Bangladesh), and the health education (Indonesia) since the implementing organization does not have the necessary agents.

I think that the lack of social skills of program agents is one of the main reasons to opt for the didactic or the social marketing approach (in the case of the social marketing approach specialized social scientists have only to be hired during program planning).

One should realize that the skills of the program agents are not fixed. Human resource management can increase the capacity or the program staff.

7.1.5. The external environment of the program.

In chapter 5.4. it is explained that besides the target group the whole external environment (including the target group) has influence on the selection of the communication approach. The external environment of a rural water supply program consists of: the political structure, the physical characteristics, the financial donors, the administrative structure and the target group. In this chapter we will analyze these parts of the external environment.

7.1.5.1 Political structure.

From literature (17) it is clear that the political structure has a big influence on the selection of the communication strategy. In literature the distinction between countries with centralized and decentralized governments is made.

In countries with a centralized government people are accustomed to decisions being taken for them. In this situation one can start to opt for a didactic or social marketing approach that are also based on centralized decision making (see chapter 5.2.). If necessary one can work towards a more democratic structure.

In decentralized countries a participatory approach will be easier to realize.

7.1.5.2. The physical characteristics.

The two physical characteristics that influence the selection of the communication approach most are: the distance between the program area and the nearest office of the national organization managing the water supply, and the physical characteristics that influence the choice of the technical solution.

The distance between the program area and the nearest office of the national organization.

In chapter 6.2.6. and 7.1.3.2. it is already stated that there is a tendency to delegate the management of the water supply to the regional level if the water supply is far away from the nearest office of the national organization. The main reason was the high costs for logistics and labour in case of simple repairs. This was specially the case in Indonesia, where water supply systems are sometimes situated on other islands than the district office, in Nepal where the infrastructure is not very good and in India, where a service team of the implementing agency has to travel up to 400 km for very simple repairs of the handpumps.

The physical characteristics influencing the choice of the technical solution.

It goes without saying that the technical solution that is applied has a big influence on the communication approach. From the interviews it is clear that the simpler the technology, the more often attempts were made to delegate the management of the water supply. If handpumps were used there

were always more (Bangladesh, Tanzania, Burma and Shri Lanka) or less (India) successful attempts made to delegate the management of the water supply.

The interviewee from Shri Lanka stated that often the local bicycle mechanic was dealing with the maintenance of the handpumps. The mechanic always has the necessary tools. To his opinion the maintenance of handpumps is easier than the maintenance of bicycles specially if the handpump model is standardized and if not too many different spare parts have to be used.

If piped water supplies are applied, delegated management becomes more difficult. In this case the care takers need more training, tools and spare parts. In case of gravity systems, delegated management is still feasible (Nepal, Burma and Tanzania). If the topographical and hydrological situation is such, that pumps are needed (Nigeria and Thailand), so much technological knowledge is needed that it seems more feasible not to delegate the management.

7.1.5.3. The financial donor.

During the interviews some examples were given of the influence that financial donors have on the communication approach. The Kenyan interviewee stated that only a participatory approach was followed if the financial donor wanted it.

In Indonesia the Asian Development Bank only accepts foreign consultants to elaborate the program planning. The loan is only given if a system of total cost recovery was implemented. These requirements automatically lead to a more social marketing-like communication approach with intensive research at the start of the program and a kind of public relation agent which tries to convince people to take house connections (see Indonesia case).

I do not know whether the influence of financial donors is positive or not. From other countries, donors may have positive experiences with a specific approach. Hence the donor can give valuable advices. Besides that, it seems to me that the implementing organization should decide what communication approach is used.

The influence of the donor can also have negative consequences if the financial leverage of the donor forces the implementing organization to change the communication approach, but fails to convince the implementing organization that the new approach is really an improvement in the given situation.

7.1.5.4. The local administrative level.

If programs decide to delegate the management of the water supply, one has two choices: delegation to the local administrative level or to the future users. In chapter 7.1.3.2. it has already been explained that most programs prefer to delegate the management to the local administration. Delegation to the local administration will only be successful if the capacity and capabilities of the local administration is sufficient. In cases where this is not the case (see India case) it is probably better to delegate management to the future users or to help to develop the local administration (besides increasing the problem solving capabilities of the future users (see chapter 5.3.3. and 7.1.2.), one can also choose to increase the problem solving capacities of existing institutions).

7.1.5.5. The target group.

The target group is the group to whom the program is primary depending for the realisation of their goals.

The target group characteristics do directly and indirectly influence the selection of the communication approach.

The target group characteristics do most directly determine if a participatory approach is feasible or not. Participation of the target group in joint decision making and delegated management of the water supply is only possible if there exists solidarity among the target group as a whole, if already forms of organization and authority exist, and if no marked factionalism occurs (see chapter 5.3.3.).

The target group does indirectly influence the selection of the communication approach by influencing the selection of the technology. In the programs where the interviewees from Thailand worked, only pumped water supply systems with house connections were implemented. The economical situation of the target group was such that this system could be afforded. In chapter 7.1.3.2. it has already been stated that more complex technologies decreases the chance that users management is still possible. If no users management takes place, it becomes more probable that no participatory approach is applied.

In table 7.1.5. a recapitulation of the factors that have an influence on the choice of the communication approach is given. In this table the factors that only indirectly influence the communication approach are left away. These factors (type of technology, physical characteristics and the capacity of the local administration) only influence the communication approach by determining to whom the management of the system will be given (see table 7.1.4.1).

Factors	Didactic approach (to do to)	Social marketing approach (to do for)	participatory approach (to do with)
<u>1) program objective.</u>	Implementation of improved & sustainable water supply systems.	Idem, point of view of both users and planners considered.	Idem + fostering problem solving capabilities that can be used again.
<u>2) Program contents.</u>	Not adapted to needs and situation users.	Adapted to users within program intensions.	Adapted to needs and situation users.
* Kind of social change that can be brought about.	Cognitive, action and simple behaviour change.	Idem.	Also complex behaviour change.
* Management of water supply given to:	National organization or local administration (see tab. 7.1.4.1.).	Idem. (see also table 7.1.4.1.).	Idem + users. (see also table 7.1.4.1.).
<u>3) Internal environment.</u>			
* Skills program agents.	Technical and limited social skills.	Idem and social specialists during program planning.	Technical and social skills during all program phases.
* Program costs.	Low during planning and implementation, high after implementation if management can not be delegated.	High during planning. Low during implementation. high after implementation if management can not be delegated.	High during planning and implementation (can become lower due to voluntary labour). Lower costs after implementation when management can be delegated.
<u>4) External environment.</u>			
* Political structure.	More often centralized.	More often centralized.	More often decentralized.
* Financial donor.	Depending on objective and philosophy donor.	Idem.	Idem.
* Target group characteristics.	No special requirements.	Idem.	Homogeneous, (potential) skills.

Table 7.1.5.: Factors influencing the choice of the communication approach.

7.2. The communication approaches applied in practice.

7.2.1. Introduction.

In chapter 5.3. the three broad approaches to communication are distinguished: the didactic approach, the social marketing approach and the participatory approach. Before it will be analyzed which approaches are used in practice, these three communication approaches will be shortly recapitulated.

- * If a didactic approach is chosen, joint decision making is not taking place, and the program contents is not adapted to the future users. The program staff thinks that they know what is best for the users. Here only one-way bottom up communication from the program to the future users takes place (see figure 7.2.1.1.).
- * If one opts for a social marketing approach, joint decision making will not take place, but the program contents is, with the help of research, adapted to the future users. Here two way communication takes place. During the research period information is flowing from the target group to the program. The program staff is than taking the decisions. These decisions result in program messages from the program to the future users. The program messages can be seen as a form of public relations. The public relation messages are meant to make people accept the adapted program contents (see figure 7.2.1.2.).
- * In case of selection of the participatory approach, joint decision making takes place, and the program contents is adapted to (and with) the future users. Joint decision making is the main means to come to problem solving capabilities of the future users. The problem solving capabilities are needed for users management and even ongoing development action (see figure 7.2.1.3.).

In table 7.2.1. a recapitulation of the differences between the three broad communication approaches is given.

	Didactic approach (to do to)	Social marketing approach (to do for)	Participatory approach (to do with)
Is the program contents adapted to the users?	No	Yes	Yes
Does joint decision making take place?	No	No	Yes

Table 7.2.1.: Recapitulation of differences between the three basic communication approaches.

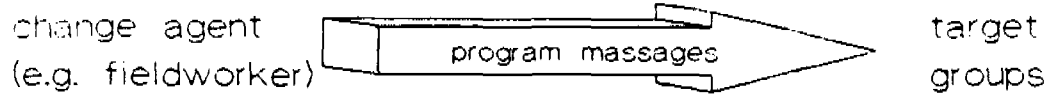
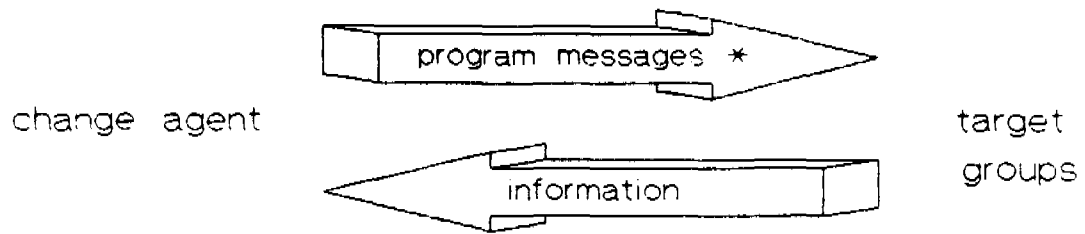
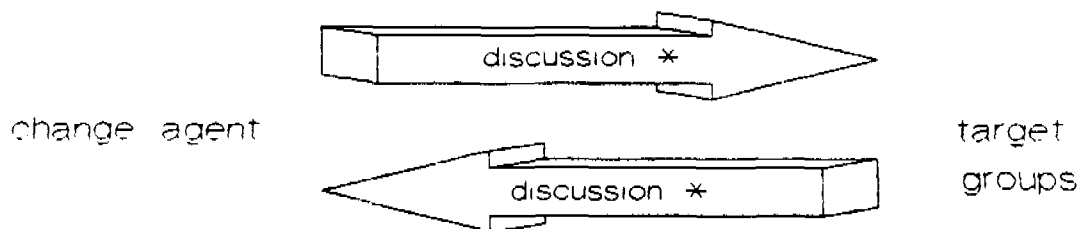


Figure 1: Communication model Didactic approach.



* Adapted Health education, technical information etc.

Figure 2: Communication model Social Marketing approach.



* joint decisionmaking in group discussions etc.

Figure 3: Communication model Participatory approach.

Figure 7.2.1.1./2./3.: Models of the three communication approaches.

7.2.2. The applied communication approaches in the programs of the interviewees.

In the programs of the interviewees the communication approaches described in chapter 5.3. are not used in their pure forms. Many programs combine elements of these three general approaches.

In practice the extent to which the program contents is adapted, and the extent to which all users or their representatives participate in decision making (the depth of participation (17)) varies. The three communication approaches should be seen as the extremes defining all possible communication approaches (see figure 7.2.2.1.).

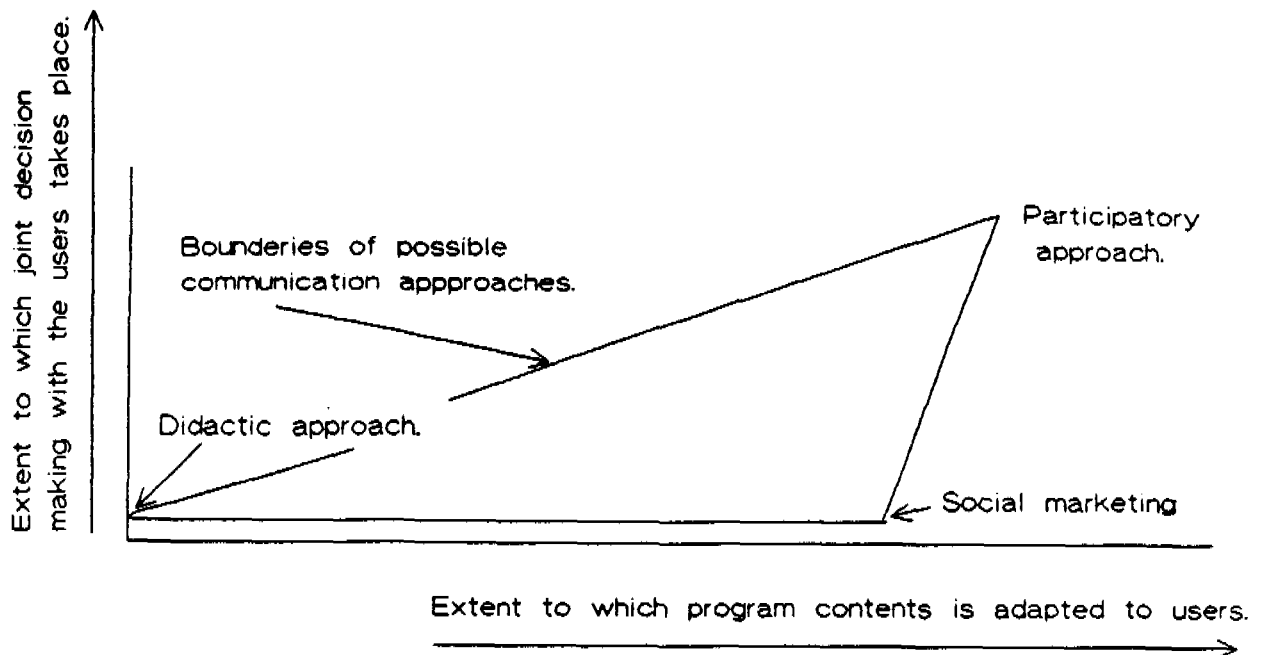


Figure 7.2.2.1.: Model showing the three broad communication approaches as the extremes defining all possible communication approaches.

A good picture of the communication approaches applied in the programs of the interviewees can be obtained if we locate the by these programs applied communication approaches in this figure. For this the following generalizations about the opted and actually applied communication approaches are made:

* The participatory approach is not applied in its pure form. In none of the programs of the interviewees systematical joint decision making with the future users does take place (question 3.1.4. of annex 5), the programs opt for centralized decision making (see chapter 5.2.)

In some programs nevertheless, the communication approach is adapted with elements of the participatory approach. The following examples can be given: In 11 out of 26 cases interviewees stated that they follow a communication approach between the participatory approach and the social marketing approach (see question 3.3.1. annex 5), the future users participate in voluntary labour (12 out of 26 cases), the exact location of the standpost is sometimes chosen together with the future users (14 out of 20 cases), water committees -although dominated by the local

administration- are formed (13 out of 26 cases, see chapter 6.2.2.), and even users management took place in one case (see Bangladesh case).

Despite the above, it may be concluded that programs do not opt for a participatory approach, since joint decision making does not take place in the programs of the interviewees. Consequently the communication approach of the programs of the interviewees should be located at the bottom of figure 7.2.2.1.

- * In 24 out of 26 cases the interviewees stated that they adapt the program contents to the future users. Only in two cases no adaption of the program contents was said to take place (see 6.2.1.).

It is doubtful whether the program is adapted enough to bridge the conceptual gap. This can be illustrated by the next findings:

- 1) The interviews gave the impression that the implementing agencies often do not have enough agents with the necessary social skills. Often (expensive) consultants elaborate the masterplan (program preparation) of the programs (Indonesia, India, Bangladesh, and sometimes Nepal). There was even a Indonesian program where health education was given by a foreign consultant since the implementing organization did not have agents with the necessary social skills.
- 2) In cases where extensive research has taken place, still wrong decisions have been taken. In Indonesia the predicted amount of water that could be sold turned out to be much too high. The planned full cost recovery was not possible. Even the cost for O&M could not be covered (see Indonesia case). The fact that foreign consultants elaborated the design, can have played a role here. Foreign consultants may have a lack of knowledge of the local situation.
- 3) The program planning is most often done by technicians alone. Only in 9 out of 26 cases social scientist were involved in the planning of the program (see question 5.3.1. in annex 5). It is doubtful if technicians have enough knowledge to decide on the socio-economical issues.
- 4) The most important decisions as the choice of the service level and the technology that will be applied, are often taken by the implementing ministry. The decisions taken by the ministry result in standards and guidelines. These standards and guidelines strongly limit the local planners to adapt the design of specific water supply systems to the user need and situation (see question 5.3.5. in annex 5).
- 5) The gathered information is not extensive. In 12 out of 21 cases where the interviewees have experience in program planning, only information needed for the technical design is gathered (demographical data, water use, location of sources, current water sources used for drinking water etc., see question 5.3.2. in annex 5).

From the above it can be concluded that, besides the two cases where a didactic approach is applied, in the programs of the interviewees one tries to adapt the program contents to the future users, hence one opts for a communication approach at the right of figure 7.2.2.1.

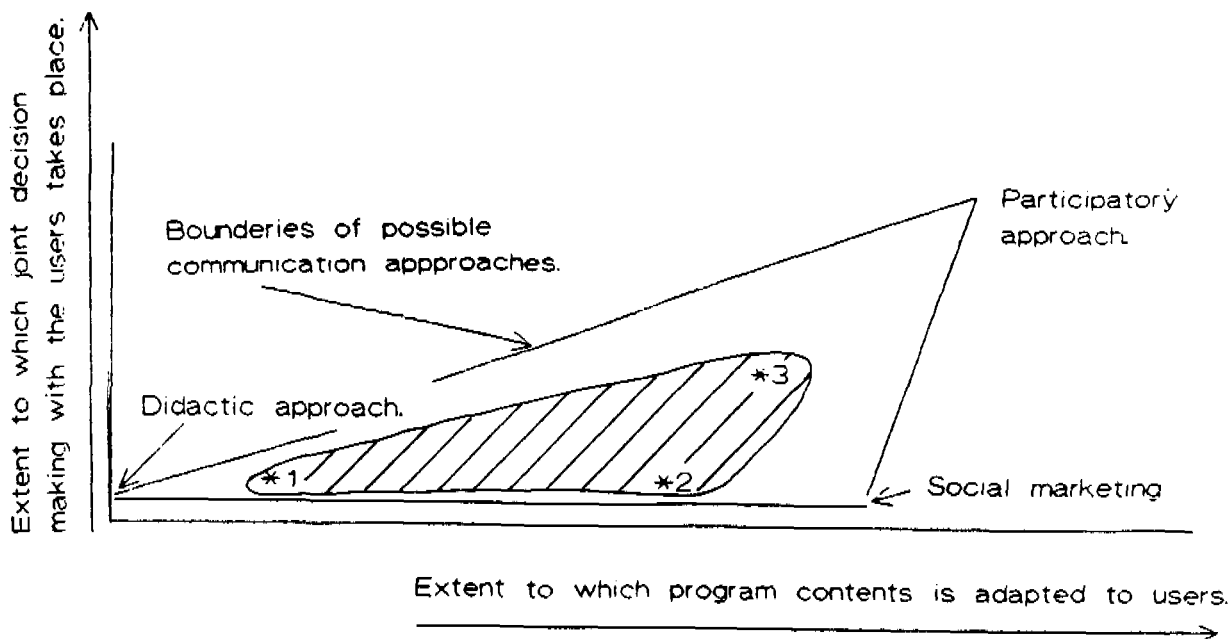
It has already been concluded that systematic joint decision making with the users does not take place, hence it can be concluded that in the

interviewees' programs one opts for a social marketing approach. Depending on the extent the programs do not succeed in adapting the program contents to the user needs and situation, the actual applied communication approach should be located more at the left side of figure 7.2.2.1., between the social marketing approach and the didactic approach.

It has already been stated that in two cases (see Nigeria case) no adaption of the program contents takes place. These programs should be located near to the didactic approach, at the left side of figure 7.2.2.1.

If we broadly locate the communication approaches applied in the programs of the interviewees they would fall within the hatched area in figure 7.2.2.2.

For further illustration of the extent to which the actual communication approaches vary, the Nigerian, the Indonesian and the Bangladesh cases are located in figure 7.2.2.2.



Legenda:

- 1 Case Nigeria.
- 2 Case Indonesia.
- 3 Case Bangladesh.

Figure 7.2.2.2.: Model showing the by the programs of the interviewees applied communication approaches.

* The Nigerian case is located near the didactic approach. In this program one does not adapt the program contents to the users, and joint decision making does not take place.

- * The Indonesian case is placed between the didactic approach and the social marketing approach. This program tries to adapt the program contents, but did not really succeed (see finding 2 above). Joint decision making with the users did not take place.

- * The Bangladesh case should be placed between the social marketing approach and the participatory approach. One can state that in this program one opts for a "semi"-participatory approach.
During program planning the program staff gathers extensive information concerning the target group, the program staff is then deciding on the program contents. Here a social marketing approach is followed.
During the program implementation the initiative is given to the future users (users management is applied). Joint decision making does take place in this phase, hence now a participatory approach is taking place.

Conclusion:

In the programs of the interviewees one does not opt for a participatory approach but for a social marketing approach. The program staff gathers information about the user needs and situation, and adapts the program contents to it. Systematic joint decision making with the users does not take place in this process.

In practice the programs of the interviewees do not properly adapt the program contents to the user needs and situation, hence programs actually apply a communication approach between the didactic and the social marketing approach.

7.2.3. Is the proper communication approach selected?

In chapter 7.2.2. it has been described that in the programs of the interviewees one opts (a) for a social marketing approach. In this chapter it will be analyzed whether this has been a proper choice.

In the hypothesis it has been stated that the problems of rural water supply programs can be solved by improving the communication between the program and the users. Consequently it has to be investigated whether the problems indicated in the problem description (see chapter 3.1.) can be solved with a social marketing approach.

For this a short recapitulation of the problem description and the communication approach that should be applied to solve these problems will be given.

Problem 1:

There is a conceptual gap between program planners and the users of the water supply system.

Solution:

The conceptual gap can be bridged by adapting the program contents (including the health education component) to the users. Here as well a social marketing approach as a participatory approach can be applied (see chapter 5.3.). The conventional didactic approach should not be applied. Consequently the selection of the communication approaches is brought back to a choice between the social marketing approach and the participatory approach.

Problem 2:

The water supply systems are not maintained properly. This problem relates with staff shortages and budgetary constraints caused by the highly inefficient centralized management system. The inefficiency is related with the high costs for logistics and labour for simple repairs, specially in program areas far from the (regional) office of the national organization.

Solution:

This problem can be solved by delegating the management of the water supply to local organizations.

In chapter 7.1.3.2. three options for the management of rural water supply systems are given:

- * The responsibility for management of the water supply is left at a national organization. In this case the disadvantages of the centralized management system have to be accepted.

(a) In this chapter it will only be analyzed whether programs opt for the proper communication approach. In chapter 7.2. it has already been indicated that, although programs opt for a social marketing approach, programs actually apply a communication approach between the didactic and the social marketing approach.

- * The local administration will be responsible for management of the water supply.
- * The users will be responsible for the management of the water supply (users management will take place).

It has been described that programs have to opt for a participatory approach if users management will take place. In the other cases as well a social marketing approach as a participatory approach can be applied (see chapter 7.1.3.2.).

Conclusion:

In the programs of the interviewees, in all but one case, national organizations or the local administration are responsible for management of the water supply system. Consequently programs make a proper choice if they opt for a social marketing approach.

In case of users management however, they should not opt for the social marketing approach, but for the participatory approach.

7.2.4. Why do the programs of the interviewees opt for a social marketing approach?

In the programs of the interviewees the management of the system is in all but one case left at a national organization, or delegated to the local administration (or a water committee dominated by the local administration). In these cases programs can opt for as well a social marketing approach as a participatory approach. In practice the programs of the interviewees have opted for a social marketing approach. In this chapter the reasons for this choice will be analyzed.

During the interview the interviewees gave the following reasons why they did not opt for a participatory approach (see chapter 6.2.2.):

- * the program staff does not have enough time to apply the approach (the approach is found to be too labour-intensive).
- * it is not policy of the program to apply the participatory approach.

In addition the following reasons can be given:

- * The main advantage of applying the participatory approach with regard to the social marketing approach is that the future users will feel responsible for the water supply system and that problem solving capabilities of the future users can be fostered. If users management does not take place, the national organization or the local administration will be responsible and will solve the future problems with the water supply system. Consequently it is not necessary to apply a participatory approach in this case (see chapter 7.1.3.2. and 7.2.3.).
- * The social marketing approach, though time consuming and expensive during program planning, has the advantage of yielding practical results, and of being "plannable". During the program implementation mainly program agents with limited social skills are needed (see chapter 5.3. and chapter 7.1.4.2.).

Besides these advantages, it should be born in mind that the approach also has some limitations (see also chapter 5.3.2.). The most important one is that complex behaviour change can not be brought about with this approach (see 5.3.2. and 7.1.3.1.).

7.2.5. Marginal note.

In the interviewees programs there is a strong tendency to delegate the management of the water supply from national organizations to organizations at the local level (see chapter 6.2.6. and 7.1.3.2.).

Normally the programs only try to delegate the management of the water supply system to the local administration or to a water committee that is dominated by the local administration. In the programs of the interviewees, one is very reluctant to delegate the management of the water supply to the future users.

The reluctance towards delegation of the management of the water supply system to the users, is mainly due to:

- * a lack of confidence in the target groups capacity to manage their own facilities. The interviewees often stated that organizing the target group is too difficult since the target group is not homogeneous and since they consider the level of thinking (literacy, knowledge of the benefits, organizational capacities, local skills and abilities) of the target group, to be too low (see chapter 6.2.5). From the results of the interviews it can not be concluded whether this lack of confidence towards the future users is justified or not.
- * hesitance to delegate responsibilities (see chapter 5.2.), and a lack of successful examples.
- * the fact that the programs will have to accept the following limitations of the participatory approach (see also chapter 5.3.3.):
 - * The intensive collaboration and local flexibility, places high demands on social and technical skills of the program staff (see chapter 7.1.3).
 - * Long term planning is not possible due to the high flexibility required.
 - * The approach is often seen as a threat by the present authorities. They can be afraid of a shift of power from the centre to the community (see chapter 5.3.3.).
 - * Desired change of traditional paternalistic attitudes of program agents of working with rather than for the community may not be easy (see chapter 7.1.4.2.).
 - * The results from this approach depend to a large extent on the quality, availability and often also the political interest of the representatives of the target group (17).
It is important that there exists solidarity among the target group as a whole, and that no marked factionalism occurs (see chapter 5.3.3. and 7.1.4.).

Due to the reluctance towards users management, the programs of the interviewees do not opt for users management in cases where one should delegate the management of the water supply to the local level, and where the local administration is not capable to accept more tasks. In this case the management of the system is left at the national organization (see chapter 6.2.6. and cases India and Indonesia).

By doing so, the problems with budgetary constraints and staff shortages are not solved. In this way water supply programs will keep on making an unacceptable appeal on the limited financial means of the government. This problem will probably only increase in future, since the number of people that will have to be supplied with water is still growing (17, 20, 21, 31)

8. Conclusions and recommendations.

8.1. Conclusions.

- 1) From literature three broad approaches to communication are distinguished: the didactic approach, the social marketing approach and the participatory approach.
 - 1.1) If a didactic approach is chosen, joint decision making is not taking place, and the program contents is not adapted to the future users. The program staff thinks that they know what is best for the users.
 - 1.2) If one opts for a social marketing approach, joint decision making will not take place, but the program contents is, with the help of research, adapted to the future users.
The approach consists of an information flow from the users to the program (the gathered information during the research), and as a result from this, adapted program messages back to the future users. These program messages can be seen as a form of public relations.
 - 1.3) In case of selection of the participatory approach, joint decision making takes place, and the program contents is adapted to (and with) the future users. Joint decision making is the main means to come to problem solving capabilities of the future users which are needed for users management and even ongoing development action.
In table 8.1. a recapitulation of the differences between the three broad communication approaches is given.

	Didactic approach (to do to)	Social marketing approach (to do for)	Participatory approach (to do with)
Is the program contents adapted to the users?	No	Yes	Yes
Does joint decision making take place?	No	No	Yes

Table 8.1.: Recapitulation of differences between the three basic communication approaches.

- 2.1) In order to get an impression of the applied communication approaches in practice and to investigate the factors that have an influence on the selection of the communication approach, interviews with 26 selected IHE participants of the sanitary engineering course, were held. The interviewees generally have several years of experience in rural water supply in developing countries, and origin from 11 countries.
- 2.2) In the programs of the interviewees the three communication approaches are not used in their pure forms. Many programs combine elements of these three general approaches.
In practice the extent to which the program contents is adapted, and the extent to which all users or their representatives participate in

decision making varies (see figure 8.1.). The three communication approaches should be seen as the extremes defining all possible communication approaches.

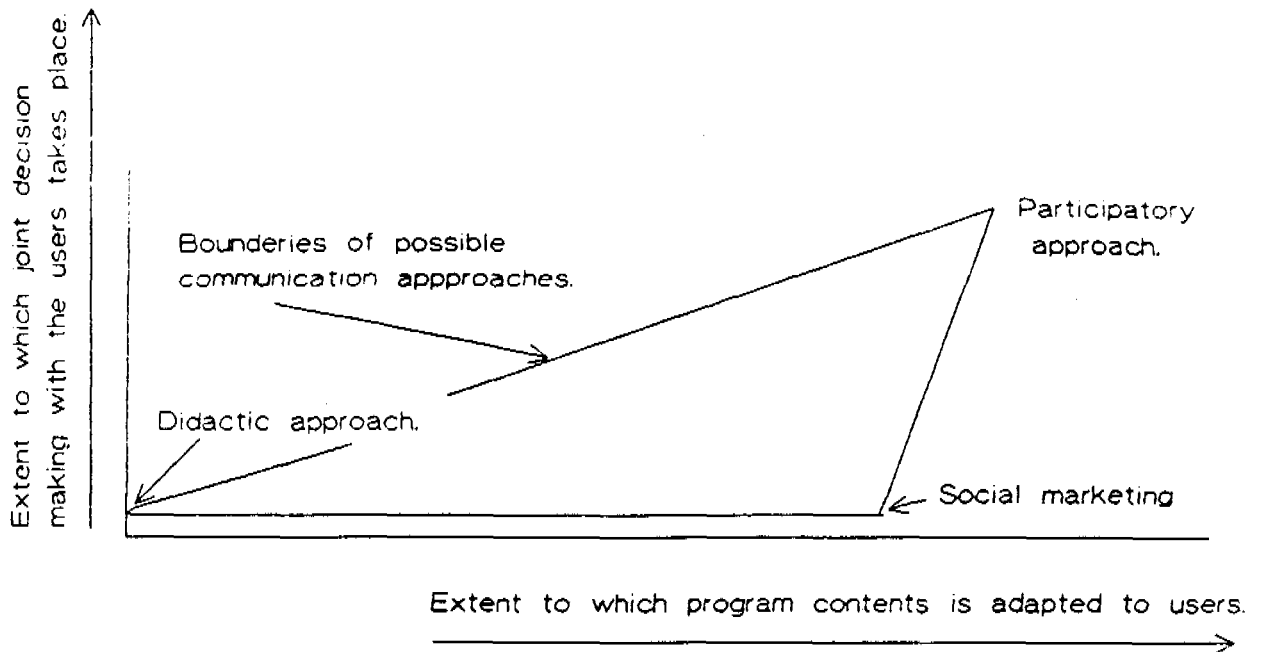


Figure 8.1.: Model showing the three broad communication approaches as the extremes defining all possible communication approaches (see chapter 7.2.2.).

- 2.3) In the programs of the interviewees the "pure" participatory approach is not applied at all. In only 1 out of 26 cases a "semi" participatory approach is chosen. In the other cases a communication approach between the didactic approach and the social marketing approach is selected.
- 2.4) In the programs of the interviewees where one opts for a social marketing approach, there are doubts whether the program contents is properly adapted to the needs and situation of the users. Social marketing will only be efficient if all relevant information is gathered, properly interpreted and if one really bases the decisions on the collected information.
- 3) The choice of the communication approaches is influenced by the following factors:
 - a) The program objective (only implementation water supply system, or also ongoing development action through fostering problem solving capacities of the community).
 - b) The program contents (type of desired social change, the type of technology and the question to whom the management of the water supply will be given.).
 - c) The program organization (the (financial) capacity of the program organization and the skills of the program agents).

- d) The external environment of the program (the political structure, the physical characteristics, the financial donor, the capacities of the local administration and the target group characteristics).
- 4) The problems related with the conceptual gap and with the management of the water supply described in the problem description, can be solved by applying as well a social marketing approach as a participatory approach if the management of the water supply is left at a national organization or if it is delegated to the local administration. Both the participatory approach as the social marketing approach have the advantage that they can lead to bridging of the conceptual gap. The outcome of both approaches is a higher awareness and acceptance by the community, and an improved, more acceptable product (see conclusion 5). Only if users will manage the water supply (users management), programs should opt for the participatory approach (see conclusion 6).
- 5) In the programs of the interviewees the management of the water supply is in all but one case left at a national organization, or delegated to the local administration (or a water committee dominated by the local administration). In these cases the programs have opted for a social marketing approach and not for a participatory approach. The reasons given by the interviewees were that they have not enough time (the participatory approach is found to be too labour intensive) and because it is not policy of the program to apply the participatory approach.

In addition the following reasons can be given:

- * The main advantage of applying the participatory approach with regard to the social marketing approach is that users management will be possible. The future users will feel responsible for the water supply system and problem solving capabilities of the future users can be fostered.
If the program does not opt for users management, the national organization or the local administration will be responsible for the water supply and will solve the future problems with the water supply system. Consequently it is not necessary to apply a participatory approach in this case.
 - * The social marketing approach, though time consuming and expensive during program planning, has the advantage of yielding practical results, and of being "plannable". During the program implementation mainly program agents with limited social skills are needed. Only during program planning social scientific specialists are needed.
- 6) If the program opts for users management, a participatory approach should be applied. Only if joint decision making takes place:
- * the future users will feel responsible for the system.
 - * problem solving capacities of the users will be fostered. By participating in decision making the users will learn to solve their own problems related with O&M which can occur in future.

The program will have to accept the following limitations of the approach:

- * The intensive collaboration and local flexibility, places high demands on social and technical skills of the program staff.

- * Long term planning is not possible due to the high flexibility required.
- * The approach is often seen as a threat by the present authorities. They can be afraid of a shift of power from the centre to the community.
- * Desired change of traditional paternalistic attitudes of program agents of working with rather than for the community may not be easy.
- * The results from this approach depend to a large extent on the quality, availability and often also the political interest of the representatives of the target group.
It is important that there exists solidarity among the target group as a whole, and that no marked factionalism occurs.

During the interviews only 1 out of 26 cases of users management was found.

- 7.1) In the interviewees programs there is a strong tendency to delegate the management of the water supply from national organizations to organizations at the local level. In this way programs can solve problems related with staff shortages and budgetary constraints caused by the highly inefficient centralized management system. The inefficiency of this system is related with the high costs for logistics and labour for simple repairs in program areas far from the (regional) office of the national organization.
In the programs of the interviewees, one only tries to delegate the management to the local administration or to a water committee that is dominated by the local administration. The programs are very reluctant to delegate the management to the future users (users management).
- 7.2) The hesitance towards users management, is mainly due to:
- * a lack of confidence in the target groups capacity to operate and maintain their own facilities. The interviewees often stated that organizing the target group is too difficult since the target group is not homogeneous and since they consider the level of thinking (literacy, knowledge of the benefits, organizational capacities, local skills and abilities) of the target group, to be too low. From the results of the interviews one can not conclude if this lack of confidence towards the future users is justified or not.
 - * hesitance to delegate responsibilities, and a lack of successful examples.
 - * the fact that a participatory approach will have to be applied if the programs opt for users management. In conclusion 6 the limitations of this approach have already been explained.
- 7.3) Consequently, programs do not opt for users management in cases where management by the national organizations is very inefficient, and where the local administration is not capable to accept more tasks.
By doing so, the problems with budgetary constraints and staff shortages are not solved. In this way water supply programs will keep on making an unacceptable appeal on the limited financial means of the government. The problems will only increase in future, since the number of people that will have to be supplied with water is still growing.

Final conclusions.

In the introduction the following hypothesis was formulated:

Rural water supply programs should be improved by improving the communication between the program staff and the future users. The conventional didactic approach is in-efficient because this method preserves the conceptual gap.

The communication should be improved by applying a participatory communication approach. Participation of the users in joint decision making will result in a properly adapted program contents and offers a possibility to delegate the management from national organizations to the users.

After the investigation, the following conclusions can be made:

- * Three broad communication approaches can be distinguished: the didactic approach, the social marketing approach and the participatory approach. The conventional didactic approach should not be applied because of the occurrence of the conceptual gap.
- * If a national organization or the local administration should manage the water supply, both the social marketing approach and a participatory approach can be applied. In general program managers will in this case opt for a social marketing approach.
- * If users management is taking place, a participatory approach is the only communication approach that should be applied.
- * One should opt for users management if national organizations have to delegate the management of the water supply (due to the inefficiency of the centralized management system), while the local administration is not capable to accept more tasks.
In the programs of the interviewees, users management is hardly chosen in this case. The management is left at the national organization. In this way water supply programs will keep on making an unacceptable appeal on the limited financial means of the government.
The fact that users management does not take places may very well be due to hesitance from the part of the program staff. This hesitance may be explained from a bias towards the target group capacity to manage the water supply, a lack of social skills of the program staff, reluctance to delegate responsibilities and from a lack of successful examples.

8.2. Recommendations.

- 1) Select the communication approach for a water supply program (or for certain program phases) considering the in conclusion 3 described factors. Only opt for a communication approach that offers the opportunity to bridge the conceptual gap.
- 2) If the management of the water supply needs to be delegated to the local level, and if the local administration does not have the capacity to accept more tasks, one should opt for users management and consequently a participatory approach.
If users management is opted for, the communication approach, the program contents and the program organization will have to be adapted.

A participatory approach should be chosen, human resource management will have to develop the social skills of program agents and program agents' bias towards the target group should be removed; in addition it has to be accepted that program planning will have to be more flexible and that simple techniques will have to be applied.

If in this case the organizations which are responsible for the implementation of the water supply systems are not capable to adapt these measures, alternatives should be looked for. Third parties, like N.G.O.'s, may then play an important role in the implementation of user managed water supply systems.

- 3) If programs opt for a social marketing approach, information gathering and interpreting has to be done very secure, and the decisions should be based on the gathered information.

- 1 Ansell, C. and Burrowes. R. (1981). Communication hygiene/sanitation messages to villagers: an experience in Wadi Ayyan, Yemen. Westport, Connecticut, USA, Save the children.
- 2 Ban, A.W. van den (1985). Inleiding tot de voorlichtingskunde. 7th. edition. (Meppel, Boom).
- 3 Bertrand, J.T. (1978) Training community health workers. World Health Forum, 6,4,379-381.
- 4 Black, M. (1983). Spreading the good news about water and sanitation. UNICEF news, 116,2,13-24.
- 5 Boer, J. de (1987) Ook voor de doelgroep. Marketing voor welzijns- en andere non-profit organisaties. Stichting de Bierkaai. Van Loghum seaterus. Amsterdam.
- 6 Brieger, W.R. and Ramakrishna, J. (1987). Health education: social marketing does not have all the answers. Whorld Health Forum, 8,3,384-386.
- 7 Brokensha, Warren, and Werner. Indigenious knowledge systems and development. University press of Amerika.
- 8 C.O.N. (1988) Participatie meer dan modeverschijnsel. Contekst. achtste jaargang, no. 3. Nov. 1988.
- 9 Enge, M. (1985) Water hygiene in Botswana: "From water hygiene campain to educational Programme". final report. Stockholm, Sweden, Swedish International Development Authority.
- 10 Favin, M., and Cebula, D., and Said, R., and Pryor, D. (1986). Health education. (Information for action issue paper), Geneva, Switzerland, World Federation of Public Health Associations.
- 11 Feree, H. (1985) Te koop welzijn, volksgezondheid en cultuur. Kluwer.
- 12 Helden, G.J., Poel, J.H. de. Marketing voor non-profit organisaties. Over de grenzen van het wenselijke en het haalbare. Tijdschrift voor marketing. Maart 1981, 3-12.
- 13 Heuvel, T. van den, Post J.H.C. en Verbeek, A.L.M. (1983) Markt en marketing beleid. Thirt edition.
- 14 Hubley, J.H. (1986) Barriers to health education in developing countries. Health education research. 1986, voll, nr 4, (p. 233-245)
- 15 Hubley, J.H. (1987) Communication and health education planning for sanitary programs. Water lines, 3 jan. 1987, vol.5, no.3. (p. 2-5)

- 16 Hubley, J.H., Barry Jackson, Thobo Khaketla. (1987) Information helps urban Lesotho tackle sanitation problems. Development communication report. 1987/4. (p 10-12).
- 17 IRC. (1981). Community participation in water and sanitation. (Technical paper, No.17), The Hague, The Netherlands, IRC.
- 18 IRC. (1986). Community participation and woman's involvement in water supply and sanitation projects. (occasional paper, no.13) The Hague, The Netherlands, IRC.
- 19 IRC. (1988). Hygiene education in water supply and sanitation Programmes. (Technical paper no. 27). The Hague, The Netherlands, IRC.
- 20 IRC. (1987). What price water? User participation in paying for community-based water supply. (Occasional paper). The Hague, The Netherlands, IRC.
- 21 IRC. (1987). Maintenance systems for water supplies. (technical papers). The Hague, The Netherlands, IRC.
- 22 Kerr, Ch. (1989) Community water development, Intermediate technology publications Ltd. 103-104 Southampton Row, London .
- 23 Kotler, Philip. (1975). Marketing for non-profit organisations. Second edition, Prentice-Hall.
- 24 Kotler, Philip. (1984) Marketing management. Fifth edition. Prentice/Hall international editions.
- 25 Manoff, R.K. (1985). Social Marketing: A new imperative for public health, Preager Publishers.
- 26 Looper, F. de (1987). Social marketing: manipulation, empowerment, or both? International Health News, no. June-July 1987,12.
- 27 Perrett, H. (1983). Planning of communication support (information, motivation and education) in sanitation projects and programs (TAG technical note, no.2), Washington DC, USA, World Bank.
- 28 Rogers, E.M. (1976) Communication and development, the passing of the dominant paradigm. Communication Research, 3,2,(1976),213-240.
- 29 Röling, N.E. (1985) Extension science: increasingly preoccupied with knowledge systems. Sociologia Ruralis 1985,25,3/4,269-290.
- 30 Röling, N.E. (1988) Extension science: information systems in agricultueal development. Cambridge University Press. First edition. 1988.
- 31 SEARO (1985) Achieving succes in community water supply and sanitation projects. SEARO regional Health papers, WHO India.

- 32 Schieman, C.J. (1980) Beheersing van bedrijfs processen. Stenfert Kroese B.V. Leiden-Antwerpen. (vierde, herziene druk).
- 33 Simpson-Hebert, M. (1983). Methods for gathering socio-cultural data for water supply and sanitation projects. (TAG technical note, no. 1), Washington DC, USA, World Bank.
- 34 UNICEF (1985). Promoting health behaviour in water and sanitation programmes: report of a working group, New York, USA, 25-29 March 1985. New York, USA, Unicef.
- 35 UNICEF/EAPRO (1986). Social marketing. (Handbooks in communication training for CSDR, no. 7), Bangkok, Thailand, East Asia and Pakistan Regional office, PSC and Training Section.
- 36 Voorlichtingsdienst ontwikkelingssamenwerking van het ministerie van Buitenlandse zaken. (1989). Beleidsnota water. Februari 1989.
- 37 Vigano, O. (1985). Communication, community and health: Final report Honduras Water and Sanitation Program 1981-1985. Tegucigalpa, Honduras, Academy of Educational Development.
- 38 Watzlawick, Paul. Beavin, Janet Helmich. Jackson, Don D. (1977) De pragmatische aspecten van de menselijke communicatie. Van loghum Slaterius. vierde druk, 12e oplage 1987.
- 39 Yacoob, M., and Porter, R.W. (1988). Social marketing and water supply and sanitation: an integrated approach. (WASH field report, no. 221), Arlington, Virginia, USA, WASH.

Nr.	NAME.	COUNTRY.	TASK DESCRIPTION (1).
1	ALAM	INDIA	2,3,4 AND 5.
2	ALCANTARA	PHILIPINES	4.
3	ARORA	INDIA	2,3,4 AND 5.
4	ACHARYA	NEPAL	3,4 AND 5.
5	BARABAKIAT	THAILAND	2.
6	BASNET	NEPAL	2,3,4 AND 5.
7	BHARGAVA	INDIA	1,2,3,4 AND 5.
8	BYEMERWA	TANZANIA	2,3,4 AND 5.
9	ESTER (Ms)	BANGLADESH	2.
10	EVARY	INDONESIA	1.
11	GIREESH	INDIA	2,3,4 AND 5.
12	HANANTO	INDONESIA	2,4 AND 5.
13	IHSTISHAMUL	BANGLADESH	2,3,4 AND 5.
14	IRWAN	INDONESIA	2,4 AND 5.
15	KYAW	BURMA	3,4 AND 5.
16	MULAKI	TANZANIA	3,4 AND 5.
17	OMUBUDE	NIGERIA	3,4 AND 5.
18	OLOAN	INDONESIA	2,4 AND 5.
19	PALEPU	INDIA	2,3,4 AND 5.
20	ROSADI	INDONESIA	2,3,4 AND 5.
21	SARID	THAILAND	2,3.
22	SEHMI	KENIA	2,3,4 AND 5.
23	SHAKYA	NEPAL	3,4 AND 5.
24	SHARMA	NEPAL	3,4 AND 5.
25	SUDRADJAT	INDONESIA	2,4.
26	WYETUNGA	SHRI LANKA	3,4 AND 5

.....

(1). THE TASKS OF THE INTERVIEWEES ARE (HAVE BEEN) RELATED WITH:

- 1 = POLICY MAKING.
- 2 = PROGRAM PREPARATION (ELABORATION MASTERPLAN).
- 3 = PROGRAM DESIGN (TECHNICAL DESIGN).
- 4 = SUPERVISION CONSTRUCTION WATER SUPPLY SYSTEM.
- 5 = IMPLEMENTATION O&M AND FINANCIAL MANAGEMENT SYSTEM.

For the next questions, please mark the answer(s) that are correct in your situation.

More than one answer is often possible.

Please put any additional comment on the back side of the questionnaire.

- 1 Name participant:.....
 - 2 Locker number:.....
 - 3 Country:.....
 - 4 In or with which kind of agency do you work or have you been working:
 - 0 In a water supply agency for rural areas.
 - 0 In a water supply agency for urban areas.
 - 0 In a sanitation agency for rural areas.
 - 0 In a sanitation agency for urban areas.
 - 0
 - 0
- (Please give a short description of the agency you work in, if it is not covered by first four descriptions.)

More than one answer is possible.

Only answer the following questions if you work, or have been working in a rural water supply agency.

Personal experience.

- 5 In the rural water supply agency, you worked mainly in:
 - 0 the policy making phase.
 - 0 the planning phase.
 - 0 the implementation/construction phase.
 - 0 the operation and maintenance phase.
- 6 Your work mainly concerned:
 - 0 management duties (requiring management skills).
 - 0 technical duties (requiring engineering skills).

Agency.

- 7 Your agency is mainly working in:
 - 0 construction of water supply systems, organization of operation and maintenance (O&M), and in extension programs for health education.
 - 0 construction of water supply systems and organization of O&M. For health education the agency co-operates with other organizations.
 - 0 construction of water supply systems. The agency co-operates with other organizations for O&M and health education.
 - 0
 - 0
(Please describe main activities of your agency, if it is not covered by the first three descriptions)

- 8 Does your agency have experience with participation of the future users in the water supply programs it is working in?
 - 0 No.
 - 0 Participation of future users in construction (voluntary labour).
 - 0 Participation of future users in operation and maintenance of the water supply system.
 - 0 Participation of future users in joint decision making about planning, service level, future operation and maintenance system, cost recovery and health education.

Water supply system.

- 9 The water supply systems that are constructed by your agency are mainly:
 - 0 non-piped systems (point sources as wells, captation of springs, rain water catchment systems, etc.).
 - 0 piped systems (gravitation and pumped water supply systems).

- 10 How is the operation and maintenance (O&M) of water supply systems constructed by your agency organized?
 - 0 O&M is completely managed by an agency.
 - 0 O&M is delegated to local authorities (e.g. municipalities)
 - 0 O&M is delegated to the users.
 - 0
 - 0
(Please describe the way your agency organizes O&M if it is not covered by the descriptions).

- 11 The users of the water supply systems your agency is implementing:
- 0 do not pay for the water.
 - 0 pay for the water. The water agency is the financial manager.
 - 0 pay for the water. Financial management is delegated to a users committee.
 - 0
 - 0
- (Please describe the way your agency organizes cost recovery if it is not covered by the first three descriptions.)

More than one answer is possible.

Thanks for answering the questions.

1) Introducing questions.

- 1.1) Lockernumber.
- 1.2) State or district were interviewee works.
- 1.3) Bachelors degree in
- 1.4) How long did you work in rural water supply?
- 1.5) Can you make a short task description?
.....
.....
- 1.6) Do you know what is meant by community participation (or community involvement)?
 - A Involve people in design.
 - B Divide responsibilities between government/population.
 - C Involvement in voluntary labour.
 - D Delegation of O&M.
 - E Delegation of financial management.
 - F Involving in paying investment cost.
 - G Don't know.
 - H
 -

- 1.7) What are the main problems in your rural water supply program?
 - A Problems related with O&M.
 - B Problems related with running cost recovery.
 - C Problems related with quality of water.
 - D Problems related with quantity of water.
 - E Import (availability) diesel and spareparts.
 - F New build structures are not used.
 - G
 -

2. Questions about organisations involved.

Introduction:

In water supply programs the next phases can be distinguished:

- A) The design phase (identification phase).
- B) Control of the preliminary design.
- C) Finding financial means.
- D) Planning of construction (preparing phase).
- E) Construction and implementation phase.
- F) Organisation of O&M system.
- G) Organisation local management system (also including running cost recovery).

Next to this there are also the next parts of a program:

- H) Policy making.
- I) Health education.
- J) Rehabilitation.

Questions:

2.1) What ministries work in this field?

- A Ministry of public health.
- B Ministry of public works.
- C Ministry of "internal affairs" (local authorities)
- D Ministry of water resources.
- E
-
-

2.2) What other organisations work in this field?

- A NGO's.
- B Local private enterprises (contractors).
- C Foreign private enterprises (consultants).
- D Water committees.
- E Local development committees.
- F local authority.
- F
-
-

2.3) In which part of this field does your agency work?

.....
.....
(Use letters of above described program phases)

2.4) In which parts do you work?

.....
(Use letters of above described program phases).

2.5.1) Are public meetings with the future users taking place? When?

- A Yes. At phase(s) A unto J
- K No.
- L Don't know.

2.5.2) For what purpose?

- A Hygiene education.
- B Inform future users about facilities that will be implemented.
- C Inform future users about the financial consequences.
- D To explain tasks. (tasks future users, local leaders, water committee, etc.)
- E Select water committee.
- F Motivate people to pay for the water.
- G Motivate people to maintain the facilities.
- H Joined decision making.
- I Don't know.
- J

3) Questions about communication approach.

3.1.1) Are users involved in voluntary labour?

- A Yes.
- B No.
- C

3.1.2) Are users informed and asked for their opinion, during the design phase, the organisation of O&M and future management.

- A Yes.
- B No.
- C

3.1.3) Are users taking up responsibilities (for O&M and management).

- A Yes.
- B No.
- C

3.1.4) Are users systematically involved in decision making and do they have a degree of decision making power.

- A Yes.
- B No.
- C

3.2.1) Are local authorities systematically being informed and asked for their opinion?

- A Yes.
- B No.
- C

3.2.2) Are local authorities accepting tasks and responsibilities (for O&M and management of the system).

- A Yes.
- B No.
- C

3.2.3) Are local authorities being involved systematically in decision making, and do they have a degree of decision making power.

- A Yes.
- B No.
- C

3.3.1) Which communication approach do you (or does your agency) follow? Use figures 1,2 and 3.

- A if fig. 1 ---> answer questions 3.4.
- B if fig. 2 ---> answer questions 3.5.
- C if fig. 3 ---> answer questions 3.6.

3.3.2) Has there been a shift in policy to a more participatory approach the last 5 years?

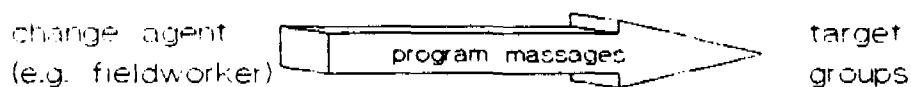
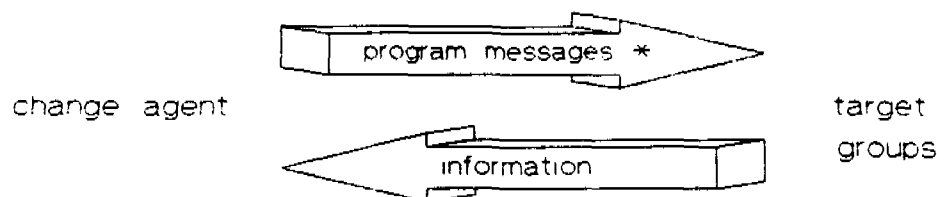
- A Yes.
- B No.
- C Don't know.

3.3.3) How is hygiene education organized?

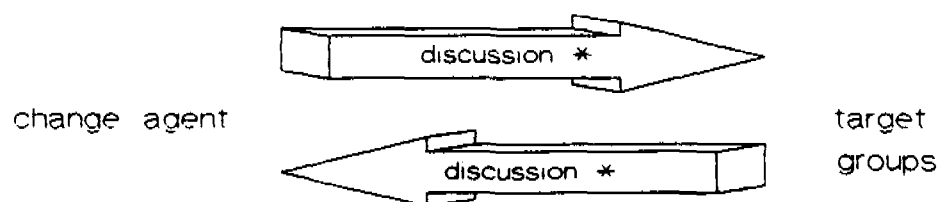
- A Volunteers are selected and trained. They educate the rest of the community.
- B Payed health workers educate in small groups.
- C Payed health workers educate in big public meetings.
- D Mass-media means (radio, papers, etc.) are used.
- E There is now health education organized.
- F Not applicable (don't know).
- G

3.4.1) Why don't you involve the community in the program?

- A No time.
- B Not the policy of the program.
- C To labour intensive.
- D Not applicable.
- F

Figures 1, 2 and 3: Models communication approaches.Figure 1: Communication model Didactic approach.

* Adapted Health education,
technical information etc.

Figure 2: Communication model Social Marketing approach.

* joint decisionmaking in
group discussions etc.

Figure 3: Communication model Participatory approach.

3.4.2) How do you determine if the water supply system you are constructing can be operated, maintained and payed for?

- A From experience.
- B We don't know if it is possible.
- C We know that it will be a problem, but in policy it has now priority to solve this problem.
- D Not applicable.
- E

3.5.1) Why don't you involve the community in joint decision making?

- A No time.
- B Not policy of the program.
- C To labour intensive.
- D Not applicable.
- F Don't know.
- G

3.5.2) Who is gathering the information.

- A Social scientists.
- B Consultants.
- C Field workers.
- D Technician.
- E Not applicable.
- F Don't know.
- G

3.5.5) Where the socio-economical reports that have been available unto now been very useful.

- A No. They are often not very carefully worked out (copied).
- B No. We can do without.
- C Yes. But they are made again, or not used during technical design.
- D Yes.
- D Not applicable.
- E

3.5.6) What data do you get out of this reports.

- A Data needed for technical design (Population figures and growth.)
- B Data needed to decide which service level is affordable for the people (e.g. house connections, standposts, handpumps etc.).
- C Data needed to decide how the facilities can be maintained.
- D Not applicable.
- E

- 3.6.1) Who is for the agency partner in the decision making process?
- A The technician.
 - B Technician with the help of special field workers.
 - C Specialised social scientists with the help of technicians and field workers.
 - D Not applicable.
 - E
 -
- 3.6.2) Who is the for the community partner in the decision making process?
- A a specially elected water committee.
 - B the whole users group (public meetings or interviews with all user groups).
 - C local authorities.
 - D Local development organisation.
 - E Not applicable.
 - F
 -
- 3.6.3) Are there any problems with this approach?
- A Flexible time planning required.
 - B Coordination of different people working (e.g. social scientists, field workers, technicians).
 - C Future users do not feel responsible.
 - D Delegation of O&M very difficult.
 - E No
 - F Not applicable.
 - G
 -
- 3.6.4) What are your observations in relation with community participation?
- A It is an improvement, O&M can now be delegated.
 - B It is an improvement, people feel responsible for the system now.
 - C It is an improvement, people will pay for their water now.
 - D It is not an improvement, it is much more work.
 - E Not applicable.
 - F

3.6.5) What are main problems in communication between you and the future users of the system?

- A The future users do not attend meetings due to "shift of responsibility"
- B The future users do not attend meetings due to "participation weariness".
- C Communication is too expensive (labour costs, time loss).
- D Disfavoured groups are difficult to reach.
- E Level of thinking (illiteracy, knowledge of benefits) of users is to low.
- F Target group is not homogeneous.
- G No problems.
- H

4. Questions about local water committees.

4.1) Is there a local water committee?

- A Yes
- B No
- C Sometimes
- D

4.2) Who are member of the water committee?

- A Local authorities (regional, district, municipal) are member of the water committee.
- B Members of local development committees.
- C Everyone can be elected/appointed.
- D Members of health committees/health-workers/care taker.
- E Women must be member of the committee.
- F Not applicable
- G

4.3) When is it formed?

- A During the design (identification) phase.
- B During planning of the construction.
- C During construction.
- D After construction.
- E Not applicable.
- F It already exists.
- G

4.4) How is it formed?

- A In meetings with all users.
- B They are chosen by the local authorities.
- C Local authorities are asked to take place in the committee.
- D Not applicable.
- E

4.5) What are their tasks.

- A Operate and maintain the facilities.
- B Manage the water supply system (collect money etc.).
- C Organize voluntary labour.
- D Control of the contractor, who is constructing the facilities.
- E Report major breakdowns.
- F Hear complains.
- G Not applicable.
- F

5. Questions about design phase.

5.1) Do you have experience with the (technical) design phase:

- A No. --> go on with question 5.2.
- b Yes.--> go on with question 5.3.

5.2.) Is the design made by an other agency?

- A Yes, by consultants.
- B No, by the same agency, only other (specialised) technicians.
- C Not applicable.
- D

5.3.1) Do you work together with other persons during the design phase?

- A No.
- B With social scientists.
- C With field workers, that gather data for the design.
- D with consultants.
- E Not applicable.
- F

5.3.2) Which data do you gather in this stage?

- A Data needed for technical design (Flows of sources, population figures and growth.)
- B Data needed to decide which service level is affordable for the people (e.g. house connections, standposts, handpumps etc.).
- C Data needed to decide how the facilities can be maintained.
- D Not applicable.
- E

5.3.3) Do you already consider the future O&M system during this phase?

- A Yes.
- B No.
- C Not applicable.

5.3.4) From whom do you get information about the future users?

- A From local authorities.
- B From water committees.
- C From local development committees.
- D From surveys (questionnaires, interviews, etc.)
- E Informal discussions with teachers, health workers, etc.)
- F Not applicable.
- G

5.3.4) How do you determine the place of the stand posts.

- A From experience and from standards, I know where stand posts should be placed. (At places where population concentrations occur etc.).
- B Together with the population, in public meetings with all future users of each standpost.
- C Together with the population, with the representant of the users.
- D Together with the local leaders.
- F Not applicable.
- G

6. Questions about planning of the construction.

6.0) Do you have experience with planning of the construction?

- A Yes, go on.
- B No, go to question 7.

6.1) With whom do you cooperate in this phase?

- A With nobody.
- B With local authorities.
- C With the water committee.
- D With the local development committee.
- E Not applicable.
- F

6.2) Is the population informed before beginning of the construction?

- A No.
- B Yes. Public meetings are held.
- C Only their local leaders are informed.
- D Not applicable.
- E

6.3) Do the future users sometimes propose improvements of the original design to you?

- A No.
- B Yes. Examples?
- C Not applicable.
- D

6.4) Can you make any changes in the technical design in this phase?

- A No. Why?
- B Yes. Which ones?
- C Not applicable.
- D

6.5) How do you determine the exact place of the stand posts?

- A From the design.
- B From experience and from standards, I know where stand posts should be placed. (At places where population concentrations occur etc.).
- C Together with the population, in public meetings with all future users of each standpost.
- D Together with the population, with the representant of the users.
- E Together with the local leaders.
- F Not applicable.
- G

6.6) How is contact with the future users taking place?

- A There is no contact with future users.
- B There is a special agent responsible for regular contact with the users. He can always be contacted by each future user or their representant.
- C There are regular meetings with the future users or their representant.
- D Contact always takes place via local authorities.
- E Contact always takes place via users committee.
- F Not applicable.
- G

7. Questions about O&M.

7.1) To whom the O&M is delegated after the implementation phase?

- A O&M is not delegated.
- B To local institutions.
- C To the users (water committees).
- D To missionaries.
- E Combination.
- F Private companies.
- G Not applicable.
- H

7.2) Are there special training courses for care takers? When do you send them?

- A Yes. We send them during/after the design phase.
- B Yes. We send them during the implementation phase.
- C Yes. We send them after the implementation phase.
- D No. We don't train them.
- E No. We train them on site.
- F Not applicable.
- G

- 7.3) Which are the biggest problems in relation with O&M.
- A Spare parts are often not available.
 - B Costs for logistics in case of simple repairs are to high.
 - C Care takers are not capable.
 - D Care takers are not motivated.
 - E Care takers often leave the place, when the find a job etc.
 - F Lack of money.
 - G Not applicable.
 - H
- 7.4) Is there any government (or other) support organisation for the user or communication based maintenance system (E.g. for complicated reparations, supply of spare parts that can not be purchased or made locally. training of O&M personnel)
- A No. Does that give problems?
 - B Yes. Under whose responsibility?
 - C Not applicable.
 - D
- 7.5) Drinking water facilities are normally handed over (within a limited period) to the national body responsible for utilization, maintenance and repair. Generally speaking these national organizations will be unable to take on additional tasks on account of staff shortages and budgetary constraints.
- Is this quotation, witch has been taken from the Dutch policy memorandum "Water", true in your situation?
- A Yes.
 - B No. National organizations are strong enough.
 - C No. National organizations are not responsible for O&M.
 - D Not applicable.
 - E Don't know.
 - F
- 7.6) It is Dutch policy, that in case of technically uncomplicated drinking water facilities, especially in scarcely populated rural areas, regional centres and smaller towns, every effort will be made to encourage user management where this is technically and organizationally feasible.
- Do you agree with this policy?
- A Yes.
 - B No. Experiences with user management are bad.
 - C No. O&M at other levels enjoys more confidence then O&M by users.
 - D Not applicable.
 - E Don't know.
 - F

8. Questions about (financial) management.

8.1) Do users pay for water?

- A No.
- B Yes.
- C Not applicable.
- D
-

8.2) Who is the financial manager?

- A The agency.
- B The local authorities.
- C The users. (A water committee)
- D A local development organization.
- E Not applicable.
- F
-

8.3) Who makes the decision how much people will pay?

- A It is ministerial policy.
- B The program.
- C The local authorities.
- D The users (water committee).
- E People do not pay.
- F Not applicable.
- F
-

8.4) Who decides who will be the financial manager.

- A It is ministerial policy.
- B The program (the agency).
- C The local authorities.
- D The users (water committee).
- E People do not pay.
- F Not applicable.
- G
-

8.5) What are the main problems with financial management?

- A People can not pay, and go back to their old water sources.
- B People do not pay (defaulting).
- C Money is not put on a special water account.
- D No problem.
- E No financial management takes place.
- F
-
-

3 Questions about the communication approach.Number of
interview-
ees giving
the
answer.

2.5.1.) Are public meetings with the future users taking place?

- | | |
|--------|----|
| A Yes. | 22 |
| B No. | 4 |

2.5.2.) For what purpose?

- | | |
|--|---|
| A Hygiene education. | 1 |
| B Inform future users about facilities that will be implemented. | 1 |
| C Inform future users about the financial consequences. | |
| D To explain tasks. (tasks future users, local leaders, water committee, etc.) | |
| E Select water committee. | |
| F Motivate people to pay for the water. | |
| G Motivate people to maintain the facilities. | |
| H Joined decision making. | |
| I Don't know. | 3 |
| J Appoint care takers. | |
| K Needs assessment. | |
| L Hear complains. | 1 |
| M Not applicable. | 4 |
| N A+B+C+D+F+G. | 5 |
| O A+B+C+D & B+C+G (each 2) | 4 |
| P A+D+H & C+G+J & G+L & A+B+D+G+H & A+B+E+G & A+B+C+D+F+G & B+H (each 1) | 7 |

3.1.1) Are users involved in voluntary labour?

- | | |
|--------------|----|
| A Yes. | 12 |
| B No. | 13 |
| C Sometimes. | 1 |

3.1.4) Are users systematically involved in decision making and do they have a degree of decision making power.

- | | |
|--------|----|
| A Yes. | 0 |
| B No. | 26 |

3.3.1) Which communication approach do you (or does your agency) follow?

Use figures 1,2 and 3.(See next page.)

- | | |
|---|----|
| A if fig. 1 ---> don't answer question 3.5 & 3.6. | 2 |
| B if fig. 2 ---> don't answer question 3.4 & 3.6. | 11 |
| C if fig. 3 ---> don't answer question 3.4 & 3.5. | 0 |
| D Between A and B. | 2 |
| E Between B and C. | 11 |

3.3.2) Has there been a shift in policy to a more participatory approach the last 5 years?

- | | |
|---------------|----|
| A Yes. | 22 |
| B No. | 2 |
| C Don't know. | 2 |

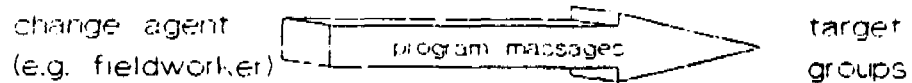
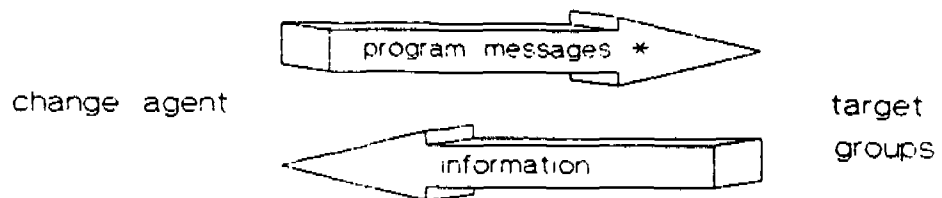
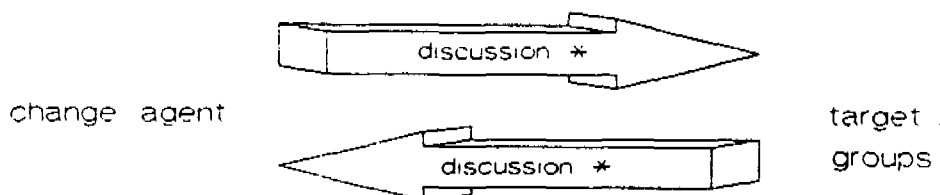


Figure 1: Communication model Didactic approach.



* Adapted Health education, technical information etc.

Figure 2: Communication model Social Marketing approach.



* joint decisionmaking in group discussions etc.

Figure 3: Communication model Participatory approach.

Figures 1, 2 and 3: Models of communication approaches.

3. Questions about the communication approach.Number of
interview-
ees giving
the
answer.

3.3.3)	How is hygiene education organized?	
A	Volunteers are selected and trained. They educate the rest of the community.	2
B	Payed health workers educate in small groups.	3
C	Payed health workers educate in big public meetings.	5
D	Mass-media means (radio, papers, etc.) are used.	
E	There is now health education organized.	5
F	Not applicable (don't know).	2
G	A+B.	6
H	A+C.	1
I	B+D.	1
J	C+D.	1
3.4.1)	Why don't you involve the community in the program?	
A	Not the policy of the program.	2
B	Not applicable.	24
3.4.2)	How do you determine if the water supply system you are constructing can be operated, maintained and payed for?	
A	From experience.	2
B	Not applicable.	24
3.5.1)	Why don't you involve the community in joint decision making?	
A	No time.	2
B	Not policy of the program.	4
C	To labour intensive.	
D	Not applicable .	3
F	A+B.	2
G	B+C.	2
H	A+B+C.	13
3.6.1)	Who is for the agency partner in the decision making process?	
A	The technician.	6
B	Technician with the help of special field workers.	
C	Specialized social scientists with the help of technicians and field workers.	3
D	Not applicable.	15
E	A+B.	2

3. Questions about the communication approach.Number of
interview-
ees giving
the
answer.

3.6.2) Who is the for the community partner in the decision making process?

- | | | |
|---|---|----|
| A | a specially elected water committee. | 1 |
| B | the whole users group (public meetings or interviews with all user groups). | |
| C | Local authorities. | 3 |
| D | Not applicable. | 15 |
| E | A+C. | 6 |
| F | A+B+C. | 1 |

3.6.3) What are your observations in relation with community participation?

- | | | |
|---|---|----|
| A | It is an improvement, O&M can now be delegated. | |
| B | It is an improvement, people feel responsible for the system now. | 1 |
| C | It is an improvement, people will pay for their water now. | |
| D | It is not an improvement, it is much more work. | 0 |
| E | Not applicable. | 15 |
| F | A+B. | 8 |
| G | A+C. | 2 |

3.6.5) What are the main problems in communication between you and the future users of the system?

- | | | |
|---|---|----|
| A | The future users do not attend meetings. | 0 |
| B | "Participation weariness" occurs. | 0 |
| C | Communication is to expensive (labour costs, time loss). | |
| D | Disfavoured groups are difficult to reach. | |
| E | Level of thinking (illiteracy, knowledge of benefits) of users is to low. | 1 |
| F | Target group is not homogeneous. | 2 |
| G | No problems. | 2 |
| H | Not applicable. | 15 |
| I | C+E+F. | 2 |
| J | E+F. | 3 |

4. Questions about local water committees.Number of
interview-
ees giving
the
answer.

4.1) Is there a local water committee?

- | | |
|-------------|----|
| A Yes | 11 |
| B No | 13 |
| C Sometimes | 2 |

4.2) Who are member of the water committee?

- | | |
|--|----|
| A Local authorities (regional, district, municipal) are member of the water committee. | |
| B Members of local development committees. | |
| C Everyone can be elected/appointed. | |
| D Members of health committees/health-workers/care taker. | |
| E Women must be member of the committee. | |
| F Not applicable | 13 |
| G A+C | 6 |
| H A+C+E | 3 |
| I A+B+C | 1 |
| J A+B+D | 3 |

4.3) When is it formed?

- | | |
|---|----|
| A During the design (identification) phase. | 1 |
| B During planning of the construction. | 8 |
| C During construction. | |
| D After construction. | 1 |
| E Not applicable. | 13 |
| F It already exists. | 2 |
| G B+C. | 1 |

4.4) How is it formed?

- | | |
|---|----|
| A In meetings with all users. | 1 |
| B They are chosen by the local authorities. | |
| C Local authorities are asked to take place in the committee. | |
| D Not applicable. | 13 |
| E B+C. | 12 |

4.5) What are their tasks.

- | | |
|--|----|
| A Operate and maintain the facilities. | |
| B Manage the water supply system (collect money etc.). | |
| C Organize voluntary labour. | |
| D Control of the contractor, who is constructing the facilities. | |
| E Report major breakdowns. | |
| F Hear complains. | 1 |
| G Not applicable. | 13 |
| F A+B+E. | 4 |
| G A+B+C+E. | 4 |
| H A+B+C+D+E. | 4 |

5. Questions about design phase.number of
interview-
ees giving
the
answer.

- 5.1) Do you have experience with the (technical) design phase:
- A No. --> go on with question 5.2. 5
- B Yes.--> go on with question 5.3. 21
- 5.2.) Is the design made by an other agency?
- A Yes, by consultants. 4
- B No, by the same agency, only other (specialised) technicians. 1
- C Not applicable. 21
- 5.3.1) Do you work together with other persons during the design phase?
- A No. 8
- B With social scientists. 4
- C With field workers, that gather data for the design. 4
- D With consultants. 5
- E Not applicable. 3
- F B+C. 6
- G B+C+D. 6
- 5.3.2) Which data do you gather in this stage?
- A Data needed for technical design (Flows of sources, population figures and growth.) 12
- B Data needed to decide which service level is affordable for the people (e.g. house connections, standposts, handpumps etc.).
- C Data needed to decide how the facilities can be maintained.
- D Not applicable. 5
- E A+B. 9
- F A+B+C 1
- 5.3.3) Do you already consider the future O&M system during this phase?
- A Yes. 21
- B No.
- C Not applicable. 5
- 5.3.4) From whom do you get information about the future users?
- A From local authorities. 4
- B From water committees. 1
- C From surveys (questionnaires, interviews, etc.)
- D Informal discussions with teachers, health workers, etc.)
- E Not applicable. 5
- F A+E. 3

5. Questions about the design phase.Number of
interview-
ees giving
the
answer.

H	A+E.	1
I	A+G	5
J	A+D+E.	2
K	A+B+D+E.	1
L	A+B+C+D+E.	4

5.3.5) How do you determine the place of the stand posts.

A	From experience and from standards, I know where standposts should be placed.(At places where population concentrations occur etc.).	6
B	Together with the population, in public meetings with all future users of each standpost.	1
C	Together with the population or with the representatives of the users.	1
D	Together with the local leaders.	
F	Not applicable.	5
G	A+B.	2
H	A+C.	7
I	A+D.	4

6. Questions about planning of the construction.Number of
interview-
ees giving
the
answer.

- 6.0) Do you have experience with planning of the construction?
- A Yes, go on. 20
B No, go to question 7. 6
- 6.1) With whom do you cooperate in this phase?
- A With nobody. 3
B With local authorities. 8
C With the water committee. 2
D With the local development committee. 6
E Not applicable. 8
F B+C. 8
- 6.2) Is the population informed before beginning of the construction?
- A No. 15
B Yes. Public meetings are held. 5
C Only their local leaders are informed. 6
D Not applicable. 6
- 6.3) Do the future users sometimes propose improvements of the original design to you?
- A No. 4
B Yes. 16
C Not applicable. 6
- 6.4) Can you make any changes in the technical design in this phase?
- A No. 4
B Yes. 16
C Not applicable. 6
- 6.5) How is contact with the future users taking place?
- A There is no contact with future users. 3
B There is a special agent responsible for regular contact with the users. He can always be contacted by each future user or their representant. 3
C There are regular meetings with the future users or their representatives. 3
D Contact always takes place via local authorities. 6
E Contact always takes place via users committee. 3
F Not applicable. 6
G D+E. 5

7. Questions about O&M.number of
interview-
ees giving
the
answer.

- 7.1) To whom the O&M is delegated after the implementation phase?
- | | |
|------------------------------------|----|
| A O&M is not delegated. | 11 |
| B To local institutions. | 2 |
| C To the users (water committees). | 8 |
| D A+B. | 2 |
| E A+C. | 3 |
- 7.2) Are there special training courses for care takers? When do you send them?
- | | |
|--|----|
| A Yes. We send them during/after the design phase. | |
| B Yes. We send them during the implementation phase. | 4 |
| C Yes. We send them after the implementation phase. | 1 |
| D No. We don't train them. | 0 |
| E No. We train them on site. | 1 |
| F Not applicable. | 11 |
| G A, B or C and E. | 7 |
| H B and E | 4 |
- 7.3) Which are the biggest problems in relation with O&M.
- | | |
|---|---|
| A Spare parts are often not available. | |
| B Costs for logistics in case of simple repairs are too high. | 2 |
| C Care takers are not capable. | |
| D Care takers are not motivated. | |
| E too much different spareparts. | |
| F Lack of money. | |
| G Energy supply. | |
| H No problem. | 7 |
| I A+F. | 3 |
| J A+B+F. | 2 |
| K A+F+G. | 2 |
| L B+F. | 7 |
| M B+C+F. | 1 |
| N B+D+F. | 1 |
| N D+F. | 1 |
- 7.4) Is there any government (or other) support organisation for the user or communication based maintenance system (E.g. for complicated reparations, supply of spare parts that can not be purchased or made locally. training of O&M personnel)
- | | |
|-------------------|----|
| A No. | 0 |
| B Yes. | 15 |
| C Not applicable. | 11 |

7. Questions related with O&M.Number of
interview-
ees giving
the
answer.

- 7.5) Drinking water facilities are normally handed over (within a limited period) to the national body responsible for utilization, maintenance and repair. Generally speaking these national organizations will be unable to take on additional tasks on account of staff shortages and budgetary constraints.

Is this quotation, which has been taken from the Dutch policy memorandum "Water", true in your situation?

- | | |
|---|----|
| A Yes. | 12 |
| B No. National organizations are strong enough. | 7 |
| C No. National organizations are not responsible for O&M. | 7 |

- 7.6) It is Dutch policy, that in case of technically uncomplicated drinking water facilities, especially in scarcely populated rural areas, regional centres and smaller towns, every effort will be made to encourage user management where this is technically and organizationally feasible.

Do you agree with this policy?

- | | |
|---|----|
| A Yes. | 11 |
| B No. Experiences with user management are bad. | 5 |
| C No. O&M at other levels enjoys more confidence than O&M by the users. | 10 |

<u>8. Questions about (financial) management.</u>	<u>Number of interviewees giving the answer.</u>
8.1) Do users pay for water?	
A No.	4
B Yes.	17
C Sometimes in kind.	1
D Only if they have house connections.	3
8.2) Who is the financial manager?	
A The agency.	12
B The local authorities.	6
C The users. (A water committee)	2
D Not applicable.	4
F The users and a water committee.	4
8.3) Who takes the decision how much people will pay?	
A It is ministerial policy.	19
B The program (the agency).	
C The local authorities.	2
D The users (water committee).	1
E People do not pay.	4
8.4) Who decides who will be the financial manager.	
A It is ministerial policy.	22
B People do not pay.	4
8.5) What are the main problems with financial management?	
A People can not pay, and go back to their old water sources.	
B People do not pay (defaulting).	12
C Money is not put on a special water account.	4
D The asked amount of money is not enough.	3
E People do not pay, money has to come from government.	4
F No problems.	3

Factors	Didactic approach (to do to)	Social marketing approach (to do for)	participatory approach (to do with)
<u>1) program objective.</u>	Implementation of improved & sustainable water supply systems.	Idem	Idem + fostering problem solving capabilities that can be used again.
<u>2) Program contents.</u>	Not adapted to needs and situation users.	Adapted to needs and situation users.	Adapted to needs and situation users.
* Kind of social change that can be brought about.	Cognitive, action and simple behaviour change.	Idem.	Also complex behaviour change.
* Management of water supply given to:	National organization or local administration (see tabel at next page)	Idem. (see also table at next page).	Idem + users. (see also table at next page).
<u>3) Internal environment.</u>			
* Skills program agents.	Technical and limited social skills.	Idem and specialists during program planning.	As well technical as social skills during all program phases.
* Program costs.	Low during planning and implementation, high after implementation if management can not be delegated.	High during planning. Low during implementation. high after implementation if management can not be delegated.	High during planning and implementation (can become lower due to voluntary labour). Lower costs after implementation when management can be delegated.
<u>4) External environment.</u>			
* Political structure.	Most often centralized.	Most often centralized.	Most often decentralized.
* Financial donor.	Depending on objective and philosophy donor.	Idem.	Idem.
* Target group characteristics.	No special requirements.	Idem.	Homogeneous, (potential) skills.

Copy of table 7.1.5.: Factors influencing the choice of the communication approach.

Factor.	Responsibility for management at:		
	National organization.	Local administration.	Users.
Type of Technology	All types possible.	Simple technology.	Simple technology. (Handpumps or gravitary piped water supply)
Physical characteristics.	Distance nearest office nat. organization not too large.	Big distance no problem.	Big distance no problem.
Capacity local administration.	Of no importance.	Capacity and skills available to accept more tasks.	Often chosen if local administration is not capable to accept more tasks.
Target group.	Of no Importance.	of no importance.	Should be homogeneous, enough (potential) skills available.
Program agents.	Only limited social skills necessary.	Only limited social skills necessary.	Social skills necessary.

Copy of table 7.1.3.2.: Overview of the factors influencing the choice to whom the responsibility for the management of the water supply system will be given.