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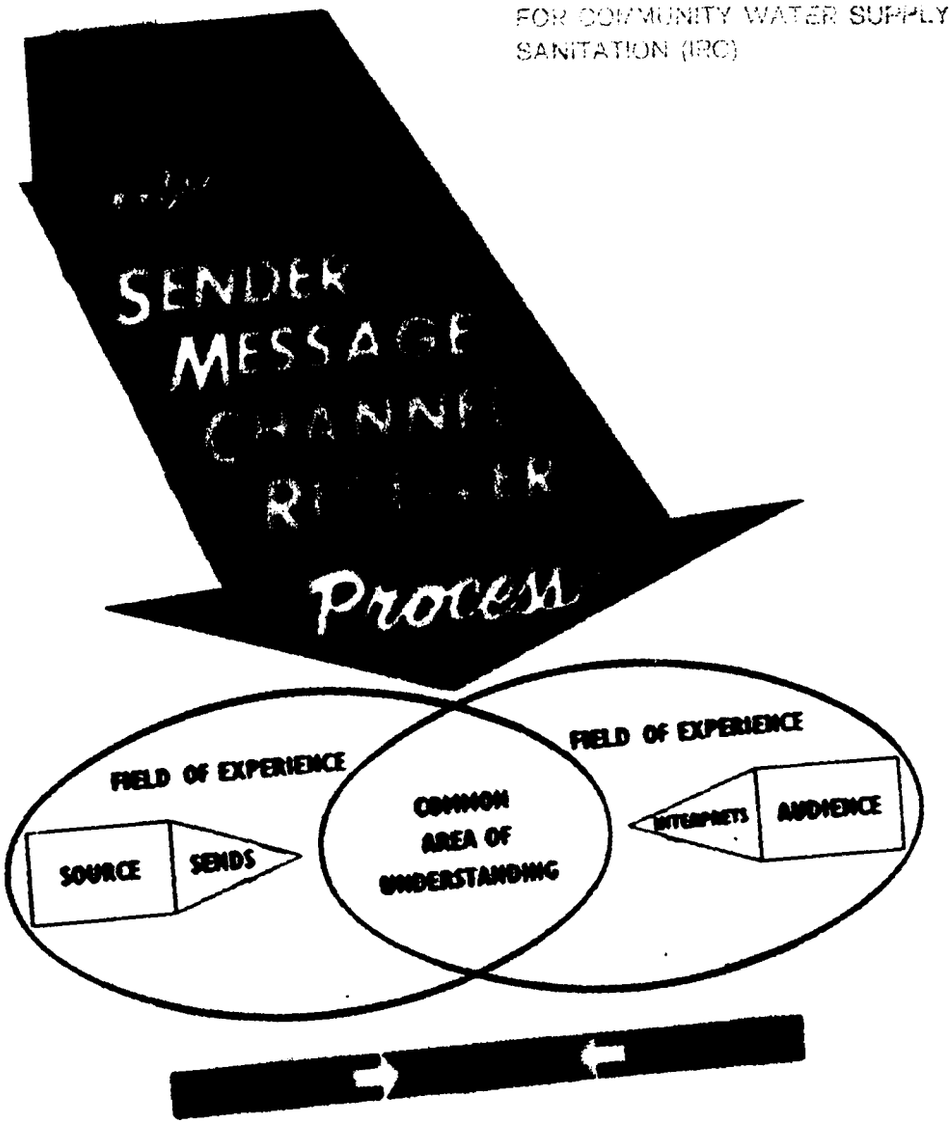

SOCIO-CULTURAL SUBJECTS

International Course on Low-Cost Water Supply and Sanitation

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CONTENTS

INTERNATIONAL COURSE ON LOW-COST WATER SUPPLY AND SANITATION

LECTURE SERIES: EXTENSION PROGRAMMES
LECTURER: HUIZINGA
NUMBER OF DOUBLE LECTURE HOURS: 1

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0. INTRODUCTION

0.1. Objectives of the lecture series

to enable the participants to understand:
- the objectives of extension programmes
- the different methods of extension and how to use them
- the importance of target groups in extension

0.2. Subjects covered in the lecture series

History of extension
Importance of target groups
Communication methods

0.3. References

Adams, ... Agricultural Extension in Developing Countries. .....

McDonald, I. .., Communication for Rural Development, ...

0.4. Handouts

lecture notes

0.5. Audiovisual teaching aids

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INTERNATIONAL COURSE ON LOW-COST WATER SUPPLY AND SANITATION

International Institute
for Hydraulic and Environmental
Engineering

E X T E N S I O N P R O G R A M M E S

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June 1988

1. THE HISTORY OF EXTENSION

1.1. There are three mechanisms that can trigger off behaviour change in people:
- compliance/means control
- identification/attractiveness
- internalization/credibility.

1.2. The principal change mechanism for all forms of extension (e.g. agricultural extension, public health education, environmental health education, home economics training, and mother and child care training) is internalization/credibility. In this way, extension appeals to the rational processes in the minds of clients and works on the assumption that a change in a person's knowledge, may result in a change in his attitudes towards a particular aspect of his life, that may in turn result in a change in his behaviour.

1.3. Identification and attractiveness play a major role in advertising and marketing, but there is no doubt that their influences are felt in extension as well.

1.4. Whether working through internalization, or through identification, extension workers always communicate with clients to make them see the advantages of adopting new forms of behaviour or new practices. COMMUNICATION is the key word in extension, and the history of extension in rural development is therefore very much the history of how extension workers have communicated with farmers and their families in all sorts of rural development programmes and projects. The figures 1-7[1] on the next pages give a good illustration of this development.

1.5. The above developments have brought us to the present-day situation, in which we can distinguish three major categories of extension methods:
- the methods that mainly aim at the dissemination of information and knowledge that are thought to be relevant for the solution of a particular problem in society ; in agriculture, a good example is the World Bank's Training and Visit System in Agricultural Extension; for an example in Health Education see the present AIDS-prevention campaigns in the Netherlands and other European countries
- the methods that aim at using group discussions to make people conscious of the natural and social world in which they are living, train them to apprehend and analyse their own situation, and encourage them to try and find ways to solve some of the problems that they encounter. One of the best known methods here, is the "Pedagogy of the Oppressed" developed by the Brazilian educator Paulo Freire,

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[1]. These figures are taken from: Röling, Niels: "Extension Science: Increasingly Preoccupied with Knowledge Systems", in: Sociologia Ruralis, Vol.XXV(1985), no.3-4, 270-89

FIGURE 1. *Getting them where I want them*

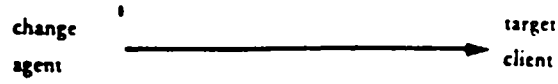


FIGURE 2. *The two way flow of communication*

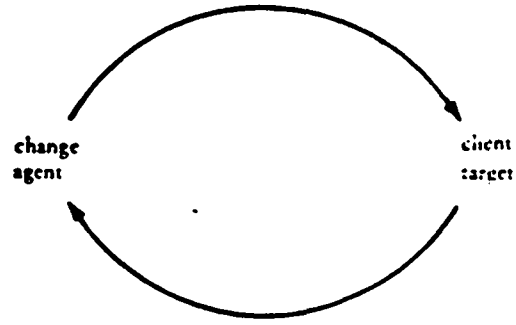


FIGURE 3. *Diffusion of innovations*

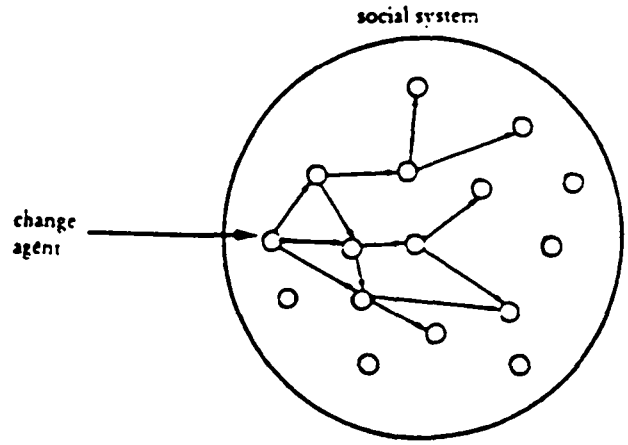


FIGURE 4. *Adopter categories become target categories*

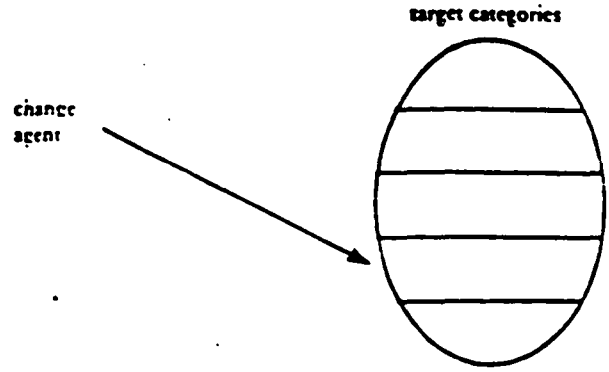


FIGURE 5. *Target categories introduced*

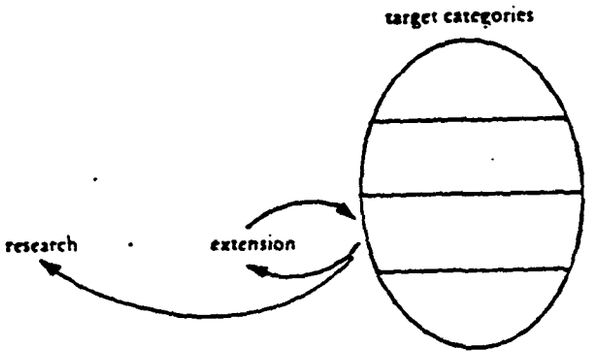


FIGURE 6. *The agricultural knowledge system*

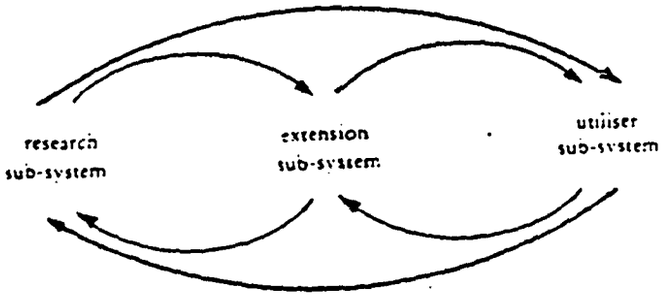
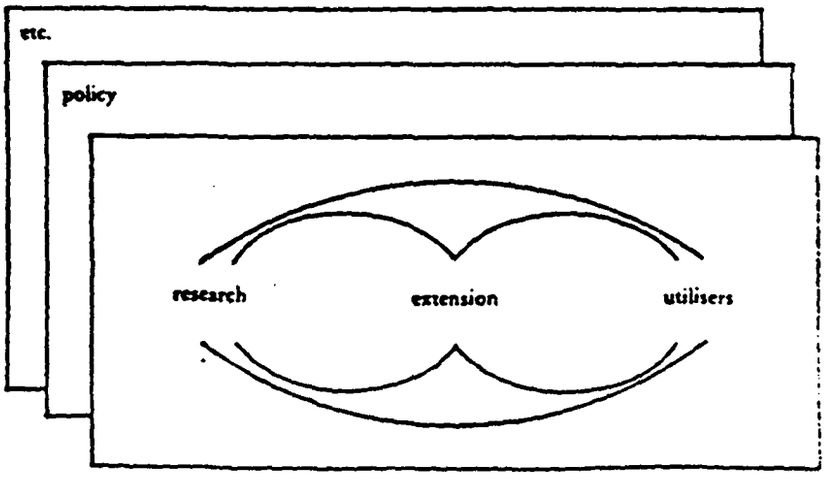


FIGURE 7. *Inter-system interfaces*



that uses an adult literacy approach. Another method is the GRAAP-method[2], originally developed at Burkina Faso but is now being used in many development projects and programmes

- the methods that aim to mobilize people for collective action, and organize them into small groups of which the members share a particular responsibility towards each other and undertake a number of agreed upon activities, often of an income generating nature.

It is important to realize that each of the above groups of extension methods, or perhaps one could say: extension strategies, has its merits. As will be shown in the next paragraph, the characteristics of the target group at which the extension programme is aimed as well as the objectives of the programme itself, play a major role in decisions on which strategies to use in a rural development project.

2. *THE IMPORTANCE OF TARGET GROUPS IN EXTENSION*

2.1. There are a number of elements in a all extension activities. Figure 8 below shows them.

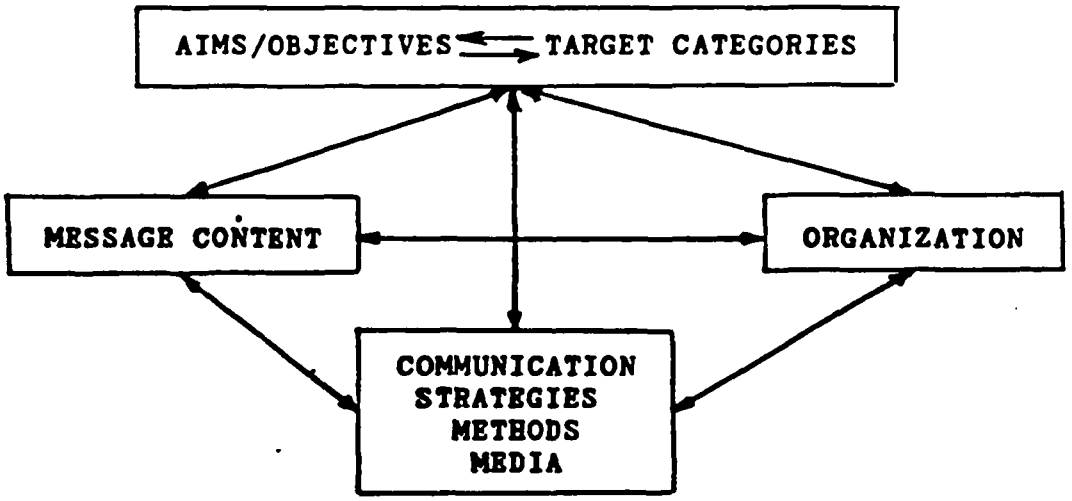


Fig.8: The Interconnected Elements in Extension Education

[2]. GRAAP stands for Groupement de Recherche et d'Appui de l'Autopromotion Paysanne.

2.2. In a well designed extension programme, the above elements are closely connected with each other: if one of them changes, it is very likely that others will have to be changed accordingly.
Example: while in a literate population a mass media campaign might well be supported by the distribution of leaflets and brochures, one would have to make use of slide shows or popular theatre in an illiterate population. That may sound obvious, but the change from printed material to puppet shows, may have grave consequences for the organization of the extension work and, in fact, for the contents of the extension messages!

2.3. As was already indicated in 2.2. (literate versus illiterate), it are the characteristics, circumstances and conditions of the target population that play THE major role in the design of an extension programme. *An extension programme should in all case be tuned to the needs, wishes and potentials of the target population.* The reason for this is simple: as long as extension aims at *internalized* change, as we said it did (see 1.2), it aims at *voluntary* change. People do not change voluntarily when a programme does not consider their needs and priorities.

2.4. One particular aspect of 2.3. that is often overlooked in Health Education, is that some target groups may not connect health problems in their communities with e.g. unsafe drinking water, unhygienic waste disposal, particular forms of sexual behaviour or particular food habits. Where this is the case, it appears that the extension methods used for the dissemination of information and knowledge that were mentioned in 1.5. are singularly *ineffective* in effecting changes in behaviour: simply telling people that they should adopt "a healthy style of life" does not really help to solve this problem

3. COMMUNICATION METHODS IN EXTENSION

3.1. The surprising thing about rural development communication is the high degree to which it is based on methods of interpersonal communication between an extension worker and either an individual client or a relatively small group of clients: communication at the micro or meso level.

3.2. In connection with the above, it should be remembered that in the process of adopting innovations, people go through various stages, that are known in extension theory as
- awareness stage
- interest stage
- evaluation stage
- trial stage
- adoption stage

3.3. Not all communication needs of clients are the same during these five stages:
- in the first two stages, people are most in need of factual information about the innovation;
- nearing the middle and end of the innovation process, there is a growing need for communication that helps people take decisions, that encourages and reassures them, and that motivates them to take certain actions.

3.4. Communication methods are not at all equally effective in meeting the different communication needs described in 3.3. It appears that mass communication methods are far more effective in providing communities with the factual information that is needed in the beginning of the adoption process, than interpersonal communication is. Even if this has been provided by the extension worker: even in successful programmes, it was often shown that extension workers had only succeeded in reaching no more than 30% or 40% of the village population by interpersonal communication. On the other hand, there has often been an overestimation of the potential of mass media communication to motivate people for internalized behaviour change. It appears that communication with relatives, friends, and extension workers is generally far more effective to reach this end.

3.5. The lesson from the above is clear: wherever possible, use mass media communication during the first two stages of the adoption process and shift to interpersonal communication methods later. When doing the latter, be sure to include group discussions that make full use of intra group dynamics, rather than simply relying on one-way communication by the extension worker to a loose gathering of individuals.

INTERNATIONAL COURSE ON LOW-COST WATER SUPPLY AND SANITATION

LECTURE SERIES: COMMUNITY PARTICIPATION
LECTURER: VAN WIJK
NUMBER OF DOUBLE LECTURE HOURS: 3

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0. INTRODUCTION

0.1. Objectives of the lecture series

to enable the participants to:
- develop a basic knowledge on reasons for, and methods of Community Participation (CP) and the Involvement of Women (WI) for more successful drinking water supply and sanitation projects
- enhance positive attitudes with the participants, towards the use of CP and WI in their own projects
- apply the theory of these lectures to the practical exercises and groupwork in this course

0.2. Subjects covered in the lecture series

- Introduction to CP
- Organizational aspects of CP
- Community-based financing and management systems

0.3. References

Elmendorf, M. and P. Buckles. Socio-cultural aspects of water supply and excreta disposal, Volume 5. Worldbank, Transportation, Water and Telecommunications Dpt., Appropriate Technology for Water and Sanitation, 1980.

Simpson-Hébert, M. Methods for gathering socio-cultural data for water supply and sanitation projects. TAG Technical note 1, World Bank, Technology Advisory Group, 1983.

White, A.T. Community Participation in Water and Sanitation: Concepts, Strategies and Methods. Technical Paper 17, IRC, June 1981.

WHO. Minimum Evaluation Procedure for Water Supply and Sanitation Projects, Geneva, 1983.

Wijk-Sijbesma, C. van. Participation of women in water supply and sanitation: roles and realities. Technical Paper 22, IRC, September 1985.

Wijk-Sijbesma, C. van. What price water? User participation in paying for community-based water supply. Occasional Paper 10, IRC, March 1987.

LECTURE SERIES: COMMUNITY PARTICIPATION (CP)
LECTURER: VAN WIJK
SUBJECT: 1 OF 3

INTRODUCTION TO COMMUNITY PARTICIPATION

1.1 INTRODUCTION

Objectives of the lecture

to enable the participant to understand the relevance of community participation and women involvement for the success of low-cost water supply and sanitation programmes

Topics covered in the lecture

- Objectives of LCWSS-projects (short, medium and long term), and how CP relates to them
- Reasons for Women's Invovement (WI)
- Essential components of CP (discussion)
- Problems with and constraints to CP (discussion)

Handouts

Community Participation including the Involvement of Women in Water Supply and Sanitation Projects. Chapter 2 in Compendium Paper for the OECD, 4 p. IRC, The Hague, 1986.

Participation of Women in Water Supply and Sanitation, Chapter 1 in IRC Tecnical Paper Series 22, 9 p.

1.2 LECTURE NOTES

1.2.1 Objectives of LCWSS-projects and their relation with CP

The objectives of LCWSS-projects can generally be divided in short, medium and long term objectives. Community participation (CP) may facilitate realizing them. The CP-aspects to be considered in order to meet short-term objectives are different from those needed to reach long-term goals. The following table summarizes them.

TERM	OBJECTIVES	CP-ASPECTS
short (purely technical)	100 % coverage through low-cost large-scale construction	voluntary labour in construction. This reduces costs - the proportion depending on the percentage of unskilled labour in the total construction costs
	reliable functioning	utilize local knowledge in planning design and the local operation of the system. The community is responsible for daily tasks in O&M and management.
medium	general and proper use of the facilities (by all and throughout the year)	take account of local traditions and practices in planning and design with respect to: - choice of technology - choice of service level - location of facilities - design, construction, financing and management of additional facilities (laundry, cattle watering) where necessary
	reduction of the transmission of local water supply and sanitation related diseases	The community identifies risky hygienic practices with respect to: collection and storage of water, use of latrines, personal hygiene, handling of food. The community plans, implements and evaluates local action to reduce health risks
long (focus on broader development	health benefits	All families use safe water and sanitation the year round.
	socio-economic benefits: lower public health expenses, potential for broader area development, timesavings and availability of water for production purposes	Private and public (schools, markets) hygiene is improved.
	process benefits	development of community problem solving capacity and leadership for: - local maintenance and financing - further development

1.2.2 Reasons for Women's Involvement

When the community is involved in water and sanitation projects, this usually applies to men (local leaders, heads of households). However, involving women in the project, not only in hygiene aspects but also in local planning, design and management is equally important because:

- women are the principal domestic water users;
- they decide on the actual source and the use of the water;
- they have the greatest direct interest in proper maintenance of the water supply system;
- they are therefore the major motivators for repair in case the system breaks down;
- they have the greatest influence on childrens practices.

1.2.3 Essential components of CP

The participation or involvement (of both men and women) refers to:
- project information for local planning and design decisions;
- selection of the most appropriate (in terms of affordability, maintainability and use) technology, service level, maintenance and financing system with the user;
- contributions in labour, cash or kind to construction and maintenance
- local organization: for decision making, O&M, financing, management
- evaluation: do people like the new facilities? are they functioning adequately? are they using them properly? do they have a positive influence on hygienic conditions?

1.2.4 Problems with and constraints to CP

The participants bring up several problems they have experienced in their countries:

- Equal access to the facilities and equal benefits from them, for both the rich and the poor members of a community. A common problem is the allocation of subsidies on latrine construction. It often happens that the wealthier households who can afford to pay, get highly subsidized latrines and poorer people do not. The following alternative, that is community aproach to sanitation, may help to prevent this. In this approach the local council or committee assists poor households to install a basic latrine. Wealthier households, wanting a higher-status model pay its full costs. Monitoring of maintenance and use would also be a community function, with help from the project.

- Another problem is the location of the facilities. The village leaders often determine tap locations: nearest to their houses. This comes on a concentration of facilities in the wealthier part of the community. Water committees in which the various population groups are equally represented, may effectuate a more proportional coverage of the community.

- A third problem forms the differentiation within a community in richer and poorer sections. This requires flexible service levels. And these should be adapted to the wishes of the various user categories, to what they can afford and to what they can sustain. The service levels should be such, that full cost recovery is possible.

- Political constraints form another commonly observed obstacle to CP. Unions, for example, may oppose to voluntary labour by the community members.

AUDIOVISUAL TEACHING AIDS

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REFERENCES

White, A.T. Community Participation in Water and Sanitation: Concepts, Strategies and Methods, p. 50-53. Technical Paper 17, IRC, June 1981.

Wijk-Sijbesma, C. van. Participation of women in water supply and sanitation: roles and realities, p. 1-4. Technical Paper 22, IRC, September 1985.

Wijk-Sijbesma, C. van. What price water? User participation in paying for community-based water supply, p. 14 and 57. Occasional Paper 10, IRC, March 1987.

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DRAFT

COMMUNITY PARTICIPATION INCLUDING THE INVOLVEMENT OF WOMEN

IN

WATER SUPPLY AND SANITATION PROJECTS

A Compendium Paper prepared for the Development Assistance Committee
of the Organization for Economic Co-operation and Development
on request of
the Directorate General of Development Co-operation
of the Kingdom of the Netherlands

International Reference Centre for
Community Water Supply and Sanitation
The Hague, The Netherlands

November 1986

CONTENTS

2. DESIRABILITY OF COMMUNITY PARTICIPATION IN WATER SUPPLY AND SANITATION PROJECTS

Main advantages of community participation in water supply and sanitation projects put forward by White (1981) include:

- Participation reduces the costs of improved facilities;
- With participation, more people can be served;
- Participation allows for adaptation to local situations and needs;
- Participation increases the chance of proper use and continuous functioning of improved facilities;
- Participation can be a catalyst for further socio-economic development.

These advantages, which are discussed in more detail below are increasingly referred to in national and international policy documents. However, the participation strategies, field procedures and training to produce these benefits still need to be developed in many cases. Donor-supported projects provide excellent opportunities to develop community participation and health education components through field-level experiments, in particular when the various projects are co-ordinated at national level and include support for adapting institutional development and training programmes to a greater participation of the communities in local planning, maintenance, financing and evaluation.

2.1 Reduction of costs

Involvement of the community as voluntary labour in construction can reduce agency investment costs. This is especially the case with facilities where unskilled labour and local materials are a major part of the costs. Reports of the value of contributions vary from 3% to 44% of the total construction costs, with the highest values for piped gravity systems (Van Wijk, 1981, 101; White, 1981, 66). Some of these figures are based on either monitoring of labour inputs (see Ecuador and Guatemala cases) or on estimates of hours of work associated with total length of pipe installed (Malawi case). Less is known about agency costs made for adaptations and guidance for effective community labour participation. The few data available indicate that these costs take about one-third of the savings. Because women are most directly concerned with water supply and sanitation, they have greatly stimulated community support for construction and maintenance. A pre-condition is that they have been adequately informed about the project and have been organized to participate (Van Wijk, 1985, 63, 66).

Because of the rapidly increasing number of improved facilities over wide areas, recurrent costs are a growing problem. Many agencies demand that these costs are fully or partly met by the community. Communities may also become directly responsible for the operation, maintenance and management of their water supply and sanitation system. In this way, part of the burden of providing basic services is transferred from the agency to the community. However, a number of issues are associated with such transfers of responsibility. The priorities of families and of the community in general may differ from those of the development

agency. Real or perceived benefits may also differ. Demands for labour and cash to build and maintain new facilities may compete with household needs for food, fuel and other basic necessities. Nevertheless, in many water-short areas, households spend considerable amounts of money to purchase water from vendors. Hopefully, these households will also benefit from lower medical costs associated with treatment of diarrhoea and other water and sanitation related diseases. Where there are considerable differences in incomes, contributions should be proportional to the capacities and benefits of the various user groups. Requiring equal contributions can constitute an extra burden for those who are in a weaker position, and may have negative consequences for family well-being. Households which use much extra water for income - generating purposes should thus be charged accordingly. Requiring equal contributions from male and female household members also increase existing inequalities in cases where the women have to use their own, smaller incomes for these payments.

2.2 Wider coverage

With the capital saved through participation in construction and maintenance, more funds are available to serve those without improved water supply and sanitation. Moreover, payment in the form of free labour can reduce the investment cost individual families may be required to make for private facilities, such as yard, group and house connections and sanitary latrines. Thus more families can participate. This is one reason for the success of the Latin American water supply programme in concentrated rural settlements (See Guatemala and Ecuador cases).

Nevertheless, many communities cannot be served because of high costs, low technical feasibility or lack of payment capacities. More people can, however, be served by assisting them to improve their traditional system with local means (self-reliant development), as is done by primary health care programmes, women's organizations and programmes, community development programmes, centres for appropriate technology, and non-governmental organizations (Pakistan, Orangi Pilot Project case is an example).

2.3 Adaptations to Local situations and needs

Almost invariably villagers, including both men and women, have a detailed knowledge of their physical and social environment. This knowledge can contribute to the quality and long-term results of the project. Participation is used to avoid design mistakes, for example, in selecting water sources that are unreliable or culturally unacceptable (Malawi), and for working out acceptable sharing of water sources (Guatemala).

Participation in design and in planning of local maintenance and financing also allows for adaptations to the various needs and circumstances of user categories. Design and siting of water points and latrines have to be adapted to user preferences to ensure general use for all needs in the various seasons, to reduce time and energy expenditure, and to allow equitable access to facilities. For example, in Malawi washing facilities at hand pump wells had to be adapted so that the women would use them. Also, some payment systems are more realistic than others. For example, in agricultural communities payment can be made after the harvest rather than on a monthly basis (Burkina Faso).

Community needs and expectations may be unrealistic or incompatible with engineering requirements, or may result from unresolved community conflicts. Therefore, in many cases a best-fitting compromise will need to be worked out.

2.4 Increased chance of use and maintenance

Without full community participation, it is likely that some groups will not have access to improved facilities, or will not take advantage of them. This may result in continued high rates of death and disability from diarrhoea and from communicable diseases. Similarly, full support of improved sanitation and hygienic practices is essential for the investment in water supplies to have a significant health impact. The activities are time-consuming and should not be put off until after water improvements have been made.

In addition, involvement in those aspects of the project which concern the community directly creates a sense of ownership and responsibility which cannot be engendered by the mere performance of physical tasks in a project perceived of as belonging exclusively to the government or the executing agency. A sense of pride and ownership is not however, sufficient to maintain facilities; periodic training, monitoring procurement of spare parts, and other infrastructural arrangements should also be assured. (Cases of the Philippines, Burkina Faso, Malawi, Ecuador).

Studies carried out by the OECD in Mexico and several African countries indicate that community participation contributes to better functioning of facilities. In Mexico, 94 participatory water projects were compared with 46 projects without participation. Of those without community participation, 49% of the systems were out of order. Of those with participation, non-functioning varied from 15% to 38%, depending on the degree of involvement. Unfortunately, no data were collected on participation in planning and on the involvement of women. The study in seven African countries indicated shorter duration of breakdown periods for water supply systems especially where communities were involved in project initiation, local planning and design. A management committee whether established or newly formed, and clearly defined responsibilities for maintenance also contributed to shorter periods of breakdown. However, some caution in intepretation of these data is necessary because of the limited sample size and lack of monitoring systems (Miller, 1979, 56 and 124-129).

2.5 Catalyst for further development

Local decision-making and strengthening of local analytical, technical and organizational capacities also stimulates further development. Increased self-reliance and possibly also increased water availability, time and energy for women can stimulate community activities to meet other felt needs. Such developments are more likely where non-governmental organizations are involved which can work intensively in a relatively small area for a longer period. The African Medical and Research Foundation, a Kenyan NGO involved in preventive health projects, for example, follows up other water-related felt needs. This follow-up often results in the establishment of vegetable gardens and tree nurseries at the wells and in construction of low energy stoves in the homes. These approaches are not necessarily limited to small-scale programmes. In Guatemala and Colombia, (but not Ecuador) communities are

encouraged to continue their own community improvements with surpluses from water funds. In Colombia, there were 1,630 community-managed rural water supply schemes in 1981. The programme keeps records of follow-up activities in these communities.

In addition to being a stimulus for further development through their participatory approach, water and sanitation programmes can also benefit directly from income generated from follow-up projects. In particular, additional income generated and controlled by women is spent on basic needs for their families, such as food, soap, household utensils and payment of water fees (Van Wijk, 1985, 100-102). Such expenditure can contribute to the continued functioning and general use of improved water supplies and the improvement of hygiene conditions and practices. However, effects on further community development and household incomes have not been effectively tested in any of the larger programmes.

2.6 Limitations and constraints

There is considerable danger in assuming that any or all of these benefits will automatically accrue by providing opportunities for community participation. Firstly, there is a possibility that community participation will be used to absolve governments from their responsibilities. Also, community participation is often seen as a threat of political change and a shifting of power from the centre to the community. In practice, it can give more power to local elites and increase the distance between the haves and have nots. Further, community participation can place undue demands on local communities for scarce human and material resources, create unrealistic expectations and foster disillusionment, thus inhibiting future co-operation (Martin, 1983).

Moreover, the decision of a governmental agency or voluntary organization to encourage community participation will not automatically yield desired results. Agency officials must have the understanding, skills, trained manpower, physical resources, bureaucratic flexibility, time allowances, patience and imagination necessary to work effectively with local communities. Changing traditional paternalistic attitudes of working for rather than with the community may not come easily, especially after initial stages of pilot or field-testing projects which are often carried out by a dedicated team. Constant and high-level political support is also essential. Table 1 offers a set of indicators of national readiness for community participation.

Table 1. Indicators of national readiness to support community participation

1. Acceptance by national government of basic literature and philosophy of community participation.
2. Media releases supporting community participation.
3. Governmental publications supporting community participation.
4. Permission for support of demonstration projects involving community participation.
5. Political party approval of community participation.
6. Inclusion of community participation in national health and economic policy.
7. Organizational/agency readiness to integrate activities and respond to community requests.
8. Revision of educational curriculum to promote community participation.
9. Legislation action or executive orders (statutes, rules, regulations) regarding community participation.
10. Willingness/capability to decentralize planning and decision-making.
11. Budgetary/fiscal allocations or incentives for community participation.

Source: Adapted from Sarn J.(1980). Workshop on planning for community participation in primary health care programmes,Washington, D.C., USA, APHA, 6 November.

At the community level, willingness and ability to participate in water supply and sanitation projects will also be limited by previous development efforts, its own decision-making and communications patterns, organizational and leadership systems, inclusion of women and more needy groups in its organizations, resource availability over various phases of a project, the strength of traditional water and sanitation practices, and the perceived advantages of new options. Nevertheless, in spite of these many inherent limitations and practical constraints, community participation continues to offer solutions to urgent needs of water supply and sanitation projects.

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The Hague, The Netherlands

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1. Participation of Women in Water Supply and Sanitation: an Overview

The review of the literature has indicated many aspects of the traditional involvement of women in water supply and sanitation which have implications for projects and programmes designed to improve these provisions. Their traditional involvement demonstrates that women have a potential role to play in such projects, which will benefit both the project and the women themselves and which will contribute to wider development. These potential roles have been compared with their actual participation in subsequent project stages, planning, construction, maintenance, and evaluation, in various cultures and with various types of technologies. The compilation and analysis of information from widely scattered sources allows those involved in projects and training to benefit from the experience of others and to build on this experience to develop a more systematic approach to the active involvement of women in all project stages and at all levels. Feedback will clarify, provide support for and adjust present ideas about the methods and benefits of the participation of women as an accepted feature of all water supply and sanitation programmes.

1.1 WHY INVOLVE WOMEN

As already stated, the participation of women in water supply and sanitation projects can have several benefits. It can contribute to the achievement of specific project objectives of functioning and use of facilities and also to the attainment of wider development goals. Further, their participation can also be of both direct and indirect benefit to the women themselves.

Traditional roles

The potential contribution of women to these objectives emerges logically from their traditional participation in water supply and sanitation. As domestic managers, women decide where to collect water for various purposes and in various seasons, how much water to collect and how to use it. In their choice of water sources, they make reasoned decisions based on their own criteria of access, time, effort, water quantity, quality, and reliability. In addition, much of the informal learning about water and sanitation takes place through interpersonal contacts between women. Thus, their opinions and needs have important consequences for the acceptance, use and readiness to maintain new water supplies and for the ultimate health impact of the project.

While several studies show that traditionally women have a role in maintenance and management of community water supplies, more recent studies indicate that this role may be more comprehensive than realized previously. Their involvement has included communal efforts and user agreements, arrangements by particular women or women's groups for the upkeep of shared facilities, and the exertion of influence on male community leaders and owners of source sites. Further in-depth studies and reporting of information obtained from women in the planning and evaluation of new projects will increase insight into this traditional role. It may also disclose the difference made to maintenance of new facilities when projects are based on existing management traditions and source ratings by women.

In sanitation, demand for privacy of women is a determining factor in latrine acceptance by men and women alike, especially in densely settled communities. Women also maintain latrines or supervise maintenance by children, provide handwashing facilities, take care of excreta disposal and hygiene of young children, and assist and educate them in correct latrine use. Factors influencing latrine acceptance and use which have emerged from a review of a large number of publications are the desire to avoid visibility, cost, acceptable arrangements for sharing, status, location, appropriateness for children, and ease of operation and maintenance.

Economic benefits

The introducion of improved water supply and sanitation may have welfare benefits, particularly when time and energy spent by women on water collection and waste disposal is reduced. The review of the literature indicated that these benefits differ considerably between and within households, depending on environmental conditions, the age and position of women in the household, and socio-economic class.

Potential economic benefits from the time saved in fetching water are closely related to the extent of women's involvement in domestic, economic, and community development work. In many rural areas, women are actively involved in agriculture, particularly food crop production and processing, and in animal care. In poorer households often they contribute substantially to the household income by working for others. Conflicting demands on time and energy, especially at peak periods of agricultural work have sometimes led to neglect of household tasks, such as cooking and child care, or agricultural tasks, such as weeding, which in turn may lead to reduced harvest. Time and energy gains from reduction in water collection may also be used for community development and educational activities. In some areas, when time permits, women make the largest contribution to community self-help projects. Lack of time is often a major constraint to their participation in non-formal education.

Traditionally, women are also the main users of water and waste for the household economy, for example in vegetable gardening, animal husbandry, brewing, processing organic waste for fuel and compost, and plastering walls and floors. These activities have consequences for the level of nutrition, income and hygiene of the family. There are strong indications in the literature, although not always supported by quantitative data, that the income of women is spent on basic family needs, such as food, clothing and household utensils, and also on improvements to and payments for domestic water supply and household hygiene. These patterns make women valuable partners in the expansion of productive use of water, time gains, and processed waste, as part of water supply and sanitation projects.

Health benefits

Water and sanitation related diseases are responsible for most of the morbidity and mortality in developing countries. The use of more water of improved quality and safe methods of excreta disposal, adequate personal hygiene, and food hygiene by all members of the community can lead to significant reduction in these diseases. These measures can also decrease considerably the economic cost of these diseases and their treatment for individual households and for governments, and reduce the human suffering associated with them. Women play a key role in this process because traditionally, they manage domestic water use and household hygiene, educate and care for young children, provide health care in their household and often also in their community, and make decisions on use, and to some extent maintenance, of water supply and sanitation facilities.

Project benefits

Their traditional roles are the obvious rationale for involvement of women in the introduction of improvements to water supply and sanitation and in concurrent arrangements for operation, maintenance and health education. The literature reviewed indicated that many cases of rejection and problems in the functioning and use can be explained, either partly or fully, by insufficient attention to the traditional roles and positions of women, and that the women have had sound reasons for non-use of facilities.

On the other hand, there are many accounts of specific contributions of women resulting in direct benefits to the projects and communities. As prime beneficiaries, they have promoted the interest and willingness of men to contribute to improving water supplies and installation of latrines. Other projects have benefited from their knowledge of local socio-cultural and environmental circumstances, including the identification of reliable water sources of acceptable quality and accessibility; reduction in construction cost by having shorter

pipeline tracks, thus enabling more communities to be served with the material available; adaptation of the design of equipment for improved operation and use; and socially acceptable arrangements for sharing facilities.

Although awareness is increasing that participation in rural water supply and sanitation is more than merely the contribution of voluntary labour, the notion of self-help construction being equivalent to community involvement still persists. The main value of this type of participation is that, when well-organized, it has sometimes led to considerable savings in capital cost, particularly in gravity schemes. In areas with communal facilities, these cost savings have reverted to the agency or led to the provision of an extra tap or facility for the users. In areas with house connections, contributions in kind have reduced the connection cost so that at the time of installation more households could participate in the project. However, increased coverage has not necessarily resulted in access to all, and this form of participation in itself does not guarantee that facilities will be maintained. This depends more on joint agreement between agency and community, both men and women, that a particular improvement is wanted; is within the capability of the community to maintain, with additional institutional support and training where necessary; and that the design and location of facilities meet the needs of the users.

An important issue emerging from the literature review is that the traditional skills and knowledge of women can benefit water supply and sanitation projects. The value of their knowledge to local planning has already been discussed. Women have also made well-reasoned selections of community workers, such as members of local committees and candidates for training in health education and maintenance. Often, the women selected are older women heads of household because of their greater freedom of movement. Other reasons for preferring these women as community workers may be their greater need for and interest in part-time work which can be integrated with their household tasks, and their greater job motivation. Other more subtle criteria may also play a role. The main point is that when asked to select suitable community workers, women can make use of inside knowledge not necessarily available to the agency.

1.2 HOW TO INVOLVE WOMEN

Most accounts of the involvement of women concern isolated projects. There is a need to integrate the involvement of women in a systems approach to water supply and sanitation, including regular monitoring and feedback on both the process and the effect of their involvement in relation to the type of technology and the socio-economic and cultural circumstances.

Planning

For projects which have adopted a community participation approach, a common strategy in local planning is to inform all users, including minority and disadvantaged groups, about the project; to consult them about their needs, preferences and expectations; to discuss options and to reach an agreement on all major issues such as community maintenance and finance. Many reports and studies from the field show that, in spite of their traditional roles, women face problems in participating in this planning process. This also affects their participation in follow-up arrangements for health education, maintenance and management. These problems originate partly from the position of women in different socio-economic classes, age and stages in the life cycle, and in different cultures. In some cultures, integration of women in local socio-political structures is possible, and sometimes occurs. However, these structures do not always represent poorer women. In other cultures, men and women have separate and complementary tasks and responsibilities, which may have or have had equal status. Often women in these communities have traditional organizations and networks which could be involved in the planning process. In secluded societies, women are confined to the house and the immediate environment and contacts with other women are informal and usually limited to the family. Lack of involvement may also stem from the fact that external projects take water supply, sanitation and health out of the women's sphere into the male public decision-making domain. This occurs because the projects are carried out by male staff who communicate with male community leaders, and may also explain why much traditional maintenance done by women has remained hidden. Both community leaders and women themselves have ascribed to men only decisions and work actually done by women. Very often the true role of women has not emerged until traditional maintenance and decision-making processes have been discussed, for example, in a meeting of local women with a woman field-worker.

From the literature review, several strategies have emerged which have been used to involve women more actively in local planning. They have been integrated directly in general community participation structures by practical measures, such as facilitation of attendance at meetings and training activities, and by the development of positive attitudes of men to their involvement in accordance with women's customary tasks. Various measures reported in the literature which have contributed to this type of involvement are summarized in this review. Elsewhere, especially in areas where women and men have segregated but complementary and equivalent spheres of influence, women have been consulted at separate meetings or at places where they gather for daily activities, and eventually join in other project activities. An alternative to an integrated approach is the involvement or development of separate women's organizations, either formal or informal, as for example in health education and site maintenance of communal

water collection points. Finally, women have been reached individually at home, for example in community surveys in project planning or evaluation, and in health education, using both women workers and trained community women.

It is not clear whether in more segregated societies, preference should be given to integration or separate organization of women. In the literature, there are a number of examples of women and women's committees being excluded from planning and management decision-making by local leaders and project staff, and also examples of women's representatives and organizations contributing substantially to the continued functioning of community water supplies and to improvement of environmental hygiene. There is evidence that the women themselves know best which is the most appropriate approach in their society. Contributing factors to the success of either approach seem to be that the women are aware of their common interests, have united, and have received the support of the project. However, from the practical point of view of the agencies, each approach may have different implications. The process and effect of alternative approaches is an area for further study including aspects, such as inputs, costs, appropriate design and maintenance, changes in household and community level hygiene and training of women for group development, situation analysis and problem solving. Irrespective of whether such studies are carried out, agencies should ascertain whether their approach leads to involvement of women in the project in a way which the women themselves consider to be meaningful.

An issue for special consideration in agency planning is the integration or linkage to income generating activities for women. This is related to expenditure patterns of income controlled by women, as mentioned previously. The income generated would not only benefit women and their families, but also contribute to the attainment of project benefits, such as total community coverage, cost recovery, continued functioning and improvement of public health.

In comparison with rural areas, very little information is available on the involvement of women in water supply and sanitation in low-income urban areas, in spite of rapidly increasing urbanization. Experiments with women's groups initiating or managing their own systems show that there is potential for greater involvement of women in these areas, especially if the systems cater for both domestic and income-generating use, such as vegetable gardening, compost making, and laundries.

Health education

Many locally specific risks of transmission of water and sanitation related diseases, based on behaviour which continues after the introduction of improved facilities, make health education support programmes necessary. Where such a programme is added to a project, frequently it is the only part of the project in which women are involved. In many instances, local women have been involved

in these programmes as individual receivers of health information in their homes and meeting places. Sometimes, programmes have been limited to the transfer of general health information, without attention to the accessibility of the information, the attitudes and practices of women, and the factors underlying these practices. In other cases, information programmes are based on careful inventory of the local situation, practical knowledge, beliefs and behaviour of women. Even the rather conventional knowledge, attitudes and practices (KAP) studies which, with standardized questions, do not make it easy to gain insight into the practical knowledge of women, have revealed some sound practices and basic knowledge on which participatory health programmes can be based. Their practical knowledge of community practices, conditions and beliefs requires that women be involved, not as passive beneficiaries of general and academic health education programmes, but as active co-planners, implementers and evaluators of local action programmes.

Women have participated more actively in health education as community health workers, members of community committees and women's organizations. However, some of these organizations focus mainly on development of skills or only involve wealthier women. Further evaluation and reporting is required on the membership of these women's groups and their effect on changes in hygiene behaviour and conditions in the household and community. Projects should also report whether such changes were achieved by a didactic approach, or methods of joint analysis, planning, implementation and evaluation.

There are reports in the literature of poorer women in particular expressing a need for health education that is more adapted to the economic conditions of their families. In response to their needs, some programmes have provided implements or have helped women to make these with local materials, other programmes have included activities to generate income and to reduce expenditure. It is possible that the inclusion of economic components in health education programmes is in the long term more cost-effective than more conventional health education for the total elimination of local risks of transmission of water and sanitation related diseases. This is not yet clear, because this type of health education programme with women is comparatively new.

There are also indications that men should be involved in local health education as husbands and fathers, and also because of traditional divisions of labour between men and women. Opposition from husbands to the participation of their wives in education programmes has been overcome by involving the men in some way in these activities. Traditional divisions of labour and authority have sometimes prevented women from achieving necessary improvements, such as roofing of latrines and kitchen improvements which are male responsibilities. In both cases, the women have drawn the attention of the agency to these problems or have suggested culturally appropriate solutions. More evaluation is required

to assess the effectiveness of health education programmes involving men and also of school health education in relation to domestic improvements.

Construction

In Latin America, Africa and in parts of Asia, women have participated actively in the construction of facilities, especially piped water supplies. This has taken the form of voluntary labour especially in areas where women are traditionally involved in agricultural field-work. Elsewhere, they have motivated and supported men to do unskilled voluntary construction work, or have fed and lodged construction workers, and have raised community funds for the project.

The interest and successful training of women in some areas in cement construction work, such as latrine slabs and rain-water collection tanks, may possibly be explained in terms of a connection with traditional skills in plastering, their responsibilities for domestic water supply and sanitation, and women workers being more acceptable to preserve household privacy. Water supply and sanitation projects, and also food-for-work projects may benefit from the interest of women in sanitation improvements, both as domestic managers and project workers. Such interests exist particularly in areas where husbands disapprove of work being carried out in their homes in their absence, where the need for privacy creates a demand for better sanitation facilities, and where women work in modern or traditional construction.

Maintenance

Where women have been involved in maintenance, their role has been closely related to their traditional management tasks. They have been involved especially in the preservation of site hygiene and the control of source use. In some cases, arrangements have been made spontaneously, thus preserving their original tasks as users and informal managers. In other cases, special tasks have been formulated in consultation with the agency. These have varied from appointment of a nearby woman to look after the water point, to a site committee, user roster, or a team of a male and a female caretaker with the woman responsible for hygiene and the man for technical matters. Experience indicates that factors relevant in site upkeep are that maintenance is not imposed but agreed upon jointly; that the women know what to do and why; and that there is two-way communication with higher level maintenance so that users are informed when, for example, storage tanks are cleaned, and know whom to contact about problems. It has also become clear that to increase the welfare, health and economic benefits of the system, women as the main users and managers, should be involved in decision-making on water use at the tap or well.

Women have been involved in more technical maintenance and repair tasks,

especially in areas of high male migration, and in specific women's projects. Although there are several positive accounts of their commitment and performance, no methodologically sound quantitative evaluation has been carried out which compares the performance of men and women caretakers under similar technical, social and environmental conditions.

Administration

In local administration, women seem to be particularly active in financial matters, including fund raising, fee collection, fund keeping and supervision of the local board. This may not only show their willingness to put effort into a good water supply and indicate the most recurrent problem and problem-solving approach, but also reflect their dependability in fund keeping. Other factors which facilitate fund collection by women may be the link with their roles in managing the domestic budget and in making social visits. At present, there are too few reports in the literature on which conclusions and implications for programme development and training can be based. This is obviously an area for further information and investigation.

Evaluation

Originally, the emphasis in evaluation of the benefits of water supply and sanitation projects was on separate impact studies on public health and socio-economic development. While the large number of health impact studies in totality indicates that projects have important benefits, they also show that demonstration of these benefits depends on the soundness of the methodology of the studies. Factors for consideration include whether improved water supplies and sanitation facilities are better than existing facilities, function appropriately, and are used adequately by all, men, women and children. Therefore, the focus has moved from ultimate impact studies to intermediate studies which investigate the functioning of systems and the behaviour of the people in the community as part of ongoing water supply and sanitation programmes. This means not only involving women as knowledgeable informants in a survey, but also investigating the degree to which they were actively involved in the preceding process, and also whether greater involvement is indicated and feasible.

A similar shift may also be necessary with socio-economic impact studies, as the literature review indicated that these benefits are locally specific. As with health impact studies, there are also indications that these benefits do not occur automatically in all cases, but depend on the way projects are carried out and on the associated support programmes. For an impact on public health, usually a supplementary health education programme is necessary. For greater socio-economic impact, support programmes may be the integration or link with

developmental use of time gains, for example for non-formal education, and of surplus water and processed excreta and organic waste, for example for vegetable gardening and tree nurseries. Cost-effectiveness studies can demonstrate the value of these additional inputs, and also disclose benefits to the financing of operation and maintenance. Further, information on such developmental use of project benefits would be valuable for policy development on project allocation, and promotion and subsidization of composting latrines in some areas.

Compared with the many studies on women's traditional roles showing the potential benefits of time and energy gains, increased welfare and socio-economic development, there are very few studies which have measured the multiple benefits of community water supply and sanitation projects in quantitative as well as qualitative terms. More studies are needed in order to demonstrate more clearly that water supply and sanitation projects can improve the situation of women, their families and their communities in a multitude of ways, and to indicate which type of communities and which participation processes will bring about the most benefit.

A matter of special concern in evaluation are the issues to be addressed to ensure that improvements in water supply and sanitation do not lead to deterioration of the position of some or all women in the communities concerned. Most of these problems can be prevented by more careful planning and better dialogue with the women themselves. A special issue for study and experiment in this respect, which has already been taken up by some water agencies, is the development of an equitable system of water rates for systems with unmetered yard or house connections.

1.3 IMPLICATIONS FOR NATIONAL PROGRAMMES

The review of the literature indicated a number of steps which can be taken at national level to enhance the involvement of women in water supply and sanitation. These are mainly in human resources development and training, the development and testing of field procedures for involvement of women as part of the general community participation process, and the coordination and cooperation with other departments and organizations which can contribute to the achievement of the long-term objectives and targets of programmes.

Project staff - tasks, selection and training

Stimulation of the participation of local women in all phases and activities of water supply and sanitation projects has in particular implications for information exchange and training. It implies that throughout the project, project staff communicate as partners with all groups in the community, including women. In this process, the project provides the basic information which they

have, and the community contributes their local knowledge and expresses their needs, in order to attain joint agreement. This requires that field staff have the attitudes and communication skills necessary for this dialogue, and that the project builds in sufficient, although not necessarily excessive, time for two-way communication.

It also implies that for meaningful consultation with local women in areas where culture requires their segregation or seclusion, either field staff will need to be women, or local women intermediaries may be involved. Also, water supply and sanitation projects can often work more closely with women field-workers in other departments and programmes, such as community development and preventive health. Successful involvement of women project workers often depends on whether those selected fit in with the local culture, and whether training and working conditions are adapted to their situation.

Strategies suggested to involve women in ongoing and new water supply and sanitation programmes include integration of women in general community participation procedures; refocusing to water supply and sanitation of existing participatory activities of women; inauguration of separate organizations for women's participation linked to those of men; strengthening existing forms of women's involvement, or combinations of these. In all cases, programmes can benefit by using a "learning-by-doing" approach whereby field staff are invited to discuss experiences periodically, and intermediate evaluations are carried out to adapt ongoing programmes. Integration of the findings of this process in field manuals and training for community participation and education will help to ensure that knowledge thus developed is invested and used by organizations rather than individual workers. Reporting on meetings and evaluations and exchange of manuals will facilitate the sharing of knowledge between agencies and countries. In addition, there is a need to update existing manuals for field-work and training in community participation and education for water supply and sanitation. At present, many of these do not pay specific attention to the involvement of women in the various phases of local projects.

A weak element in many water supply and sanitation programmes is the training for community members, who voluntarily or for small compensation from the community, carry out local maintenance and management. This is probably due to the relatively recent change from centralized, agency-managed systems to more decentralized participatory approaches and also to the limited number of evaluations on functioning of local facilities. Also, in recruitment and training of higher level staff, technical agencies involved in community water supply and sanitation programmes still often emphasize technical skills, and pay less attention to management and socio-organizational aspects. The adaptation of training courses for programme managers and engineers and the introduction of training courses for community workers provide good opportunities to

introduce the involvement of women as one of the factors from which both projects and communities can benefit.

Small-scale village initiatives

The participation of women is not only important for ongoing and new water supply and sanitation projects, but can also contribute to the achievement of the target of improved water and sanitation for all. Programmes and organizations for women at the national level have the particular potential to assist women to make their own improvements to water supply and sanitation. These programmes and organizations may supplement higher level projects by assisting women to make additional improvements, such as household transport for general use of improved water sources and better household hygiene. They have an even greater potential to assist communities and scattered households not served by larger scale projects. The literature gives many examples of interesting approaches in this area. However, there is a need for more evaluation of the scope and impact of some of the most popular outreach programmes, such as appropriate technology centres, and to define their roles in the national strategy, including arrangements for coordination and cooperation with ongoing technical programmes in water and sanitation.

Conclusion

The involvement of women in all project stages and at all levels, by building on their roles in domestic water supply and sanitation, can be a contributing factor to the achievement of short and long term benefits of water supply and sanitation improvements. In the subsequent chapters, these traditional roles, their implications for new projects, and the experiences and effects of women's involvement as realized in practice are reviewed in detail.

LECTURE SERIES: COMMUNITY PARTICIPATION (CP)
LECTURER: VAN WIJK
SUBJECT: 2 OF 3

ORGANIZATIONAL ASPECTS OF LCWSS-PROGRAMMES

2.1 INTRODUCTION

Objectives of the lecture

to enable the participant to:
- have a basic knowledge on forms and methods of community participation and women's involvement in each project phase
- understand the implications of CP/WI for programme development and organization

Topics covered in the lecture

- Forms and methods of CP
- Practical steps to facilitate Women's Involvement
- Programme development
- Manpower models for CP and WI: how to implement it in organizations
- Guatemala rural water supply and sanitation: ITN slide-sound module

Handouts

Guatemala: Agua del Pueblo Rural Water Supply Programme, 4p.

Checklist for group discussions (feasibility study)

2.2 LECTURE NOTES

2.2.1 Forms and methods of CP/WI

In the pre-planning phase, the community is involved in the (socio-economic) feasibility study. In a passive form, samples of male and female heads of households are interviewed on their current problems in water and sanitation, project interest, willingness to participate, specific needs, etcetera. In a more active form, the local leaders are asked to organize meetings for group discussions, or communities are asked to carry out their own study on water problems, needs and interests, assisted by the project.
Based on the resulting informaton a preliminary programme plan is made, including future CP in planning, construction, etcetera.

During local level planning, the community is involved in the form of community meetings. These are usually held to inform the people about the project and to consult the future users on, and to give them a choice in:
- type of technology;
- level of service;
- cost to the agency and the community in labour, cash or kind;
- benefits;
- design and location of the facilities (explaining the various options, advantages and disadvantages);
- planning of the O&M.

More detailed planning is usually done with a special community water organization, representing all user categories and expertise in the village. Generally such an organization has committees at pump or tap, and village level. Final clearance of these plans is usually by another assembly.

In implementation, the users contribute voluntary labour, local materials and sometimes cash to construction or a maintenance fund. Good labour organization (scheduling, organizing the workers, control and supervision) is essential. The commitee and the people must understand the relevance of certain work standards for future functioning of the technology and consequently for later performance of the system. Like in planning: "what you get, is what you put in".

For operation and maintenance, selected villagers are trained in preventive tasks (caretakers) and simple repairs (mechanics). The organizational aspects of maintenance are as important as the technical aspects. The community must make wise choices: whom to select for the job, how to send them to training (or how to support vilage-based training), whom to apoint for supervising, etcetera.
For preventive maintenance it can be most practical to ask women users to choose the most suitable person from their midst, as this job necessitates frequent visits and a high motivation.

Local management, is usually a task of the water committee. Training of its members, especially in financial management and in community health education and action planning is essential. This is discussed in more detail in session 3.

In evaluation, the users can be involved passively, in the way that they are interviewed on how the facilities are functioning and used under the current system of CP and WI. They can be involved actively, when they - with the help of the project - review their own conditions and practices and jointly decide where and how improvements will be made.

2.2.2 Practical steps to facilitate WI

- Get support from the community leadership for the approach of informing and involving not only the men, but also the women.
- Inform the community on meetings through all possible channels (male and female).
- Arrange meetings at times and places which suit the women.
- Arrange the seatings at these meetings in such a way that women can and hear what is said.
- Stimulate feedback.
- With help of the local leadership, organize separate meetings for women.
- Work through female key-persons (teachers, nurses, traditional women leaders) who can contact other women.

2.2.3 Programme development

It is often most practical to start trying out CP/WI in the first proj villages and to learn from experience and from evaluations on functioni and use in those villages. In this way a practical system for CP/WI can be developed.

2.2.4 Manpower models for CP/WI

The CP- and WI-tasks can be carried out in various organizational set-ups. Three models for this set-up are discussed below. In the first two models the Technical Department executes these tasks. This means that only one department is involved in the project - doing both the technical and the social work. The third model involves two departments: a Technical and a Social Department.

model 1: all CP/WI-tasks by technicians operating within the Technical Department

advantages:
- integration of technical and social tasks in one person;
- no coordination problems;
- cost reduction (small project staff).

This model requires that the Technical Department satisfies several conditions:
- technical staff must be recruited for, and trained in social as well technical skills;
- organizational climate and the career structure witin the organizat need to be based on social performance.

Cases: Malawi and Guatemala

model 2: all CP/WI-tasks by social staff within the Technical Department

advantages:
- integration of technical and social tasks in one organization
- body of social professionals in Technical Department
- few coordination problems

disadvantage:
- increase of the cost with respect to model 1 (larger staff)

Cases: Columbia, Peru, Southern Guinea Bissau.

model 3: part of the CP/WI-tasks by the Technical Department, the other part by the Social Department

advantage:
- utilization of existing structures and manpower

disadvantages:
- coördination problems
- The water projects may have a low priority within the Social Department

Cases: Tanzania, Zambia, Sri Lanka

2.2.5 Guatemala rural water supply and sanitation: ITN slide-sound module

The module shows forms and methods of CP in the different stages of a project in Guatemala. Several aspects of CP that have been treated in the foregoing lectures also appear in this case. However, women involvement appears to be lacking...

One of the conclusions of the lecture is, that Community Participation may sound easy, but that in practice it is not. Finding the right approach to CP is a gradual process full of trial and error. It is important however, to systematize the approach, to document it, and to evaluate it. Only through experience the approach can be improved.

AUDIOVISUAL TEACHING AIDS

ITN slide-sound module 6.1b: "Guatemala Rural Water Supply and Sanitation"

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GUATEMALA: AGUA DEL PUEBLO RURAL WATER PROGRAMME

1. Background and history

Agua del Pueblo ("People's Water") is a voluntary agency whose participatory methods are designed to be appropriate for use on a large scale by government water and sanitation agencies. Indeed, perhaps the main element in Agua del Pueblo's work has been its training programme which is also offered to government agency staff. It is hoped that the participatory methods taught will influence government programmes in the whole region. Some trainees have come from other countries and one course was carried out in El Salvador.

Agua del Pueblo is a political, founded in 1972 by a small group of young U.S. citizens associated with voluntary work in Guatemala, with the aim of handing over activities to Guatemalans as soon as possible. This has been done, and the organization now has Guatemalan's as director, administrator, engineer and technician-promoters.

The central concept of Agua del Pueblo's training programme is the combination of activities of technician and promoter. Noting that a gap existed between plumbers with insufficient training to design water supplies, and engineers unwilling to work in rural areas on tasks they consider beneath them, the founders saw a need for an intermediate level technician in rural water supplies who could also involve communities in projects.

At first the training was informal. Selected persons with secondary education and good organizational abilities were given on-the-job training in technical aspects, such as spring-flow measurement, water quality testing, surveying, hydraulic design and construction management. At the same time trainees improved their organizational skills by working with local committees and with people who were often distrustful at first, given Guatemalan social and ethnic divisions. It soon became clear that this type of technician could be very effective, and a regular 6-month course was established. The first 16 students graduated in 1981. Thirteen of them had already been trained as rural health technicians, who, in Guatemala, supervise the village health workers.

2. The terms of participation

Trained technician-promoters work in Agua del Pueblo's own rural water supply programme as well as in Ministry of Health, USAID, and the Behrhorst Clinic Foundation programmes. It is the general aim of Agua del Pueblo that communities should be as self-reliant as possible. To this end, it provides communities with information, and assists in technical tasks. Communities are asked to provide voluntary labour for construction, pays 10-15% of estimated capital costs as individual financial contributions by households joining the scheme. At least 80% of the households need to do so for projects to go ahead. A high percentage of remaining capital costs is then advanced to the community

as a soft loan, to be repaid over 8-12 years through household water fees. In addition, these fees also cover recurrent costs. Low-cost technology (piped gravity systems and hydraulic rams, without water treatment) facilitates a high degree of self-reliance in these schemes. Loan repayments generate a revolving fund to supplement donations for new constructions.

3. How people are involved

In planning and decision-making

When the community decides that it will work with Agua del Pueblo, it commits itself to the conditions described above. In return, Agua del Pueblo offers the community a choice between a water system standposts group connections, and a more expensive system with household connections. The community is involved maximally in planning the physical and organizational details of the water projects. Usually, there needs to be considerable discussion about water source, including the question of acquisition for community use. With help of technician-promoter, the water committee is also responsible for planning the project, for carrying out a census, making a map to be used in construction, and for organizing the latrine campaign. The site of the waterpoints is decided by the committee, with advice from the project. Final agreement is reached after extensive discussion, which greatly contributes to simplified sharing and payment by groups of neighbours. This process takes time, during which Agua del Pueblo staff visits other communities which have made project requests.

In construction

Like other Latin American agencies, Agua del Pueblo keeping records to ensure that each user household contributes a fair share of the voluntary labour. Although a member of the actual family is preferred, to foster a spirit of collective work, communities themselves may also allow families to hire labour instead. Seasonal migration and agricultural activities are taken into account in planning this work.

The technician-promoter supervises construction and trains people for in semi-skilled tasks, such as joining of pipes. A local craftsman is contracted, for construction of masonry tanks and similar skilled work. He works with community labour under supervision of the technician-promoter.

In operation and maintenance

Technician-promoters also train water committees in financial management and in arranging for maintenance. The committee collects the water rates, remits the loan repayment and employs a local resident (or two part-time) for maintenance. Technician-promoter train two men in each community. If larger numbers are needed for repairs, it is up to committees to offer payment or call for voluntary labour.

In hygiene education and sanitation

Hygiene education is a prominent part of the work carried out by the technician-promoter during planning and construction phases of a water

project, and there is emphasis on building of latrines by each household. Installation of a latrine by each household is another condition for the water project to go ahead.

4. Involvement of women

Perhaps the only aspect in which the agency has lagged behind in developments is the involvement of women. Women are seldom members of the water committees, and are perceived mainly as a target group for hygiene education. In the siting of the standposts they may have some informal influence. A very limited number have been trained as technician-promoters.

5. Results

The overall objective of Agua del Pueblo at its founding was "to promote the integrated development of rural communities", with water projects as an entry point. This has coloured the approach used in many respects. For example, there is emphasis on health education and latrine construction, on stimulating water committees to get involved in other development projects for the community, and on using any surplus from the water rates for these purposes. Agua del Pueblo also co-operates with organizations involved in other aspects of community development. It, and four other voluntary organizations have formed a National Federation for Rural Drinking Water Supply and Sanitation. This includes the Central American Centre for Alternative Technology (CEMAT), with whom Agua del Pueblo is trying out the double vault composting latrine.

Between 1972 and 1981, Agua del Pueblo has helped build 49 rural piped water supplies. As of 1980, a project for a village of 450 cost an average of $ 35,000, or about $ 78 per capita. Of this, an average of 14.2% is voluntary labour by the user-households, and 10-15% represents their initial contribution in cash. The proportion of capital cost finally contributed by the community varied from 50% to 80% in past projects and is set at 60% in current plans, including a 36% loan repayment.

All completed water systems are operational. Encouragement of progressive development initiatives has led to other community projects: schools, roads, bridges, irrigation systems and afforestation. But the main contribution of Agua del Pueblo has been the training of multidisciplinary project fieldworkers. Engineers needs only to spend one-sixth of the time on a given project that the technician-promoter does, and therefore can supervise a much larger number of projects at the same time. There has been a problem, however, of integrating trained technician-promoters into existing government programmes, such as those of the Ministry of Health, from which many of the trainees come, and making full use of their training.

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HOW USERS CAN CONTRIBUTE TO RURAL SCHEMES

To maintain and eventually replace the existing 5,000 handpumps in Burkina Paso will cost $11M annually — 80 times more than the total 1979 national budget for installation and maintenance of pumps.

These estimates, from a recent study by the European Economic Community, vividly illustrate the great financial burdens that jeopardise sustainable water supply in many developing country water projects. No wonder, therefore, that cost recovery receives increasing attention. Who should — and will — pay for what has become one of the major questions of the International Drinking Water Supply and Sanitation Decade.

All improvements in water supply and sanitation cost money, not only for initial investment costs, but, more importantly, to keep them working satisfactorily and expand or replace them in time. Over halfway through the International Drinking Water Supply and Sanitation Decade, it has become clear that only some of the financial resources needed to achieve an adequate, safe and sustainable water supply for all are being made available. Most of these funds moreover, go towards capital costs.

However, new construction of small community water supplies spread over increasingly large areas, also raises the demand for trained manpower and financing for maintenance and repair. National budgets cannot realistically be expected to increase substantially for this purpose in the near future. And most international and bilateral donor agencies, although prepared to support structural measures, such as training and the organisation of procurement systems to buy spare parts, now expect the costs of operation and maintenance to be recovered from the communities themselves.

Interest is therefore increasingly focused on ways of bridging the gap between available funding and the money needed both to continue expanding water supplies, and at the same time cover the recurrent costs of those systems already completed. One way is to introduce lower-cost technologies and to give priority to providing some basic service for all, rather than a full service for some. Another mechanism is to supplement government resources through direct contributions from the user communities themselves.

A study recently conducted at the Netherlands-based International Reference Centre for Community Water Supply and Sanitation, with particular regard to rural communities, focuses on this second option. Its purpose is to discuss the practical financial issues which concern project staff and policy makers considering the possibility of charging for water, and to stimulate experiment and discussion.

Both ways of reducing the external costs can only work with effective community participation. Unfortunately, assessing what consumers need and want, and discussing with them the costs and benefits of different types of water supply are two of the most neglected aspects of rural water schemes. They feature prominently in the reasons often given for the failure of many water projects.

For better performance, project planners and technicians need to change their approach. Instead of imposing a particular design they will have to work more closely with the communities and with local field-workers (such as community health workers, community development workers ar schoolteachers), in order to find a desi which meets their needs, and a financing s tem which they can afford.

Cheap solutions often mean installi communal water points. If these facilities a to be used by all, without problems ov sharing or the continued occasional use unsafe alternative water sources, the desi needs to be adapted to the broad needs the whole community.

Financial contributions cannot reasonab be expected when the system does not fact work for everybody. Supplementa community programmes on hygiene educ tion and sanitation are usually necessary promote good water use and reduce remai ing risks of disease.

More and more projects therefore consu the community members during local pr ject planning and involve them in makin the ultimate choices of technology, level service, and type of user facility. They explai what can be expected in terms of wat quantity, quality, reliability and what th government will contribute, which benefi the water system may bring and what use contributions are expected in return.

Under a wells programme in Burkina Fas for example, the communities make reasoned choice between a protected ope well with lower maintenance costs bu higher community responsibility for prever tion of water contamination, and a hanc pump well with higher community costs bu better protection.

In Guatemala, rural communities ca choose between three service levels fo piped gravity water supply: paid public taps group connections or the more expensiv private yard connections. The ultimat choice must have the support of 80% of the local families.

Community contributions to financing take various forms. In some programmes

A metered tap for 10 families in Thane, India. The families pay a flat rate of 25c each month.

such as that for piped gravity systems in Malawi, users have for some time contributed successfully to construction and maintenance through voluntary labour. When more inputs are needed, as is usually the case, communities may be asked to choose local candidates for training as volunteers in those maintenance and management tasks that are within village capacity.

Agency support is limited to training, maintenance and repair jobs that are beyond local capability. However, this voluntary organisation can break down, if local control and incentive for the voluntary workers is insufficient, and the agency has to take over full maintenance and operation.

A wider arrangement with the community which includes community management and payment of local recurrent costs, would not only contribute to better cost-recovery, but would be more realistic. Local financing may include the remuneration of trained community workers on a part-time or piece-work basis, and the costs of tools, spares and transport. In the Burkina Faso example and some others, communities also reserve money for replacement of handpumps once they are worn out. However, the construction of the handpump well and the installation of the pump is financed totally by the donors supporting the various regional handpump programmes in the country.

A community meeting in Kibwezi, Kenya.

The majority of Latin American countries have established piped water supply programmes with private yard connections in which the consumers not only pay all recurrent costs such as maintenance, but also part of the capital costs. In this way, they contribute to the perpetuation of a revolving fund for the water sector which helps to finance future construction and upgrading.

Community efforts take the form of direct contributions (labour, local materials and sometimes cash) during the construction stage and, after the scheme has been completed, repayment of a soft loan for the construction. The size and terms of this loan depend on the economic circumstances of the community. Poor communities get a larger part of the investment costs as a donation. The loan must be paid back in monthly installments over a pre-defined period. In this way, the monthly water rate of the user is based on the combined reimbursement

nd recurrent costs of the scheme.

For communities that have to pay the capi- al or recurrent costs there are two main ptions. One is the raising of occasional vater funds whenever the need arises rough collections, bazaars or as part of ocal revolving funds and other community ncome. The other consists of regular pay- ents by individual users or groups of users a local body responsible for the adminis- ation of the water supply.

Fund collection and one-off payments are general more suitable for recovering capi- expenditure and for raising incidental nds for cleaning and repairs in systems ith public facilities which need only perio- ic attention (such as windlass wells and ed gravity supplies with public taps). Par- ularly when women volunteers can be obilised, regular management and upkeep the tap or well-site can be successfully anised, if arrangements are made in con- tation with both users and local leaders. ere is however a great deal more to be ne in involving women, usually the main rs, as caretakers in making decisions to anage their water supplies.

When more regularly recurring costs must recovered, such as fuel or treatment costs, ular payments are necessary. Periodic ter charges are easier to collect when the rs are clearly defined, such as those with private connections or group connections. It is important that these groups are formed by the households themselves, because they know best the social relationships that make problem-free sharing of use and water fees possible.

Important also is discussion on the type and frequency of the charges. In farming communities for example, a single payment of water charges after the harvest has been sold may be more realistic than monthly water rates, while small entrepreneurs in low-income areas may prefer to pay weekly through a local agent.

Flat water rates, in which each user-household pays the same amount of money, regardless of the amount of water used, are most suitable in communities with only small differences in income, water use patterns and project benefits. In communities with considerable differences in socio-economic status and opportunities for the productive use of water, flat rates can considerably increase the gap between rich and poor (Box 1).

Metering solves this problem, but also increases the construction and administration costs, thus making an improved water supply less accessible to low-income households. For this reason, some experiments have already been carried out with graded rates; households are categorised as high, medium or low-use according to indicators of socio-economic status — type of housing, household composition, and water use (see Box 2 page 19).

Not all can afford unmetered but paid private taps and it is often difficult to recover the cost of public water points. Taxes raised to cover the costs of public taps have a disadvantage in that they are easily used for

Box 1. Flat water rates and the inequity effect

The Banyudisi piped water supply in Java, Indonesia, serves 640 families in 11 hamlets. Water is delivered by public standposts with adjoining cubicles for washing and bathing. All households pay a flat monthly rate of Rp50 ($1 = 1,311 Rupiahs). Households which fill up a storage tank within their house pay another Rp. 50. Water is used both for domestic and productive purposes. The most common productive use is for livestock. A study of 81 households showed that most households with livestock belong to the high and medium income groups. The households with a high income use nearly four times as much water for their livestock as the households in the lowest income group. Yet all pay the same flat rate.

Source: G Williams and D Strait, (1981). Bayudisi village water supply: a case study of project implementation and utilisation in rural Indonesia. Journal of Tropical Medicine and Hygiene, 84, 141-146.

This community owned standpost in Chiyuni village in Zambia has been constructed near the school. The drain goes to the school vegetable garden.

other purposes with a higher priority than maintenance. The user is also often not aware how much he is paying for water, or how much it costs; he is therefore less likely to apply the beneficial instrument of consumer pressure for a more reliable service.

Establishing user groups who pay jointly for their share of the water facility, where necessary through a system of graded rates instead of free public standpipes, is another option for combining cost recovery with an affordable basic service to all. The IRC study covers water vending by different types of individuals and organisations and selling of water in bulk to individual communities and neighbourhoods for locally-organised distribution. (see box 2)

In applying one of these options for community-based financing, two things have to be taken into account: organisational aspects and periodic agency support. Community consultations on local organisation and mobilisation often take place in general assemblies organised with the assistance of local leaders and with a committee representing the interests and knowledge of water use in the community.

Where it is difficult for women or poor people to raise questions or express dissenting views they should be consulted separately and in more informal ways. For effective administration the legal status and tasks of the administrative organisation should be defined officially and its members trained for their various tasks.

On the second issue of periodic agency support, it can be said that the community can rarely carry out administration and partial or total financing of improved water supply independently. Sufficient agency inputs are also needed for full community consultation in local planning, training for administration and maintenance, monitoring of results and additional sanitation improvements. Up to now insufficient budget reservations are made for these essential support elements of water supply projects. Nor do these activities always sufficiently emphasise the opportunities for community influence and participation in them.

When communities are asked to contribute to the installation and running of their improved water supply, they should also have a say in what kind of system they will get in return and know what support they can expect from the agency to keep the facilities working and used by all in the years to come. It is this element above all, the joint decision-making and planning for the type of water supply and its financing system, which should not be omitted from the burgeoning discussions and experiments on improving cost recovery for water supplies in the rest of the Decade.

This article is based on the forthcoming IRC publication, *What price water? User participation in paying for community-based water supply*

Box 2. A metered group connection with flat user rates

For 25 kwacha ($1 = 1.8 kwacha) of Malawian money the group chaired by Mrs X gets 95m³ to 104m³ of water per month from the communal tap. With 25 members, each household pays 1 kwacha every month. For this money they can collect up to 6 buckets of water per day. This means 30l of water per person for a family of four, and 20l per person for a family of six. The group can also sign an agreement for a higher or lower amount. The amount that the group has to pay depends on the number of buckets of water per household per day that the group prefers to get.

Source: Malawi, Republic of (1982). Considerations and proposals on the management of community water points. Lilongwe, Malawi, Department of Lands, Valuation and Water, Water Supply Branch.

(Checklist used in socio-economic feasibility studies thru small-group interviews)

1. Felt needs and expectation: What do (various groups in) the villages themselves think about the project? Do they feel a need for it, and what priority does this need have? What kind of project (type of technology, level of service) do they expect? For what purposes do the various categories (leaders, men, women) want to use the water, (a) at the waterpoints, (b) at home?
   Do they think they will have to contribute in some ways (a) during construction, (b) afterwards? Are they prepared to do so? Do they see any problems that may arise (a) during the construction (b) in keeping the water supply working? For the men: Do they think the women should also be involved in the project? In what ways?

2. Water use and maintenance: For what purposes is water used now in the village? Are different sources used for different purposes? If yes, for what reason? Are there arrangements for proper use and/or upkeep of traditional water sources? How are they carried out? Experiences?

3. Health and health education: What diseases are most common in the village? Do they have anything to do with water or latrines? What are, in the opinion of the villagers, unhygienic conditions in their village? And practices ? (e.g. of children) Do they think something should be done about them? Would they be prepared to do something themselves?
   Is health education given in the village? How is it done? How often? Do many people participate or is it hard to find the time? How practical is it to apply what is taught? Do many people practice what they have learned?

4. Position of women: What are the greatest problems for women in the village? Do the women discuss them together? Have they tried to do something about them? Do women get together in some ways in the village (e.g. informal meetings at places of work, women group, adult education classes). Do they have any (direct or indirect) voice in village affairs? Do they know about the proposed project? How did they hear about it? Do they expect to have any role in the project? In what decisions do they think women should participate? Will they participate in any other way? (e.g. work, payment, maintenance)

5. Expected benefits: What is the present water situation in the village? What benefits do they think the new project will bring? Do they think they will learn new things? Would they like to use the water(point) for other purposes than just water collection? Will the women or children have more time? What for?
   Will a sanitation project also have benefits? Might it also bring problems?

LECTURE SERIES: COMMUNITY PARTICIPATION
LECTURER: VAN WIJK
SUBJECT: 3 OF 3

COMMUNITY-BASED FINANCING AND MANAGEMENT SYSTEMS

3.1 INTRODUCTION

Objectives of the lecture

to stimulate the participants to discuss their ideas about and experiences in cost recovery of LCWSS-programmes

to enable the participants to understand the linkage between community-based financing and earlier community participation in planning, design and training

Topics

Water supply
- Options for community based financing
- Characteristics of successful revolving funds
- Various options for low-income urban areas

Sanitation
- Options for community based financing

Handouts

- Financing options for piped systems, 1 p. (source: Wijk-Sijbesma, C. van. What Price Water? User Participation in Paying for Community-based Water Supply, IRC, The Hague, 1987.)

- 5 Questions on community participation

3.2 LECTURE NOTES

3.2.1 Introduction

In the years to come the costs of operation and maintenance (O&M) of water supply and sanitation schemes will be enormous. Governments will not be able to finance these costs alone, and that means the users will have to contribute financially.
However, cost recovery and community-based financing are very new areas: experiences in this field are few and present approaches need further development. This lecture presents an overview of the present status.

3.2.2 Options for community-based financing

The hand-out (see 3.1) specifies various financing options for piped systems. Financing can either be by community fund (voluntary fund raising, planned water fund, revolving fund) or by individual household rates (flat, graded, metered).

Flat rates are most easy to administer, but they are only fair when access, water use and benefits are more or less equal for all.
Wealthier families consume more water, both domestically and productively (cattle, vegetables). Hence, they should be asked to pay accordingly. One would expect a correlation to exist as well between water consumption and family size. However, water use surveys show that family size has far less influence on water consumption than wealth; small children consume relatively little water.

Metering means that large consumers can be charged accordingly. But meters need maintenance, control and repair. They greatly increase costs and administrative complexity.

An alternative is graded rates. In this case households are classified according to indicators on water use and wealth. Such indicators are: type of connection, type of housing, presence of cattle, etcetera.

3.2.3 Characteristics of successful revolving funds

Communities that succeed in recovering the costs of newly implemented water supply and sanitation schemes often have (several of) the following characteristics:
- high unity;
- good leadership (skilled, trained and trusted);
- high liability;
- high level of participation;
- reliability of income (diversification of economy);
- diversification of services;
- good return of investments;
- limitation of the possibilities of speculation (to avoid problems that originate from wealth differences);
- some external input (e.g. starting capital, training in administrative skills).

3.2.4 Several financing options in low-income urban areas

In low-income urban communities various financing systems occur:

1. **Kiosk system**; licensed sales. The disadvantages of this system in the social and public health sphere. The kiosks are generall widely scattered and the water price per liter is high: Low service at high cost. This may result in poor users turning to alternative, cheaper but unsafe sources.

2. **Kiosk system**; coöperative user groups. They rent the kiosk from the municipality and sell water to their members. This set-up generally guarantees a higher service level.

3. **Concession sales**; individuals sell water to the neighbourhood. This system has a great risk of contamination of the water duri transport from the source to the household.

4. **Semi-independent systems**; groups of users buy water in bulk fro the municipality. They sell water in the way of a communal wate supply.

5. **Independent system**; a group of users runs one well as a communa water supply.

6. **Service stations**; community members can make use of water suppl and sanitation facilities at cash payments.

3.2.5 Community management

Payment of recurrent cost is often the greatest problem a community wa committee faces. The basis for successful community financing of O&M, recurrent costs is already formed during planning; the choice of techno- logy and the service level must be within the technical, financial and managerial resources of the community.

Secondly, the community must choose a financing system which matches i situation: communal fund (several types for different socio-economic circumstances) or various types of water rates.

Thirdly, the finances must be well-managed. This requires a wisely cho community water organization, practical training of the committee in budgetting and financial administration, and strong measures for finan- cial control (local audit, periodic agency supervision, regular financ accounting to users, etcetera). Malpractices can never be ruled out, building in practical precautions helps making them more difficult.

The training and support skills required in these fields are not often found yet in a technical water agency. With increasing de-centralizatio of financing and management, these agencies will have to develop these skills or coöperate with other services in these fields.

3.2.6 Options for community-based financing of sanitary facilities

The financing of sanitary facilities is probably even more difficult than of water supply facilities. The financing mainly refers to capital cost. The recurring costs are generally considered to be a household responsibility.

Unlike water supply, sanitation was until recently never considered a community responsibility; most latrine projects were based on a household approach, latrines were constructed with household subsidies. Often the subsidies were 'flat'. In this set-up the wealthier community members are the first ones to get the subsidies and to construct latrines. Targets of 100% coverage are never reached with this method - the maximum may not exceed 40%.

These experiences have learned that other forms of subsidies or communal financing are necessary to reach higher coverage. Several financing options are listed below.

- household subsidy: this is the most common type (about 80 %)
  Status and privacy are major reasons for building a latrine.
  Health aspects are generally not considered.

- community self-help approach: the community finances the latrines for the poorest households and public places (school, market).

- use of the surplus of the water fund for latrines

- loans to households for latrine construction and revolving of these funds

A successful sanitation project must provide for a range of designs at various costs. Only in this way can a project cover the different categories of people within a community. And only in this way can costs be recovered successfully.

AUDIOVISUAL TEACHING AIDS

blackboard

REFERENCES

see 0.3

Financing options for piped systems

What?	When?	What for?	Who organizes?	How?
voluntary funds	in communities with a tradition of fund-raising, seasonal income, and a good knowledge and control of payments according to household capacity and benefits	financial contributions to construction; occasional larger contributions to maintenance and repair of simple systems with public water points	traditional leadership, voluntary organizations, e.g. women's groups, tap organizations	targets are set and funds collected periodically through meetings, house-to-house collections, bazars, etc. Funds are collected in advance or when required
general community	in communities with own sources of income and a water supply with public facilities	annual maintenance and repair, financial contributions to construction; depreciation and expansion where possible	local government, community water committee or subcommittee	reservation of funds based on the estimated costs and net annual income of the community; cost-reduction or income generation where necessary
cooperative funds	water supply initiated and financed through production cooperative or village revolving fund; no direct payments for water used	annual maintenance and repairs; repayment of construction loan; depreciation and expansion where possible	cooperative's executive committee, community water committee or subcommittee	reservation of funds based estimated costs and income from cooperative ventures and/or member fees; cost-reduction or income generation where necessary
flat rates	families have private taps, or share taps with well-defined social group, have fairly reliable incomes, and benefit more or less equally	repayment of community loan for construction; annual maintenance and repairs; depreciation and expansion where possible	water committee or subcommittee, board of water users cooperative, local government, tap users' committee	project agency advises on rate for approval by users rates are collected and administered by the local water organization
graded rates	in communities with appreciable differences in water use and benefits and sufficient community spirit to divide user households into different payment categories	repayment of community loan for construction annual maintenance and repairs; depreciation and expansion where possible	community water organization with support from promoters or other social experts assisting the project agency	private tap owners are classified in high and low categories, using local indicators of water use and wealth; users sharing taps may pay lower or equivalent individual rate
mixed systems	in communities with large differences in payment capacity and water use, with high and low-income households living in separate sections	repayment of community loan for construction; annual maintenance and repairs; depreciation and expansion where possible	water agency with community water committee or subcommittee	surpluses or private taps are used to finance the costs of free public taps in poorer sections
water metering	in large communities with limited water water resources and an efficient administration	repayment of community loan for construction, annual maintenance and repairs; depreciation and expansion where possible	water agency and/or community water organization	meter reading, billing an rate collecting by separate workers, or payment through banks, at central government office or local branches
vending instead of a piped distribution network	in communities where a socially valuable vending system can be improved, where other solutions are technically, economically or politically impossible	contribution towards financing of the recurrent costs of the agency, and financing of vendor service costs, including upkeep of hygiene and simple repair	water agency paid operators, women's groups of water sellers' cooperative	water is sold from meter taps at controlled price when buying prices are subsidized, selling prices may equal private rates, the difference forming vendors' income
vending as part of a piped distribution network	in communities where group connections or cross subsidies between private and public taps have not worked	contribution towards financing of the recurrent costs of public taps and the service of the vendors, including upkeep of hygiene and simple repairs	water agency paid operators or socio-economically appropriate concessionnaires, e.g. women heads of households	
coin-operated taps	not recommended because of their great sensitivity to breakdown and interference			
direct or indirect water taxes	in communities where the transfer of sufficient funds to the water organization is assured and taxation can be related to water use and costs	annual maintenance and repair; repayment of construction loan; depreciation and expansion where possible	local government service organization for a specific area, e.g. a low-cost housing scheme	taxes are used exclusively for financing one or several basic services; categories of payment a based on level of servi or housing conditions

Source: What Price Water? User Participation in Paying for Community-Based Water Supply, by Christine van Wijk-Sijbesma, IRC, Water & Sanitation Center, The Hague, March 1987

IHE INTERNATIONAL COURSE
ON
LOW-COST WATER SUPPLY AND SANITATION

Community Participation

1. What in your opinion are the main reasons for involving the community in low-cost water supply and sanitation projects?
   1. .....
   2. .....
   3. .....

2. In what phase do you think participation is most important and why?
   ..... because .....
   .....
   .....
   .....

3. How do you think you could involve women in water supply and sanitation projects in your own country (taking into account social and cultural conditions)?
   1. .....
   2. .....
   3. .....

4. What kind of training should in your opinion be given to the community as part of a low-cost water supply and sanitation programme?
   .....
   .....
   .....
   .....

5. Do you have any suggestions for the lectures in the next course, things you think could be improved?
   .....
   .....
   .....
   .....

INTERNATIONAL COURSE ON LOW-COST WATER SUPPLY AND SANITATION

LECTURE SERIES: HEALTH AND HYGIENE EDUCATION
LECTURER: HUBLEY
NUMBER OF DOUBLE LECTURE HOURS: 2

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0. INTRODUCTION

0.1. Objectives of the lecture series

to enable the participant to:
- identify the various components of a programme which require communication support.
- plan and implement a communication strategy for promotion of health and hygiene education

0.2. Subjects covered in the lecture series

- The importance of Health and Hygiene Education
- Methods of communication

0.3. References

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LECTURE SERIES: HEALTH AND HYGIENE EDUCATION
LECTURER: HUBLEY
SUBJECT: 1 OF 2
THE IMPORTANCE OF HEALTH AND HYGIENE EDUCATION

1.1 INTRODUCTION

Objectives of the lecture session

to provide a justification for the need to incorporate health and hygiene education in water supply and sanitation (wss-) programmes

to enable participants to identify the communication and health education needs for a wss programme

Topics covered in the lecture

- What is Health and Hygiene Education (HHE)?
- Why HHE?
- Where and when HHE?
- What is the message?

Handouts

Hubley, J.H., Communication and health education planning for sanitation programmes. Waterlines, vol. 5, no. 3, january 1987.

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Hubley, J.H., Barriers to health education in developing countries. Health Education Research, vol. 1, no. 4, 1986, p. 233-245.

Hubley, J.H., Effective Communication, theory and practice in health education. Leeds Health Education, Leeds Polytechnic, january 1988.

OH-sheets 1.2 LECTURE NOTES

1.2.1 Introduction

This lecture reviews some of the principles of Health and Hygiene Education (HHE), and the communication of water supply and sanitation.

S 1.1 Communication can be defined as the transfer of information (including ideals, emotions, knowledge and skills) from a person or persons to another or others.

S 1.2 By definition of L.W. Green, HHE is:

> "Any combination of learning opportunities designed to facilita voluntary adaption of behaviour which will improve or maintain health".

According to this definition HHE concerns the behaviour of people. It talks about the human components of problems relating to water supply sanitation, as opposed to the technical components which engineers usually talk about.

1.2.2 Importance of HHE

In order to answer the question why HHE is important, firstly the question has to be raised why water supply and sanitation (wss) progra mes are carried out.

S 1.3 The primary objective of wss-projects is health improvement. As WHO statistics show, water-related diseases form a major cause of (infant-mortality in large parts of the world. Diarrhoea is such a disease. S five million children are killed by it each year, mainly in those regio where knowledge and resources are lacking, where illiteracy is high.

S 1.4 Proper water supply and proper sanitation facilities may prevent these diseases to a large extent. However, the construction of improved facilities in itself is not enough to improve health. Unless they are used in a hygienic way by all members of a community, improved sanitai facilities may even have the opposite effect of deteriorating health conditions. Hence, new facilities and possibly new practices need to be introduced and communicated to a community, and that is what HHE is al about.

1.2.3 HHE: Where and when?

S 1.5 Communication is important in all stages of a wss-project. Therefore i is essential at the outset, to think through all future phases and al components of a project and to define which of them require communicat support. When this has been defined it has to be decided, what is communicated, what the message will be. Each time this message may

S 1.6 differ; in rural areas the approach is not the same as in urban, and from village to village communication has to be modified.

S 1.7 In the planning phase of a sanitation project, HHE aims at motivating people. In an area where people normally defaecate in the open field a instance, HHE will be directed firstly at motivating them to install latrines. In an area where people already use latrines HHE will have

OH-sheets motivate them to upgrade their existing facilities. From communication point of view these are two completely different problems. Other important subjects of communication may be financing of the facilities, deciding on the most suitable location, or introducing hygienic practices.

In the construction phase communication will be directed at general procedures for constructing latrines. The people must be explained the advantages and disadvantages of various latrine types and helped to make decisions on design and materials. Important pre-conditions for the
S 1.8/1.9 functioning of e.g. a Ventilated Improved Pit (VIP) latrine are that the vent pipe is higher than the super structure and that the latrine is dark inside. These are important issues to communicate.

In the operational phase communication needs to focus on the correct use, the cleaning and the maintenance of latrines. With respect to the use it is essential that everyone, including children, uses the sanitary facilities. With respect to cleaning practices e.g., it must be advised not to pour disinfectants down the pit, as these prevent the bacteriological decomposition of the excreta. The communication of maintenance should explain the need for regular technical inspection. Important elements of a latrine to check are the fly screen (for tears), the sealing at the base of the pit and the slab.

1.2.4 HHE: What message?

S 1.10 In the lecture series "Health Impact Studies" a classification of water-related diseases and how they are transmitted is given. Faecal-oral diseases are the major category of water-related infections. The two routes of transmission are: water-borne (relating to the water quality) and water-washed (relating to the used quantity).

In that lecture series it is also stated that the typical outcome of a water supply project is that the water quality improves greatly, but that the used quantity and hygienic practices hardly change. Consequently, the typical effects on the health situation are that water-borne transmission is reduced, but that water-washed transmission remains unaffected. From these data it may be concluded that the importance of water quality is often over-emphasized while that of water quantity is under-estimated. The water-washed faecal-oral infections may be transmitted via different ways. Pathogens are transmitted through dirty hands, flies, or food, or even through drinking water, as it may get contaminated during collection or storage, despite the fact that it is safe at the source. This type of transmission relates to unhygienic practices. And it is this situation which makes the communication of hygiene practices one of the most challenging aspects of HHE.

The slide sound series "Working for Health-part three", illustrates a package of hygiene measures to prevent the water-washed transmission. It is produced in Lesotho by the Urban Sanitation Improvement Team (USIT) of the Department of Interior. It shows a number of practices which promote hygiene in a community, such as:
- the washing of hands after using a latrine, handling infants nappies, or faeces, and before preparing or eating food.
- the covering of food (especially if there is a time interval between preparation and eating); the clean storage of cooking utensils

- the clean storage of drinking water, the use of clean cups to remove water for drinking and the avoidance of contamination of drinking wa by dirty hands
- the cleaning of surroundings, disposal of childrens faeces, putting of rubbish into pits, disposal of waste water (sullage) into soakaways
- the personal hygiene, particularly the washing of infants, or soil nappies (and disposal of the water used to wash them)
- the breast feeding of babies, as it is very difficult to prepare bot milk in clean and safe conditions

It should be borne in mind that in HHE it is necessary to talk about details. That an educator should not hide behind general terms. A starting point therefore should be to describe in detail the practice that people must change. Promoting sanitation comes down to precise statements on a specific type of latrine and materials to use for construction, or on where to leave the water after bathing. And with e of these messages, it is important that it is repeated and reinforced over time using different methods.

In the promotion of hygiene practices, village health workers have an important role to play, as well as school teachers. The school children can reach the younger children at home , as they are often left in cha of them. It is equally important to include grandparents in health education programmes, since they may as well play an important role in the education of young children.

A final question is, whether "we as engineers" should do all these things? Is it not the responsibility of others like a Department of Health, or any other department? The answer has to be that when everyt says so, and nobody takes up this responsibility, nothing will happen the end.

AUDIOVISUAL TEACHING AIDS

overhead sheets
source: John Hubley

slide sound series "Working For Health - part three"
source:
Urban Sanitation Improvement Team (USIT)
Department of Interior
Lesotho

video tapes:
Water pure and simple. PAL
USIT Lesotho, John Hubley
An introduction to UNICEF, Nepal. UNICEF

REFERENCES

see 0.3, also see handouts

Communication

The transfer of information (including ideas, emotions, knowledge and skill from a person or persons to another or anothers

PURPOSE OF

COMMUNICATION

to motivate people to...

ACT
CHANGE
ADOPT
and **ACHIEVE**
desired results!

Fig. 4

Fig. 18

Remember, effective communication is essential to progress... and remember... IMPORTANT IDEAS ARE USELESS UNLESS COMMUNICATED; JUST AS SKILL IN THE VARIOUS ASPECTS OF COMMUNICATION IS USELESS WITHOUT IMPORTANT IDEAS.

WATER and FAECAL-RELATED DISEASE

CAUSE: 25 million deaths each year

80% of all sickness

World Health Organisation

DIARRHOEA CASES AT TSA KHOLO CLINIC
1973 - 1976

villages without improved water

villages with improved water

no reduction in cases of diarrhoea with improved water supply

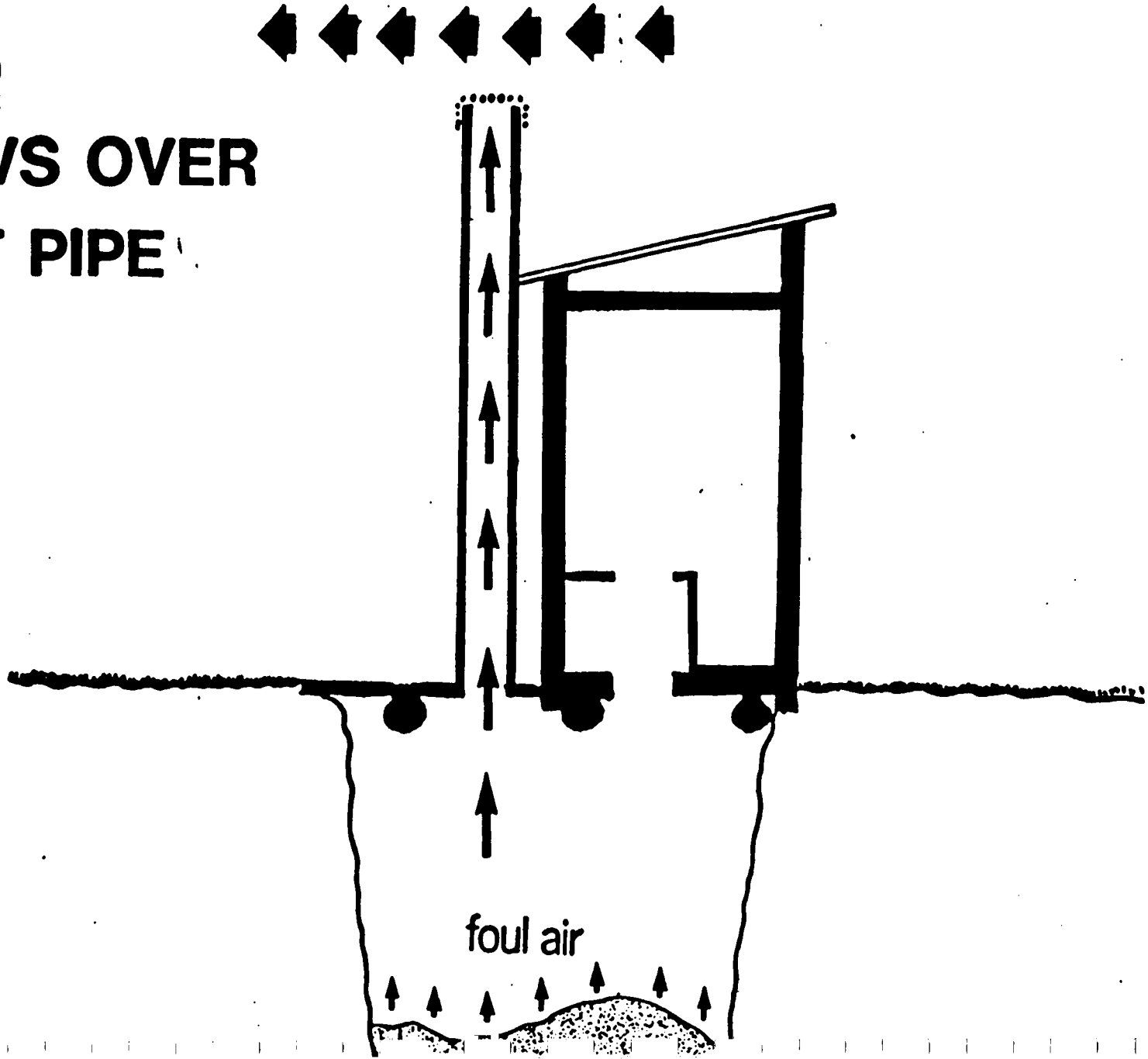
Appeals in Communication

- fear
- humour
- logic/factual
- emotional
- one-sided
- two-sided

Communication support for sanitation programmes

- motivation to build latrines
- motivation to improve latrines
- general construction methods
- detailed construction methods
- correct use of latrines
- maintenance
- good hygiene practices
- general health measures

WIND BLOWS OVER VENT PIPE



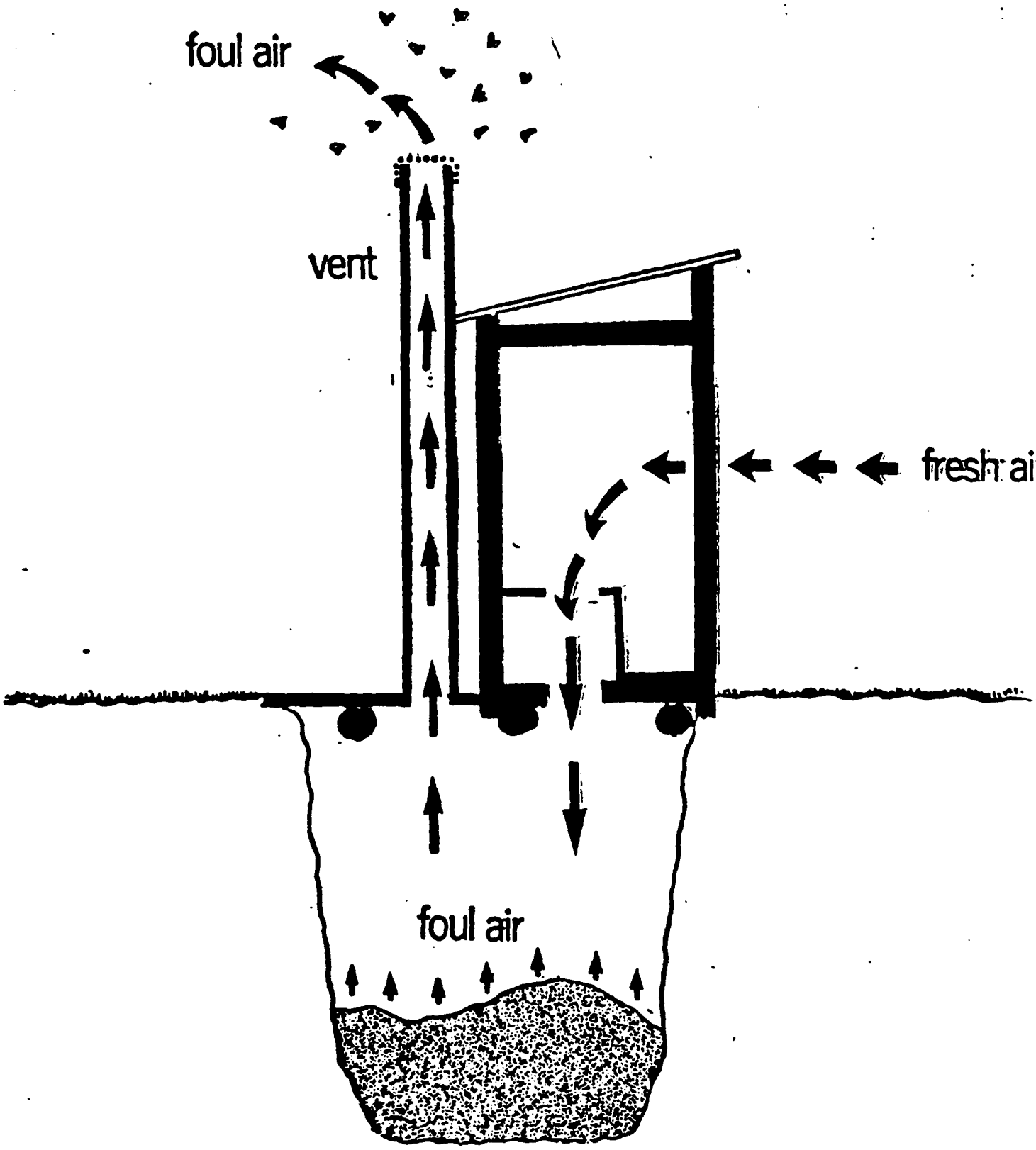

foul air
vent
fresh air
foul air

Table II

Classification of water-connected infectious diseases and their prevention*

Category	Example	Preventive strategy
I . Waterborne		
1. classical	Typhoid	Improve water quality ; preven
2. non classical	Infectious hepatitis	casual use of unimproved sources
II . Water-washed		
1. superficial	Trachoma, Scabies	Improve water quantity and acces
2. intestnal	Shigellosis	sibility ; improve hygiene
III. Water-based		
1. water-multiplied percutaneous	Schistosomiasis	Decrease need for water contact control snail populations ; improv
2. ingested	Guinea worm	quality
IV. Water-related insect vectors		Improve surface water manage
1. water-biting	Gambian sleeping sickness	ment ; destroy breeding sites of in
2. water-breeding	Onchocerciasis	sects;decrease need to visit breed ing sites

Note : Adapted from Feachem et al., *Water, health and development*, 1978.

(Group I. and II. include the causes of diarrheal diseases and are the controversial ones. Therefore our discussi centers around them.)

LECTURE SERIES: HEALTH AND HYGIENE EDUCATION
LECTURER: HUBLEY
SUBJECT: 2 OF 2

METHODS OF COMMUNICATION

2.1 INTRODUCTION

Objectives of the lecture session

to enable the participant to prepare a communitcation strategy to accompany a water supply and sanitation programme, which will include specifying: target groups, messages, methods and learning aids.

Topics covered in the lecture

- Planning of communication in a project
- Mass media versus person-to-person communication
- Printed support materials

Handouts

see first session

OH-sheets 2.2 LECTURE NOTES

2.2.1 Introduction

This lecture focuses on ways to incorporate communication into sanitation programmes. It gives a brief overview of how to organize and how to plan communication in a programme. Furthermore it will discuss two different methods of communication: mass media and interpersonal. These topics will be illustrated by means of the slide-sound series "Planning rural sanitation programmes in your community". In the second part of the lecture, communication support materials like posters, calendars, leaflets, cartoons, etcetera are shown, and problems associated with these materials are explained.

2.2.2 Planning of Communication

S 2.1 The importance of communication support should be recognized at the outset of a project, and built into the planning process. Health education deals with people and with changing their behaviours. In order to be effective in this respect, a systematic approach to the problems is essential. For each stage of the project it must be assessed whether communication is necessary. Possible problem areas have to be identified, as well as possible solutions. That means the educator has to think through these problems and work through a sequence of questions:

What is the real problem? and what are the causes? Why do people behave the way they do? For instance why don't people use latrines? Why do they defaecate in the open field? It is the human component of the problem which has to be considered here.

A second question to be raised is: What should we try and change? It may be the people, but it may as well be the technology. The design of a latrine for instance may not fit in with the local culture. Maybe the people do not use the existing latrines because they prefer seats rather than the squat holes they are provided with, or possibly they want latrines with doors rather than without.

Who should we try and change? should we focus on the men, on the opinion leaders, on the women, on the children?

And the final question to be answered is: How should we do it? What methodology should we choose? What support material do we need?

S 2.2 Various steps need to be taken and various factors must be taken into account in the preparation of a communication strategy. These are illustrated by the "Public Communications Model" of the Academy for Educational Development (1985).

S 2.3 However, in order to plan a communication strategy one must first know the characteristics of the community in question. Hence, the first thing to do is to collect information on the community; anything that may be relevant for their sanitary situation has to be taken into account. The first part of the slide-sound series "Planning rural sanitation programmes for health" presents a framework for collecting the required information.

OH-sheets

S 2.4 Data have to be collected on various issues. A first issue is the existing practices with respect to sanitation, hygiene and constructio of houses (or latrines). Another very important subject is the local

S 2.5 beliefs and opinions. It is essential to find out about them for the d ferent population groups: the men, the women, the poor, the opinion

S 2.6 leaders, etc. A third issue is the local health situation. Clinic health records may be a valuable source of information on it. A fourth topic i the presence of other people working in the health sphere. If influent traditional healers exist in a community, it should be considered to involve them in the programme.

Only when all this information on a community is available, it is possible to plan a successful communication programme. However, often educational programmes start without such detailed survey of the community. It is a common complaint that the members of a community ignore advice and continue to practice health damaging behaviours even they know that they are harmful. It is easy to condemn the community an to put the blame on traditional beliefs or backwardness. The real reas

S 2.7 for failure is often that the health education contains irrelevant information, promotes unrealistic changes, is directed to the wrong people and uses inappropriate methods.
This type of failures can be prevented on the basis of the information collected in a community survey. Once the "community diagnosis" has bee made, it comes to choosing the appropriate methods of communication. (F this choice also reference is made to the lecture series "Extension Programmes".)

2.2.3 Methods of Communication

Basically there are two broad groups of communication methods: people-t people (through mass media) and person-to-person. In bringing across message there are two crucial issues. The first is to find a balance between the two groups of communication methods, the second is to show people real things.

2.2.3.1 Mass media

These include broadcast media radio and television as well as print m newspapers, books leaflets and wall posters. They have in common that

S 2.8 they do not involve direct face-to-face contact between the sender and the receiver of the message.

S 2.9/2.10 Mass media have been very popular in spreading information, as they r many people quickly. They appear to be very effective when the inform tion is simple, but problems arise when the message becomes more compl cated; i.e. when the promoted changes in behaviours are more fundamen Other problems with mass media like radio are that they are "easily switched off", that feed back is not obtained, and that it is impossib to reach selected portions of the population.

2.2.3.2 Interpersonal methods

These are much slower for spreading information than mass media. But t big advantage is that it is possible to adress specific groups within community, and adapt the message to their particular situation. It al allows for feedback or clarification of misunderstandings of the messa

Therefore interpersonal communication is more suitable to promote
OH-sheets fundamental changes in a communities' behaviour.
An important question to raise is: who is going to do it? Who will be the educators working in the field? Training of fieldworkers is a crucial issue. Either a project employs its own fieldworkers, which takes a lot of time, or it uses people (e.g. village health workers) who already live in the community.

2.2.3.3 "Seeing is believing"
One of the most crucial issues in promoting water supply and sanitation is showing people real things, as these are far more effective than support materials like posters or leaflets. Showing people for instance a real VIP-latrine and demonstrating them that it really does not smell and that it is not full of flies is far more convincing than only telling Another powerful way of communication is by giving the good example. The behaviour of the person who communicates changes in practices often has a greater impact than his words. Hence, if you promote the washing of hands after defaecation, you should start with practicing it yourself.

2.2.3.4
The second part of the slide sound programme illustrates some of the promotion methods. It shows the importance of demonstration latrines, it covers pre-conditions for a successful promotion, like the availability of trained builders, of financing arrangements, of necessary materials. It shows how to motivate the community to construct latrines, and what support materials to use. Furthermore it illustrates how to make sure that latrines are constructed properly and used and maintained in a correct way. And finally it also indicates whom to involve and where to undertake the promotion activities.

2.2.4 Printed support materials

S 2.11 Printed materials are frequently used to support a health and hygiene education programme. A display of such materials is recorded on videotape. It includes wall posters, leaflets, calendars, cartoons, etcetera. The materials originate from various countries. Some of them are very much "to the point", showing simple and clear messages. But there are also some rather poor examples of posters and cartoons with complicated drawings and messages which can be easily misinterpreted.

AUDIOVISUAL TEACHING AIDS

overhead sheets
source: WHO. SEARO Regional Health Papers no. 9. Achieving success in community water supply and sanitation projects. WHO, New Delhi, 1985.

REFERENCES

see 0.3, also see handouts

PLANNING COMMUNICATION AND HEALTH EDUCATION SUPPORT

THE EMPHASIS SHOULD SHIFT FROM CONSTRUCTION OF LATRINES TO THE PROMOTION OF HEALTH.

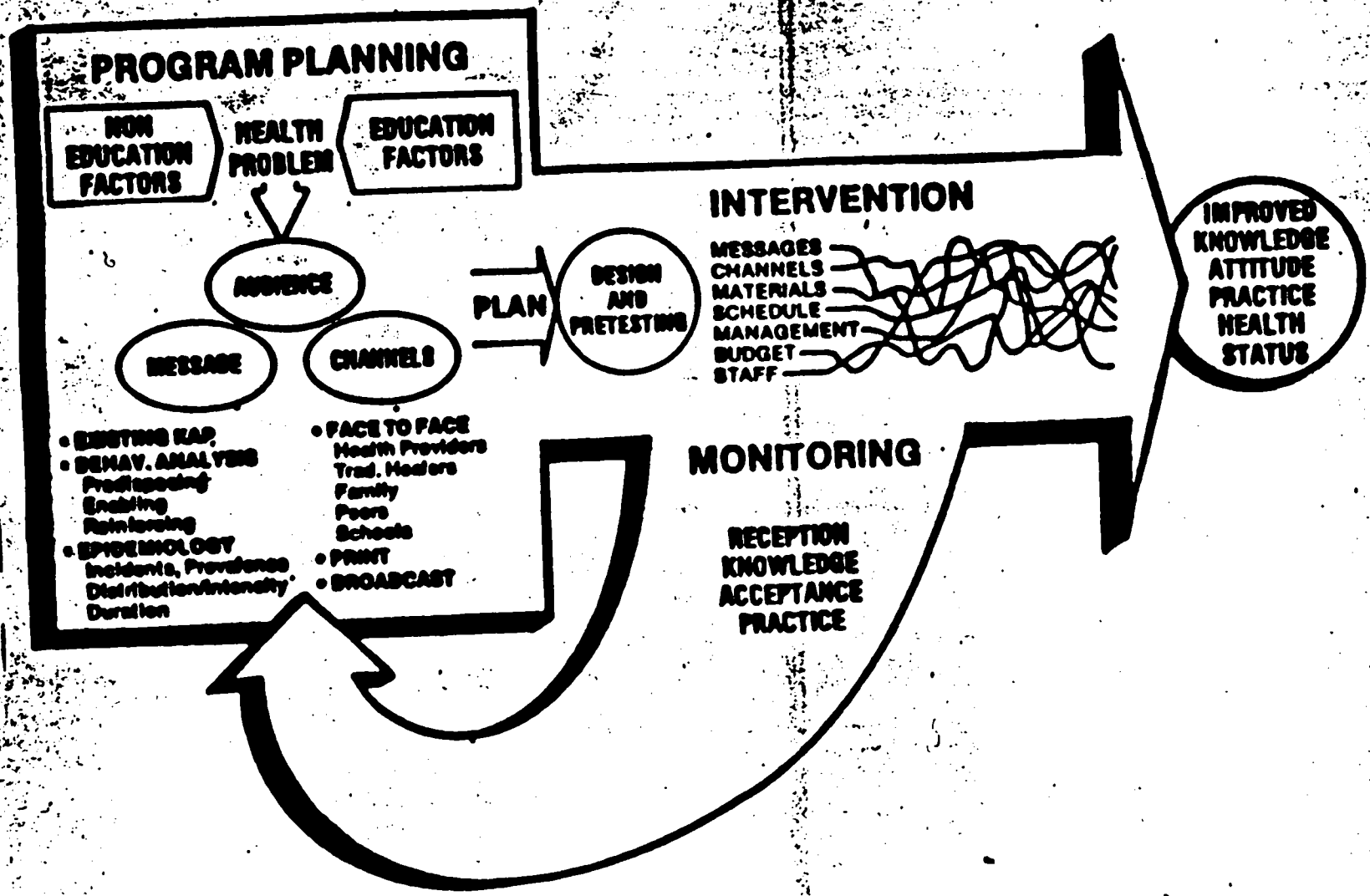
THE IMPORTANCE OF COMMUNICATION SUPPORT AND HEALTH EDUCATION SHOULD BE RECOGNISED AT THE OUTSET AND BUILT INTO THE PLANNING PROCESS.

A COMMUNICATION PROGRAMME WILL ONLY INFLUENCE PEOPLE'S ACTIONS IF THEY HAVE THE RESOURCES TO DO WHAT IS ASKED OF THEM.

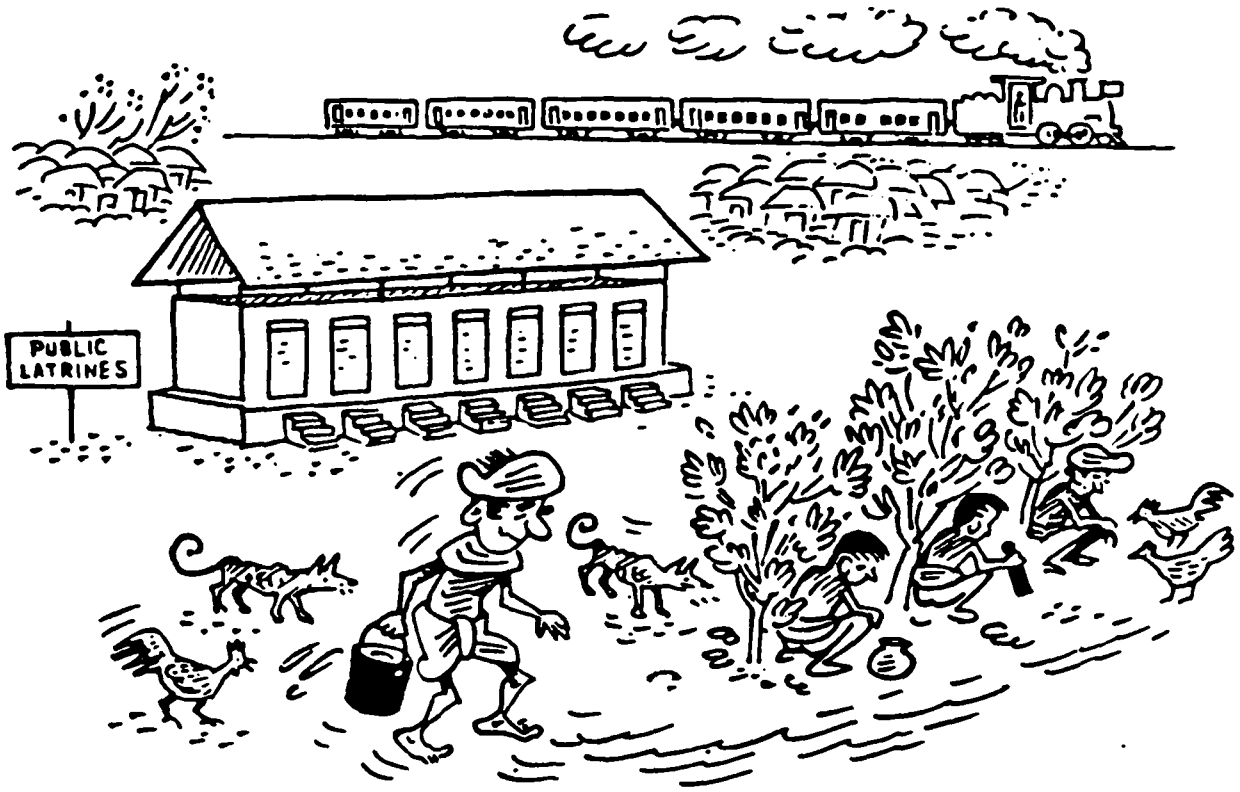
SANITATION PROGRAMMES SHOULD BE ACCOMPANIED BY OTHER PROGRAMMES ESPECIALLY WATER SUPPLY, HOUSING, WOMEN'S PROGRAMMES AND PRIMARY HEALTH CARE

KEEP THE ADVICE TO THE MINIMUM NECESSARY AND MAKE IT AS EASY TO CARRY OUT AS POSSIBLE.

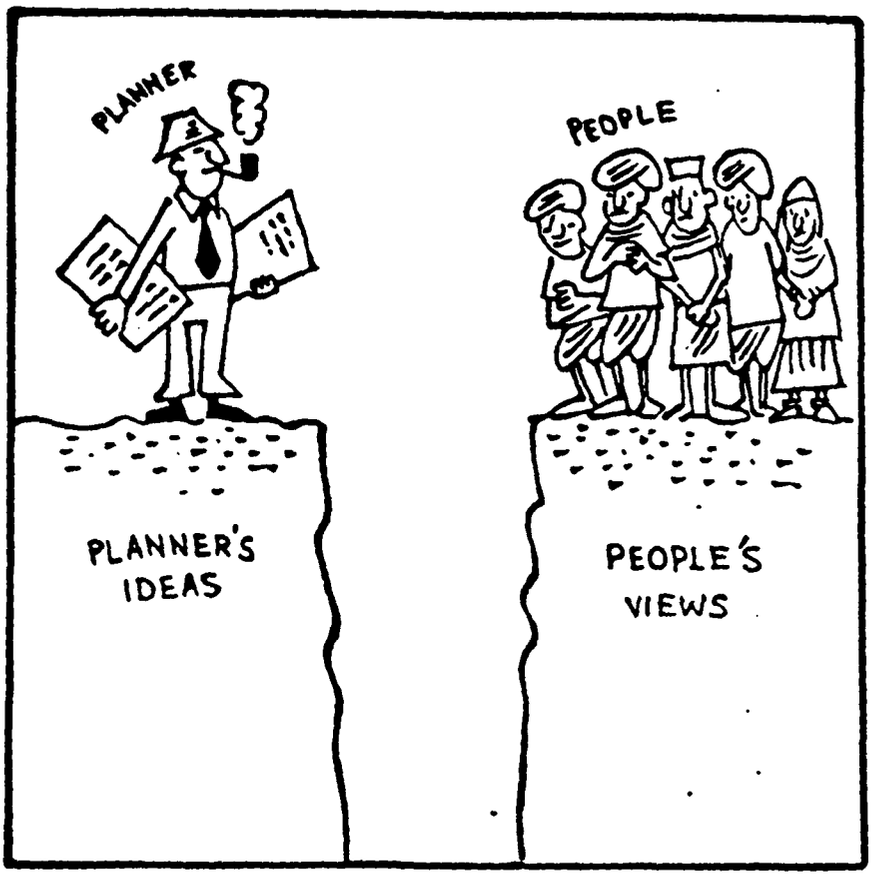
PUBLIC COMMUNICATIONS MODEL



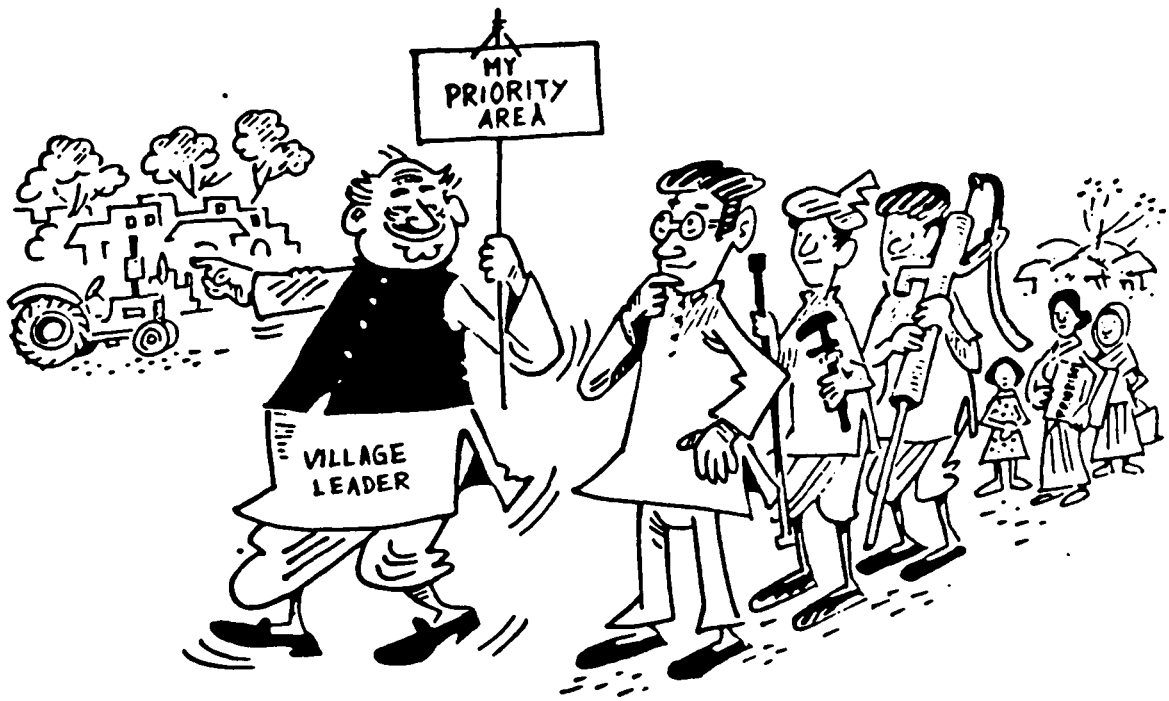
THE OFTEN RIGID AND INAPPROPRIATE ASSUMPTIONS OF PROJECT DESIGN...



SUBTLE BEHAVIOURAL DATA MAY BE NECESSARY FOR A GOOD DESIGN.



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



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

Effective Communication

1. promotes actions which are realistic and feasible within constraints faced by the community
2. builds on ideas, concepts and practices that people already have
3. information is repeated and reinforced over time using different methods
4. uses existing channels of communication such as songs, drama and story telling
5. entertains and attracts the attention of communities
6. uses clear simple language with local expressions and emphasizes short-term benefits of action
7. provides opportunities for dialogue, discussion and learner participation
8. uses demonstrations to show benefits of adopting practices

Communication

key components

- Source
- message
- channel
- receiver

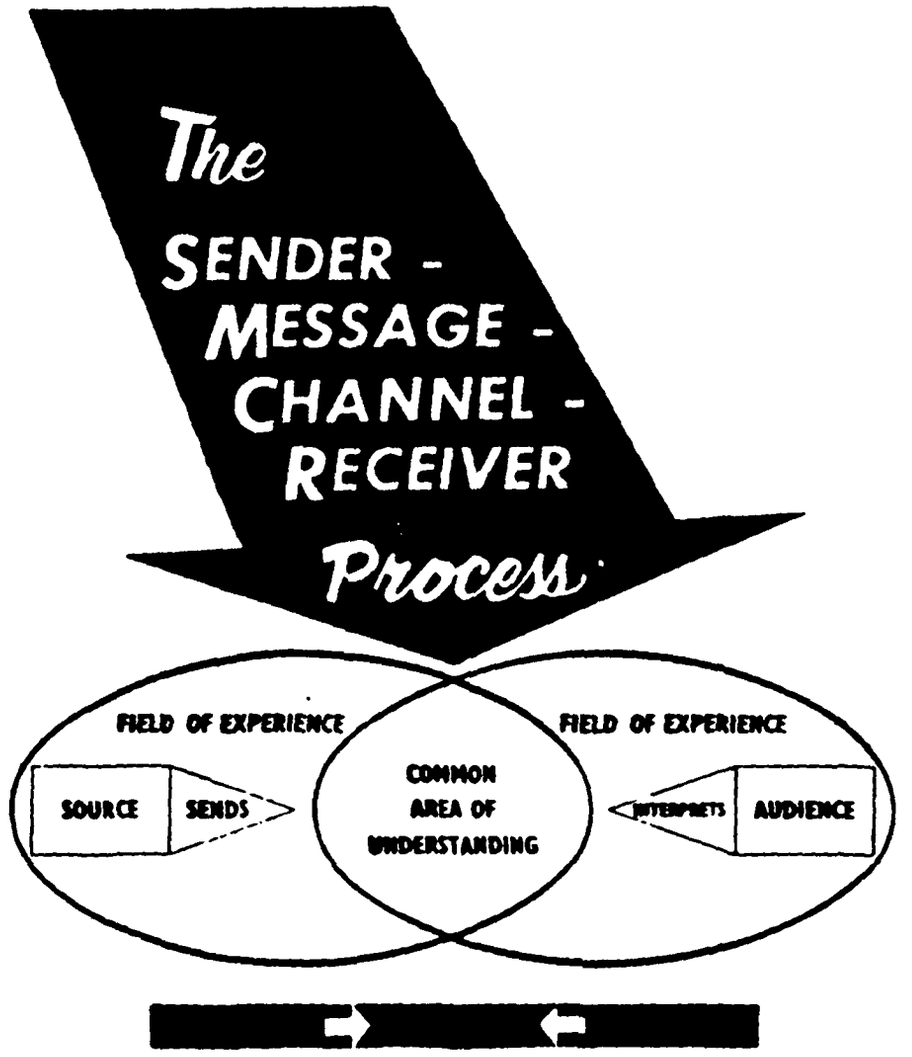
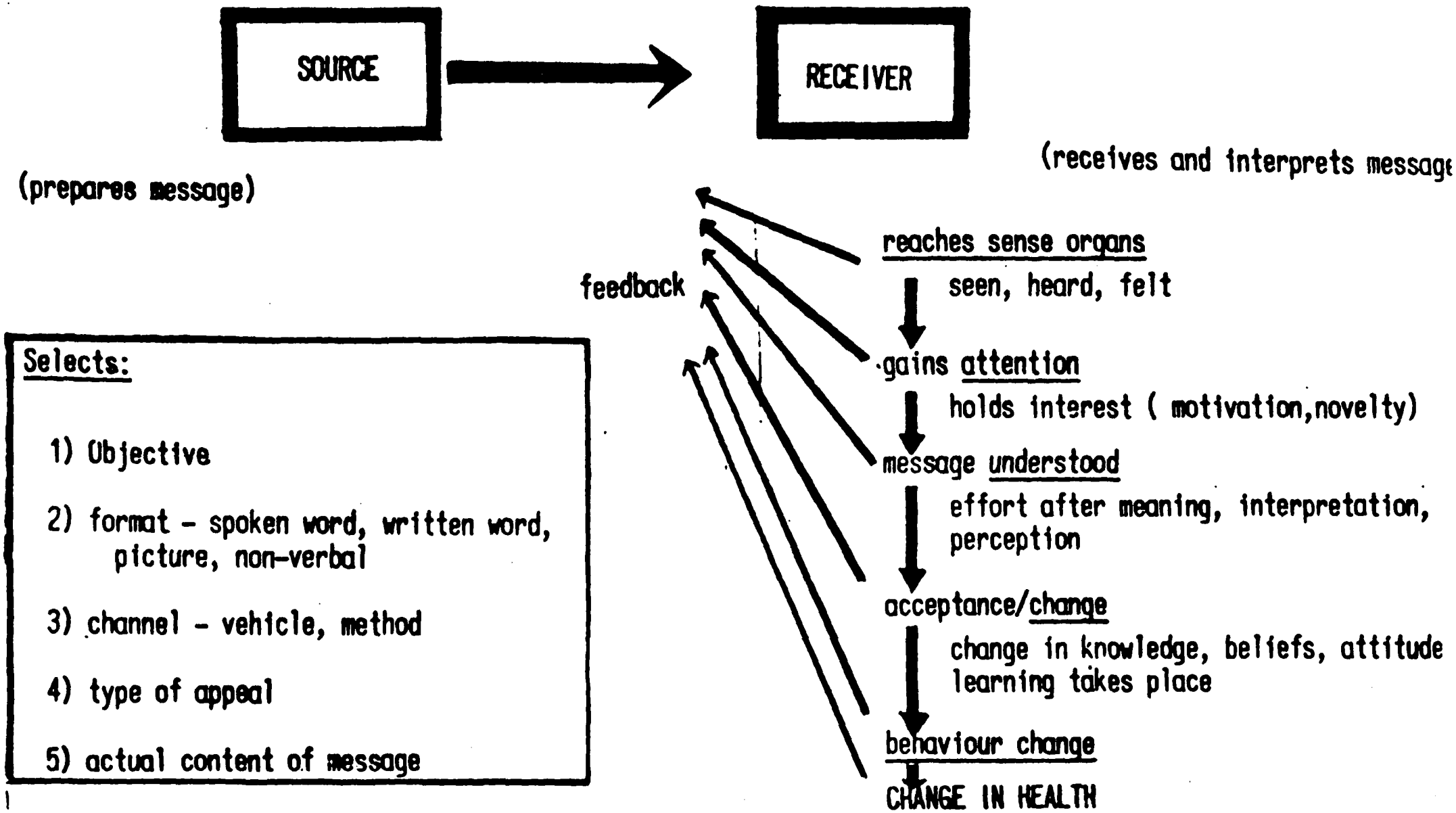

The
SENDER -
MESSAGE -
CHANNEL -
RECEIVER
Process
FIELD OF EXPERIENCE
FIELD OF EXPERIENCE
SOURCE
SENDS
COMMON
AREA OF
UNDERSTANDING
INTERPRETS
AUDIENCE

Fig. 2


SOURCE
RECEIVER
(prepares message)
(receives and interprets message)
feedback
reaches sense organs
seen, heard, felt
gains attention
holds interest (motivation,novelty)
message understood
effort after meaning, interpretation, perception
acceptance/change
change in knowledge, beliefs, attitude
learning takes place
behaviour change
CHANGE IN HEALTH
Selects:
1) Objective
2) format - spoken word, written word, picture, non-verbal
3) channel - vehicle, method
4) type of appeal
5) actual content of message

GAINING ATTENTION

physical characteristics

- size
  - eg. of whole poster
  - lettering size
- intensity
  - e.g. bold headings
- colour
- pictures