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SUSTAINABILITY OF WATER AND SANITATION SYSTEMS

Participatory techniques and didactic methods

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WATERAID IS A charity created to help people in Africa and Asia improve their water supply and sanitation. Here in Uganda WaterAid, has been providing a variety of water systems to rural communities for over 8 years. More recently there has been a greater emphasis on integrating sanitation activities with water projects. WaterAid has always been committed to community participation but has learnt that for true sustainability, participation means more than just contributing local materials and labour for constructing a water supply.

There has been a lot of talk about how “empowerment” of communities is needed to achieve any real sustainability. In practical terms this means that communities must feel that they own the water system and are therefore responsible for the operation and maintenance (O&M). Furthermore, they need to be involved in selecting and promoting improvements in sanitation and hygiene practices, not just be told (read “educated”) what to do. This is easier said than done. Communities need external assistance but donors have to be careful in their approach to communities to make sure their participation in the project leads to sustainable systems.

This paper provides the experiences of Programme Support Unit (PSU) which was set up to help develop an approach which enhances the way communities participate in water supply and sanitation initiatives.

Participation techniques

One of the roles of PSU has been to introduce “tools” that make community participation easier. These techniques have been adapted or subsequently developed from those employed in PRA, PROWESS, RRA and some are described in the following (Chambers 1989; Srinivasan, 1990; Scrimshaw and Hurtado, 1987).

Community mapping

Community mapping involves participants in drawing a large map of the local area on the ground. A variety of information may be included such as homes, paths, boundaries, services (e.g. health centres, schools), traditional water sources, natural resources (e.g. sand, rock, gravel) and crops. Active participation and cooperation in drawing the map helps give participants confidence to discuss and analyse community needs. It has proved very valuable as an entry point for introducing water and sanitation activities to communities, particularly on first contact.

The responsibility chart

The responsibility chart divides roles and contributions between donor and beneficiaries, thus specifying exactly what is involved in constructing the water supply and clarifying any unclear issues (usually as to who is responsible for repairs).

The seasonal calendar

The seasonal calendar helps the community and project staff to plan the actual construction of the water system together. First, busy months of the year for the community are marked on a large calendar drawn on the ground (e.g. harvest time). In the next step, pictures depicting the various construction activities and quantities of materials needed are placed on months of the year. Discussions then centre around which activities need completing before other can begin, the best time to attempt allotted tasks and expected completion date.

Story with a gap

Story with a gap uses pictures to stimulate community discussion about what steps need to be taken to transform a broken water supply into a well maintained system. It is very useful for raising awareness about the need for the community to contribute funds for O&M. It also helps them appreciate the role of the committees in O&M and can be useful in discussing any problems with the current water committees, especially management of funds collected.

The sanitation ladder

The sanitation ladder encourages all participants to contribute to discussions on latrine use and common types of latrine in their community. Pictures of different latrines are placed in order from worst to best (sanitation ladder) with the advantages and disadvantages of each discussed. Participants then select the most suitable latrine type for their community after discussing the constraints to changing defecation practices and improving existing latrines.

Hygiene behaviour (3 pile sorting)

Hygiene behaviour (3 pile sorting) procedure takes participants through a process of arranging pictures of (un)hygienic behaviours into piles of common or uncommon practices within their community. Pictures are then re-sorted according to what they feel are good or bad behaviours. Common good and uncommon bad behaviours are then eliminated from the pile and participants discuss

constraints to changing the remaining behaviours. An action plan is devised for promoting 2 or 3 priority behaviours with the least constraints.

Gender analysis

Gender analysis is very useful in demonstrating the importance of women in water and sanitation projects. Again participants divides pictures of everyday chores between women's work and men's work. Discussions then centre around how a better balance of duties could be achieved e.g. what activities could men and women share.

Schools

Children can play a very special and important role in promoting improvements in sanitation and hygiene behaviour both in their homes and at school. Materials developed specifically for schools include faecal-oral routes where pupils draw pictures of important factors in transmitting germs from faeces to mouth. These are then placed on the ground and lines are drawn between them to show the direction of transmission routes. Pupils then discuss ways of breaking these routes emphasising, activities that can be managed by children. Versions of sanitation ladder and hygiene behaviour (3 pile sorting) described above have also been specifically adapted for school children. After each exercise two action plans are made, one for children's homes and the other for the school itself.

Feedback from the field

Training on participatory techniques has been conducted through specially designed workshop and by on the job training. Those trained have, in the past, been used to a more didactic approach in dealing with communities and include both technical and nontechnical worker from WaterAid, partner organizations and community members.

The response from field workers using these techniques has been very positive. Generally, in comparison to traditional didactic methods there has been better attendance at meetings (with, tellingly, a vast reduction in the number walking out before the end because sessions are more interesting), an enormous improvement in active participation and a more equitable contribution by those attending (particularly from women). Just as important, especially where voluntary trainers are utilised, there has been a marked improvement in the confidence of trainers because they now receive requests from the community for the illustrated materials used during the sessions and to come back again.

In more formal meetings, information tends to be provided in one direction, from the speaker to audience. Although questioned may be raised and answered in this forum, participants may not always understand what is being discussed and may not be confident to speak out.

Water supply

Discussing the community map always leads to a greater number of participants voicing opinions or providing information. For instance field workers may want to know about traditional water sources, whether this is available the whole year round and what the water is used for. This sort of information is automatically cross checked because everyone understands what is being talked about and can come to a consensus about any particular subject. People who want to manipulate matters by giving false information are quickly exposed. Moreover, this technique automatically provides accurate baseline information.

The amount of community participation in planning the construction of water systems has improved dramatically. One thing the water engineer quickly learns is that these techniques allow for better communication between himself and communities. Technical maps of gravity systems mean little to the average community member but once this information is transferred onto the community map then it is readily understood. Such issues as siting a well or locating positions for tap stands have a chance for debate and communal agreement so that potential conflict can be resolved before it is too late.

Engineers often complain about the difficulty in managing construction of a water system when the communities have to provide local materials and labour. This leads to uncertainty in planning because communities may not be ready when the engineer wants them to be or visa versa. The seasonal calendar facilitates dialogue between the community and engineer so both sides can plan together. Usually communities are not used to planning this type of project and the engineer can use the calendar to explain what resources are necessary before certain activities can begin and communities can show when they are likely to be busy with other ventures. Thus the community and engineer can negotiate the timing of various activities. This has not only helped provide a realistic plan for the community but also leaves them something to use as a yardstick which can be constantly reviewed according to their progress.

In our experience communities usually try to get the most they can out of a project. Often opinion leaders or local politicians may start rumours such as the government provides water for free, with no contributions expected from the community. These issues need to be aired so everyone understands and agrees who is responsible for what. Story with a gap and the responsibility chart makes dialogue between beneficiaries and donors clear and open. These need to be introduced as early as possible to avoid any misconceptions about ownership of the water supply. Conditions can also be set before a project begins.

Sanitation

Perhaps the most enthusiastic response about the participatory techniques has come from field workers involved

in promoting sanitation and hygiene activities. Communities are actually led into a process of analysing their own situation and deciding what they want to do about it. This is a far cry from being told what to do by someone who often feels the community is ignorant.

Initially, health educators are often reluctant to accept ability of communities to select hygiene behaviours through this technique. In our experience, communities have been fairly consistent in their selection of hygiene behaviours and the most popular have been hand washing particularly before cooking and after latrine or cleaning a baby's bottom; washing dishes immediately after eating; and disposing children faeces in the latrine regularly. On the other hand, boiling drinking water is the one most common behaviours traditionally stressed by health educators. Although this behaviour is usually considered a good if not uncommon practice by the community, it is always near the bottom of their priorities because of the high constraints involved (e.g. time, fuel costs, effort and inconvenience). A certain amount of manipulation has been made in choosing the behaviours used in this procedure but interestingly research suggests that these behaviours selected by communities are likely to be more effective in reducing disease than advice traditionally given health educators (Esrey *et al.* 1985).

Thus, this procedure not only assists the community to analyse hygiene behaviour for themselves, but it also gives "health educators" an important opportunity to listen and learn from the community about constraints to behaviour change with reasons why. A more positive role for health workers has been to arrange meeting for demonstrating facilities that assist improving the selected behaviours e.g. "tippy-taps" for hand washing. This sort of approach is compatible with social marketing where projects, in collaboration with communities, can play an important role in helping to provide appropriate communication support.

Similarly the sanitation ladder leads communities to analyse their existing situation and discuss constraints to changing this. Consequently, improvements to facilities selected through this process are both appropriate and manageable. This contrasts with the previous procedure where the health officers imposed their selections that were often neither practical nor appropriate. Once this exercise has been completed the community is then in a position to produce an action plan for improving latrines and latrine usage. Gender analysis has also played an important role in encouraging men to take a more active role in supporting women by sharing some chores and helping with sanitation in the home.

Activities are likely to be more sustainable through participation as communities feel in control of their actions. Previously, some communities used to be told what to do by the health educator who assumed a position of being more knowledgeable. Communities were then en-

couraged to follow this advice by using competitions and giving away prizes to the winners. What we have now found is that although there was some limited success with reward method, all sanitation activities ceased once the prizes stopped coming.

We have been very encouraged about the success of including school children in our programmed They provide an eager and willing resource but it is important that any action plan focuses on activities that children are able to manage at home (e.g. washing dishes, bathing younger brothers and sisters, disposing faeces into latrine). Action plans for improving sanitation in schools is also discussed amongst teachers so that it can be combined with health clubs or other school lessons (e.g. poster competitions in art classes). Teachers have also been keen to promote various facilities in school and at home (e.g. tippy-taps). The school visits have proved very successful and they are arranged around the same time as village meetings so similar messages are reinforced from different sources.

Perhaps the best sign of "empowerment" comes when the community is involved in monitoring its own efforts. For example, we have assisted in developing a community based system for monitoring the number of tippy-taps owners as an indication of hand washing behaviour. Members were initially taught how to make these from plastic cooking oil containers after selecting hand washing during the hygiene behaviour exercise. The community then used the community map to indicate homes with tippy-taps and this in itself has led to a dramatic improvement in both behaviour and demand for facilities.

There is a lot more to making water supply and sanitation activities sustainable than just applying these participatory techniques. Nor can we say that these techniques have provided a magical solution for "empowering" communities. However, what we have found is that the participatory techniques are a distinct improvement on the traditional methods previously employed. Furthermore, they give a practical focus for training which makes it much easier to train people to be more participatory in their approach to communities.

References

- Chambers R. (1983) *Rural Development: Putting the last first*. Longman, Harlow.
- Scrimshaw C.M. & Hurtado E. (1987) *Rapid Assessment Procedures for Nutrition and Primary Health Care. Anthropological Approaches to Improving Programme Effectiveness*. UCLA, University of California, LA.
- Srinivasan L. (1990) *Tools for Community Participation - A Manual for Training Trainers in Participatory Techniques*. PROWESS/UNDP, New York.
- Esrey S.A., Feachem R.G. & Hughes J.M. Interventions for the control of diarrhoeal disease among young children: improving water supplies and excreta disposal facilities. *Bull WHO*; 63: 757-772.