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Water

Supply in Developing Countries

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held in Zomba, Malawi,
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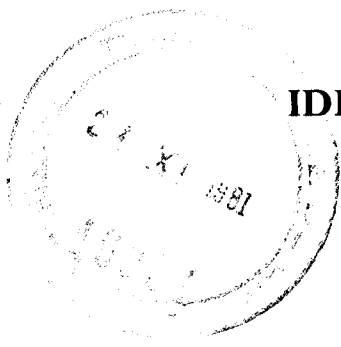
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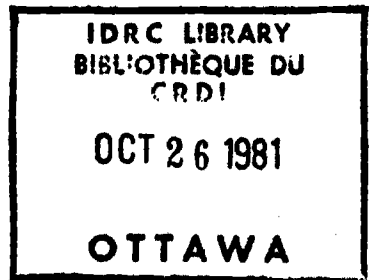
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Rural Water Supply in Developing Countries

**Proceedings of a workshop on training
held in Zomba, Malawi, 5-12 August 1980**



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A Sociological Approach to Water Development

J.A.K. Kandawire¹

This paper attempts to stimulate some thought regarding two questions: (1) What must someone involved in training people in the development of rural communities understand about the communities themselves? (2) What methods of persuasion should be used to obtain the cooperation of rural communities when introducing new techniques for the development of rural water supplies? These are not new questions and they are raised here not to give new answers but to highlight sociocultural problems.

Three important aspects of the problem of rural development are leadership, organizational framework, and cultural conservatism. How these three aspects can be connected will be shown when describing, in general terms, what is happening in Malawi in the field of rural water development. In this regard a brief outline of the general organizational framework in Malawi will be given. It will include an explanation of the way Malawi uses the approach of self-help in the development of rural water supplies; the problem of traditional health practices, with special reference to traditional culture in Malawi; and an attempt will be made to suggest a sociopedagogical approach to rural water development. This approach involves "group discussion" and "community self-survey" as aids in training for technological innovation in the development of rural water supplies.

Leadership and Organizational Framework in Malawi

The government of Malawi realizes that the success of the rural water supply program depends upon an ideal combination of the central and local government systems, in which rural communities can have an adequate measure of representation and participation in determining the character, extent, and direction of development (SDSECA 1971). For this reason, it formed an integrated department through which to plan and execute the program of rural water supply. The department in question brings together three different water supply programs: gravity-piped water, shallow wells, and boreholes. These were brought together under the newly created Department of Lands, Valuation and Water (DLVW) within the office of the president and cabinet (OPC) in July 1979. The spirit of "self-help" governs the formation of the department as will be shown by the way it relates to rural communities, thus forming an ideal organizational framework. Prior to the formation of the DLVW, water-related functions were scattered throughout 14 departmental or subdepartmental units distributed throughout six ministries.

The creation of the DLVW means that water is now regarded by the government of Malawi as a high priority and that lines of communication between rural communities and those responsible for the provision of technical knowledge related to water supply are simplified. These lines pass through the

¹Head, Department of Psychology, Philosophy, and Sociology, Chancellor College, University of Malawi, Zomba, Malawi.

district development committee (DDC), which is very important in district administration because it provides a direct link between the central government and rural communities, or through the management of agricultural development projects. Requests for assistance originate in villages and are sent to the DDC through councillors. Each DDC discusses a number of project proposals of different kinds, all of which are related to rural development, and submits to the OPC a request for funding (CSC 1974). After funding has been established, the DLVW is directed by the OPC to begin work on the project.

The DDC is made up of the district commissioner, who is also its chairman; the district chairman of the Malawi Congress Party, League of Malawi Women, and League of Malawi Youth; the district council chairman; members of parliament from the district; the district medical officer, ADMARC official; and technical officers of other departments such as Community Development, the DLVW, and the Ministry of Agriculture and Natural Resources. Traditional leaders are not members of the DDC although literate ones may be co-opted. These leaders play their role in area action groups (AAG). Party leaders operating below the district level sit on this committee together with their chiefs. The AAG is responsible for forming work committees, establishing work responsibilities, and undertaking the actual labour. However, the practice is to form a special project committee for a major project such as a piped-water project. This project committee is divided into branch committees which are further divided into village committees.

Technical staff of different ranks sit on committees appropriate to their rank. For instance, water development assistants sit on village committees, project supervisors sit on branch committees, and project managers sit on the main project committee. In this way, the central government is represented at the grass-roots level just as rural communities are represented in the DDC, which would otherwise be dominated by officials. This organizational framework

is ideal for a rural development approach that stresses the involvement of potential beneficiaries in the rural development program. Using the community development principles, rural communities can participate in the entire program cycle of planning, construction, and maintenance. The organizational framework also makes a clear distinction between the role of community organization and that of the DLVW headquarters, as well as its field staff. The DLVW provides technical support to rural committees, whereas community organization provides all the labour and organization required to successfully complete a safe water project.

This relationship enables the beneficiaries to take the first step toward the development of rural water supplies. They identify the need and then ask for assistance from the government through the appropriate channels already described, i.e., requests from villages are routed either through the DDC or through the Ministry of Agriculture and Natural Resources.

The involvement of the whole community in the development program presupposes that people in the community are aware of their problems and that they will make an effort to solve the problems through self-help methods. Yet, in reality, not all such people may be aware of, and willing to solve, their problems because of some cultural barriers. The organizational framework outlined here can be used as a channel through which rural communities can be taught to understand sociocultural problems of development. In Malawi, such sociocultural problems, insofar as they may affect the development of rural water supplies, can be discerned from the works of Marwick (1965), Mitchell (1966), and Wilson (1963).

Cultural Barriers in Malawi

This section will provide an outline of the contrast between the scientific explanation for problems such as disease and the traditional explanation based upon the systems of belief held by the Chewa, Yao,

and Nyakyusa peoples. For example, with regard to drinking water, health experts say that water is the carrier of germs which cause diseases such as typhoid and cholera. It follows that the outbreak of these water-borne diseases can be prevented at the source by providing clean water to people. In contrast, the explanation for such diseases in much of traditional Africa is based on beliefs in the power of witchcraft and sorcery, ancestral spirits, and sex taboos.

To take Chewa beliefs in sorcery as an example, it is said that sorcerers in that society cause different types of misfortune among people and that these sorcerers usually attack their matrilineal relatives (Marwick 1965) with whom they have quarreled. This is also true of the Yao people, who believe that sorcery operates between people who are linked by kinship ties and this means that sorcerers kill matrilineal relatives by magic (Mitchell 1966). The point to be emphasized here is that it is only quarreling matrilineal relatives who believe that one is practicing sorcery and magic against the other, and that such conflicts usually lead to group segmentation (Mitchell 1966).

Patrilineal Nyakyusa also believe that illness among them is caused by "witches," "murmuring," and "the breath of men." They further believe that witches are certain people among them who have pythons in their bellies, and these pythons are believed to give power to witches to harm others as well as cattle (Wilson 1963). What motivates witches to harm others, it is said, is their greed and lust for human flesh and the milk from cows. To obtain these valued foodstuffs, witches are believed to go to their victims in dreams during the night. "The breath of men," on the other hand, is believed to be used by villagers to punish wrong-doers in society (Wilson 1963). For example, a son who insults his father in the presence of his father's neighbours thereby insults the entire age-group of his father who murmur in response to the insult. Similarly, a daughter-in-law who looks at her father-in-law shocks the age-group of her father-in-law who then murmur against her. These

murmurs are what Wilson calls "the breath of men," which are believed by the Nyakyusa people to bring onto wrong-doers, or their children or cattle, some prolonged illness.

Sorcery among the Chewa and Yao people can be prevented by the immediate settlement of differences between quarreling matrilineal relatives (Marwick 1965; Mitchell 1966). Nyakyusa people, on the other hand, are protected against witchcraft by their village headmen (Wilson 1963). A Nyakyusa village headman is given this power at "the coming out ceremony" when the country of an old chief and his village headmen is formally handed over to his two eldest sons and their respective headmen to administer (Wilson 1963). During this ceremonial occasion, all new village headmen are treated with medicines to give them the power to see and fight witches through the medium of dreams at night.

Beliefs in the power of ancestral spirits over living members of their lineages also exist. Among the Chewa people, the belief is that lineage spirits manifest themselves in the form of illness in a living member. This occurs when the living members do not make regular offerings to the spirit, when the rituals performed following the death of the spirit are performed incorrectly, or when the spirit's name has not been passed on to a successor (Marwick 1965). A similar belief is also held by the Yao (Mitchell 1966) and Nyakyusa (Wilson 1963) peoples.

An example of the beliefs in taboos is that which forbids a man to commit adultery when his wife is expecting a baby. It is believed that failure to observe this taboo causes harm to the wife. The Chewa people refer to this as *mdulo* (Marwick 1965) and the Yao people call it *ndaka* (Mitchell 1966). Similar taboos are imposed on close relatives or mourners who have lost a kinsman, and on relatives of boys and girls who are being initiated into adulthood.

These systems of belief and others constitute cultural barriers which may limit the extent to which rural communities participate in developmental projects, such as water supply projects, designed to benefit the rural community. People in rural

communities need to appreciate the scientific relationship between water and disease. This could be accomplished through some form of informal adult education program. It is only when the people understand why they are participating in a water project that they will appreciate the value of clean water in the prevention of disease.

Sociopedagogical Approach

It has been suggested earlier that the organizational framework outlined thus far can serve as a channel through which people can be made aware of cultural problems. This point is made here based on the assumption that people's awareness of their own problems, and their attempts to solve these problems through self-help methods, will modify their attitudes toward new technical innovations. The proposal here is that this change should be brought about through the development of mature and able local leadership (SDSECA 1971). A committee structure is ideal for this purpose. This section considers how the committee structure can be used to achieve this educational goal. It advocates the use of organized group discussions aimed at developing constructive mental attitudes and healthy social relations among members of the group (UNESCO 1958). An organized group discussion has rules which enable one to focus the discussion on a specific goal. Six such rules will be mentioned here: group composition, the need for a democratic and peaceful atmosphere, material arrangements when preparing for the discussion, launching and developing the subject, choice and preparation of the subject, and the need for flexibility (UNESCO 1958).

In order for a group to be compatible it must satisfy two requirements: it must be composed of people of differing origin and social status, so as to have a variety of opinions (UNESCO 1958); and it must not be too large or too small, 7-20 people being a workable size (UNESCO 1958).

Ensuring orderly guidance of the

discussion and a democratic atmosphere within the group is the responsibility of the organizer of the group. As such, the organizer is supposed to ensure that the group discussion leads to the sharing of ideas among participants and not to the imposition of the organizer's own decisions on the group (UNESCO 1958). The need for a peaceful atmosphere is closely related to the need for a democratic atmosphere in that a properly conducted meeting is one that discourages polemics and reconciles opposing views, thereby ensuring peace and maximizing the benefits of having different opinions expressed by members of the discussion group.

The arrangements to be made when preparing for the discussion should ensure that a spirit of equality among members of the group prevails. A classroom situation that puts one person in an authoritarian position is not recommended for adults, but rather a relaxed atmosphere such as a circular or oval arrangement that ensures that all participants exchange ideas freely.

With respect to launching and developing the discussion, a democratic atmosphere reassures participants that the person who is launching the discussion is their equal. Likewise, the latter feels the same about his colleagues and in this way he is not likely to use an authoritarian tone, which usually frustrates discussions. In such a situation the group leader can easily bring a runaway discussion to order, but to be able to do this he should be quick to step into the discussion whenever he sees that it is not developing well.

The choice and presentation of subjects to be discussed by the group should reflect the personal interests of group members. Furthermore, only one subject should be discussed at a time (UNESCO 1958). Relating the subject matter to people's interests has the advantage of ensuring that all members of the group may contribute to the discussion.

All of these rules are presented here to serve only as guides. Their application to specific situations should be governed by the principle of flexibility. What is important is the achievement of the adult education goal

at which the group discussion is aimed. Another method which can be used to achieve this goal is the community self-survey.

The community self-survey has been defined as "some kind of specific research method whose own character is derived from its socio-pedagogic aim" (van de Lest 1962). As a sociopedagogical method, the community self-survey has to be conducted by the people facing the problem they wish to solve. The procedure adopted in community self-surveys must be simple enough to enable someone with an elementary form of education to follow it.

The scientific procedure which social scientists follow begins with a general problem and proceeds to the reformulation of the problem. This is followed by enquiries, data collection through interviews, and then data analysis leading to interpretation.

Experts in methods of social research advise that the first step in reformulating a research problem is to make the problem concrete and explicit (Selltitz et al. 1965). This step requires that a set of questions related to a central problem be formulated (Goode and Hatt 1952), and that "the content of questions should particularly be suited to obtaining information about what the respondents know, believe or expect, feel or want, intend to do or have done, and about their explanations or reasons for any of the preceding" (Selltitz et al. 1965). It is advised that a preliminary list of questions should be submitted to experts, both in the field of the problem and in related fields, for their comments (Goode and Hatt 1952). In assessing these data, the reliability and validity of the information collected from respondents must be considered.

After deciding on the type and form of questions to be asked, the next problem is deciding who should be interviewed. The solution to this problem depends upon whether questions are aimed at obtaining objective factual information or subjective information based on people's beliefs and feelings. The selection of people to collect the information may also pose a problem depending upon the level of their literacy

and the complexity of the interview schedule.

Once data have been collected, the next step is to process them in order to find out whether the responses can be used to answer the research questions. If the data collected actually relate to the problem being studied, interpretation should not present too great a problem in spite of the fact that the people interpreting the data have a low level of literacy and may not have been exposed to a social science study of this nature in the past.

Conclusions

This paper has attempted to explain what a person involved in training people in the development of rural communities should understand about such communities and what methods should be used to obtain the cooperation of the people in the community. It has been suggested that in addition to understanding those cultural aspects that tend toward conservatism, people involved in the training should also understand the sources of group divisions within the society, because problems of community organization usually arise from group divisions which may or may not be based on cultural differences. It has also been suggested that by trying to understand the cultural aspects of a community, attention should be drawn to the way the social structure is defined, because it is through the structural principles that groups of people, as well as their leaders, can be identified.

Leadership in this paper has been treated together with the organizational framework based on an example from Malawi. When explaining the Malawi organizational framework no attempt was made to expose its possible weaknesses. The following are a few such weaknesses which come to mind.

(1) There is the separation between the DDC and the management of special agricultural development projects. This conceals differences in the operation of the principle of self-help. Special agricultural development projects receive heavy monetary input, whereas projects which fall under the DDC umbrella receive

comparatively little aid. As such, the latter type of project is more dependent upon local participation than on outside help. Nevertheless, in both cases agricultural extension workers who have been exposed to self-help principles, community development workers who claim to be experts in promoting self-help activities in rural areas, and health assistants are all used to influence participation from the rural communities.

(2) There is a difference in the nature of the water programs for special agricultural development areas and those for other areas. Boreholes and shallow wells are used in special agricultural areas, by individuals who hire government services at their own expense to drill a borehole, and by communities that submit a request to have a borehole drilled. On the other hand, a piped-water program involves a very large group of people and is never an individual's concern. Hence, the nature of the water program can influence the extent to which community participation in it can be achieved.

(3) The sociopedagogical approach as a method of persuading people to cooperate with water development assistants can be complemented by a community self-survey. It has been suggested here that people in the local communities should choose the subject, formulate the problem, collect data, arrange, and interpret it. In the same way as they are assisted by officers who are trained in technology, they should also be assisted in all stages of carrying out such research by a well-trained social scientist.

(4) This last problem involves extension services in rural areas. If agricultural extension workers, public health workers, community development workers, and

water development assistants do not adopt a common approach to rural development, there is bound to be confusion in the field. This confusion can be minimized if the DDC takes great interest in bringing about some collaboration among these groups. The DDC can discharge this duty reasonably well if an interministerial committee in Lilongwe, in which all of the ministries represented in the field participate, gives the DDC its strong support.

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