

**Rural**

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# **Water**

**Supply** in Developing Countries

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Findings of a workshop on  
held in Zomba, Malawi,  
August 1980

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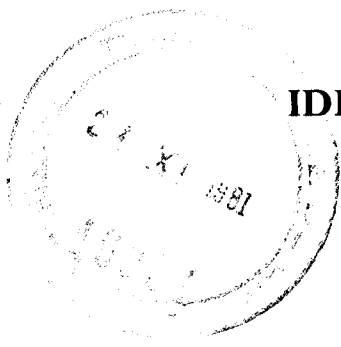
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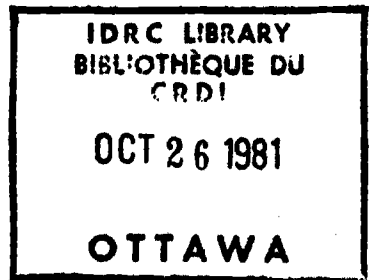
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# Rural Water Supply in Developing Countries

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



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# **Community Participation in Rural Water Supply Development**

**Tsehaye Haile<sup>1</sup>**

Public (community) participation, an indispensable social component of rural water supply programs, has sparked considerable discussion in many rural development forums. There are few ideas that have been more popularized and idealized than that which is usually referred to as community participation.

The success of rural water supply programs depends on the extent to which society is considered during the planning stages. Genuine and unfailing involvement of the intended beneficiaries right from the initial stages ensures the success of village water supply systems. Enthusiastic community participation can play a significant role in developing and increasing community awareness, a sense of responsibility, and pride of ownership toward the village water supply system, resulting in success and a high level of performance of the system.

In general terms, community participation implies development to be achieved with and by the people, not just for the people (EEC/APC 1979). Participatory rural development has received a great deal of attention in recent years in development literature, national plans, political platforms, and in the lending programs of most donors. Since the 1960s, interest in promoting participation of the lowest

income groups through rural development programs has gained wide acceptance.

Rural development is generally understood as a means of improving the living standards of the low-income population residing in rural areas. As stated by Lele (1975) "improving the living standards of the subsistence population involves mobilization and allocation of resources so as to reach a desirable balance over time between the welfare and productive services available to the subsistence rural sector."

## **Mass Participation in Rural Development in Ethiopia**

In an effort to materialize the objectives of the ongoing national revolutionary development campaign, the rural masses of Ethiopia are undertaking multidimensional rural development activities. The rural development undertakings, which are enthusiastically being carried out jointly or separately by the peasants' and urban dwellers' associations, will with all certainty lay the groundwork for the task of socialist construction which revolutionary Ethiopia has launched.

Although crude mutual cooperation in the sense of working together has existed in Ethiopia for years, the rural mass of the country had no chance to organize themselves during the prerevolutionary era. With perhaps a few exceptions, the

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past landlord-dominated Ethiopian leadership had been apathetic toward, if not at odds with, the concept of mass participation in rural development.

Today in Ethiopia, the revolutionary government unreservedly encourages and supports the rural masses to take part in developing the rural economy. Since the enactment of the fundamental rural land proclamation in March 1975, several thousand peasants' associations, based on socialist principles, have been established at village, subdistrict, regional, and national levels under the All Ethiopian Peasants' Association (AEPA). One of the major functions of the peasants' association, in addition to safeguarding the gains of the revolution, is to work collectively and to speed up socioeconomic development by improving the quality of the instruments and level of productivity.

Each of these associations serves an area of 800 ha. Although these organizations are new (only 5 years old), they are a potential focal point of rural development and are of national as well as local significance. They are familiar with the problems and needs of their areas and are able to express local demands for a wide range of services based on the actual needs of the rural population. In towns and larger villages, urban dwellers' associations play a similar role.

### **Community Participation in Rural Water Supply Development in Ethiopia**

As mentioned earlier, sporadic community participation in rural water supply development has been witnessed in several rural parts of Ethiopia during the prerevolutionary era. Since the 1974 revolution, however, community-initiated self-help water supply schemes have become more common.

At the national level, the Ethiopian Water Resources Authority (EWRA), the principal government institution vested with general water resources and rural supply development responsibilities, has recently prepared a community participation

promotion document pertaining to rural water supply works. The objectives of the EWRA community participation projects are: (1) to utilize effectively the resources of the consumer by encouraging the community to invest either cash or labour in the construction, operation, and maintenance of water supply projects, thereby indicating that further government funding should be used to increase water supply facilities in other areas or for additional work in the same area; (2) to ensure the success of village water supply systems and reduce the chances of systems failing as a result of misuse, vandalism, or a lack of maintenance; (3) to ensure that rural water supply is given due social consideration and is appropriate to the needs and desires of the villagers and to increase the usage or consumption rate of improved water by the community; (4) to eliminate the paternalistic approach to development and encourage communities to depend upon and pool together their potential manpower and financial resources in order to be self-reliant instead of becoming passive government aid handout recipients; (5) to develop and increase community awareness, a sense of responsibility, and pride of ownership on the part of the villagers toward the water system; (6) to promote and encourage community run and initiated self-help water supply schemes to enable the country to fully or partially meet the United Nations Water Supply and Sanitation Decade objectives; and (7) to help promote water use and health education programs (EWRA 1980).

### **Areas and Scope of Community Participation**

It is fundamental to any successful water supply scheme that the people concerned be involved in as many stages as possible in the entire process. If due consideration is not paid to social aspects when planning, the risk is high that the water supply system will either not be used or it will be misused. It is essential, therefore, that a high degree of

community participation in rural water supply works is applied. In principle, communities should participate in the planning, construction, operation, maintenance, and evaluation phases of rural water supply projects.

### **Planning Phase**

Until recently, social factors were almost completely ignored in rural development planning. Planning emphasis was mainly on the physical aspects, whereas the social aspects, i.e., how the project was related to the lives of the people, were left out in many cases. The input from the community at the planning stage should deal mainly with the identification of community needs and priority setting, the choice of suitable technology, and the siting of the supply points in a way that is acceptable to the community.

The social aspect of rural water supply development calls for a thorough investigation and adequate knowledge of local conditions. Information on problems felt by community, community resources, experience, and preference are prerequisites for joint planning of rural water supply programs.

It is essential that social considerations regarding the siting of the water supply are taken into account together with technical considerations. There must be communication between technicians and the community on the most appropriate site of communal facilities. This calls for considerable background information and knowledge about the community's needs and attitude toward the new system.

### **Construction Phase**

After participating in the choice of system and technology, the community is also expected to contribute in the actual installation of the facilities. During the construction phase, the degree of community participation is greatly influenced by the type of technology being used. In cases where sophisticated technology is applied, community participation is generally low. To promote

community involvement in rural water supply development the EWRA is intending to adopt simple technology such as spring protection and shallow hand-dug wells. However, even in areas where the exploitation of groundwater resources requires sophisticated drilling equipment and deep borehole schemes, village participation in the form of free labour contribution for digging pipeline trenches, the construction of earthworks associated with pump platforms, or installation of public stand posts, etc., can be significant.

### **Operation and Maintenance Phase**

Operation and maintenance of the rural water supply is a crucial part of the program. Generally, the community is willing to contribute and associate with the system if the service is satisfactory. The community should have a clear understanding of the contributions expected from it after the completion of the system and of the increased public health benefits from the improved system. Upon completion of a water supply system, an explicit and formal agreement specifying the community's and agency's responsibilities with respect to operation and maintenance tasks must be established. According to the EWRA community participation promotion document mentioned earlier, the routine day-to-day operation and simple maintenance, pump attendants salaries, lubricants and fuel would be the community's responsibility (EWRA 1980). Pump attendants would be appointed from and by the community and trained in maintenance techniques free of charge by the EWRA. After training, pump attendants go back to their respective communities to operate and maintain village water supplies.

### **Evaluation Phase**

It is essential to any development activity that continuous follow-up is carried out in order to avoid repeating mistakes and to adjust the approach where possible. The people who know the most about how the project is functioning are the community



people themselves. They can play a vital role in providing feedback and in pinpointing the difficulties and the successes of the water supply system for both technical and social aspects.

### **Promotion of Community Participation**

Nowadays, community participation in rural development projects is gaining wide acceptance. During the last two decades, it has become more and more widely accepted that it is futile to implement rural development programs without the participation of the intended beneficiaries, the rural poor (EEC/APC 1979).

There are no universal techniques for involving community people in rural development. Each country has its own set of parameters and problems requiring a solution of their own. If the initiative for the water supply comes from the people themselves, the process of involving them may be easier. Local organizations and cooperative societies are favoured as the most appropriate forms of group action on the part of the people. In rural Ethiopia, all necessary base organizational frameworks are laid down. The peasants' associations, women's associations, and youth organizations are playing instrumental roles in mobilizing mass participation in rural development.

To gain meaningful community participation in rural water supply development, preparation is under way to establish "village water committees" as subcommittees to the rural development committee or as an independent and integral committee within the framework of the local peasants' associations. Village water committees will be made up of five persons, of which at least two will be women. One of the prime objectives of these committees will be to promote community participation at the planning, construction, operation and maintenance, and evaluation phases of a rural water supply scheme.

Trained community participation promoters will be deployed to the rural areas

to carry out motivational and community organization activities. The promoters will monitor all community participation and provide feedback for planning and evaluation purposes.

### **The Role of Women in Rural Development in Ethiopia**

It is generally agreed that rural women should be actively involved in shaping the future of their societies for the betterment of all concerned. However, the diversity and importance of the economic and social roles played by women in rural life in most developing countries has often not been appreciated in the past by development planners. Measures to involve women in all phases of rural development cannot be isolated from the overall development strategy. Development programs which do not involve women fail to realize their full potential (UNICEF 1977).

In Ethiopia, the voices of rural women are now being heard by the revolutionary government. Before the revolution in Ethiopia women were underrepresented in government institutions. Today, the opportunity exists for women to use rural services that can make their lives easier as well as provide more skills and knowledge and promote development of an effective infrastructure through which women can express their needs and increase their self-reliance. Women are organizing their association from the local level to the regional level. Efforts are also under way to establish a national women's association that would give them more influence when participating in economic, social, and political struggles. Such organizations would increase their political consciousness and confidence and enhance their pride in whatever role they play.

There is a noticeable trend in Ethiopia that is providing a greater opportunity for women to participate in rural development. Today, in addition to their household duties, rural women in many parts of Ethiopia are working side by side with their male counterparts on environmental

sanitation, road cutting, reforestation programs, cooperative farms, and other rural development projects including rural water supply development.

### **Water Consumption (Usage) Pattern**

No scientific investigation on household water consumption and the social use of water has been conducted in Ethiopia. However, from scanty enquiries and studies it appears that household use of water varies tremendously. Several factors affect the amount of water withdrawn by individual households. Some of these factors are the size of the family, distance from the water source, income level, education, cultural heritage, character of the water supply, cost of obtaining water as measured by energy or cash expenditure, climate, and terrain.

The EWRA design standard for rural consumption indicates 20 litres per day per capita. The actual daily consumption in most areas, however, barely exceeds 10 litres per day per capita. In some localities the consumption is as low as 5 litres per day per capita. Table 1 gives the results of a water consumption rate survey of 70 households comprising 391 people in the Hararghe administrative region of eastern Ethiopia.

### **Choice of Water Source**

The manner in which people choose between alternative water sources and the criteria they use to do so are largely determined by distance and price factors. Quantity and reliability are of lesser importance.

In most parts of rural Ethiopia, people use whichever source they consider to be the best at the time. They turn to their second choice when the first one is not available. In some places, distance seems to be more of a determining factor than price. People will not usually walk further to an EWRA water supply if there is an alternative source nearer their home, even though that alternative source is dirty. Despite the fact that the EWRA water is free in most parts of the

country, consumers usually use it only after nearer sources have dried up. In some places people use poor quality water from ponds and unimproved shallow wells even though an extra 10 min walk could take them to an improved water source.

Seasonal variation of water consumption is a major factor affecting water use from EWRA supplies. This is mainly due to people using alternative sources during the wet season rather than variations in individual consumption.

### **Water Use in the Household**

In Ethiopia, only 4 percent of the total rural population, the rural population making up about 90 percent of the country's total population of 30 million people, have access to improved water supplies. There are no scientific studies illustrating the social use of water. However, water is generally used for consumption, hygiene, and to a lesser extent for amenities. In the household, water is also used for cooking, washing utensils and clothes, bathing children, and for watering animals. During the dry season, most rural people, particularly the poor, wash themselves and their clothes infrequently, if at all. However, during the wet season, people use considerable quantities of water at the source, predominantly for washing clothes and for personal hygiene.

### **Perception of Water**

People in rural areas have a different perception about water. Their general outlook is different from their urban counterparts who are usually more concerned with quality as well as quantity. In many rural communities in Ethiopia, people pay little attention to the quality of water. They are prepared to drink unclean water. For most rural people, any water is safe to drink. The health impact of an unimproved water supply is not noticed. In most localities, the same source of water, be it ponds, dug wells, or springs, is used for human consumption, washing, bathing, and for watering livestock. This problem is also compounded by poor storage of water when it reaches the home. Water may be

Table 1. Consumption rate survey of 70 families in Hararghe.

Site	No. of households	No. of persons	Total daily consumption (litres)	Average daily per capita consumption (litres)	Average distance (km)	Water source
Jara	3	27	147	5.4	20	Stream, dry season
Tuluguled	3	20	168	8.4	Nil	Use their own cisterns
Kocher	3	12	98	8.2	1.5	Improved spring
Lugo	3	14	160	11.4	0.7	Improved spring
Chinahassen	4	25	149	6.0	0.7	Improved spring
Babile	6	25	165	6.6	1.1	River and shallow well
Barjok	4	17	95	5.6	3	Spring
Erer area	3	15	162	10.8	1	River and riverbed
Harar area	3	13	139	10.7	1.7	Stream
Midegalola	7	40	256	6.4	1.8	EWRA well
Byoweraba	3	13	126	9.7	0.67	EWRA well
Deder area	4	13	165	12.7	0.6	Unimproved source
Jijiga town	5	38	515	13.6	0.44	Municipal public fountain
Hameresa	3	18	210	11.7	0.2	Public fountain
Mieso	2	12	150	12.5	0.7	Municipal public fountain
Mechara	2	13	210	16.2	0.4	Stream from a spring
Jijiga area	4	28	310	11.1	15.5	Nomadic centre carries in large containers on camels
Tuluanot	1	5	40	8.0	2	EWRA well
Gebi Gebu	1	3	14	4.7	4	River and riverbed
Kuni	1	5	45	9.0	0.8	Spring
A. Teferi	1	5	36	7.2	0.9	Spring
Awaday	1	10	105	10.5	0.2	From an individual with a house connection
Kobo (town)	1	6	80	13.3	—	Water vendor
Kobo (area)	2	14	90	6.4	1	Spring

reasonably acceptable and potable at the source, but due to poor and unclean storage it usually becomes contaminated. This poor perception of water has greatly contributed to the deteriorating state of health in the rural areas of the country. Over 70 percent of the prevalent diseases in rural Ethiopia are caused by poor water supply and sanitation.

It is recognized that the only possible way to change the attitude, as well as the consumption pattern in the rural community, is by intensification of water education. In order to avoid the main cause of surface water contamination, i.e., from waste disposal, methods of handling excreta and solid waste must be part of water education. At present, there is a water education project being carried out at the primary school level. The emphasis of the project is on the education of children and women. Such water education programs could result in bringing about changes in attitudes toward the use of water within the household.

The impact of health and water education in transforming family behaviour and attitude toward water use largely depends upon the degree of cooperation between the community, schools, and home. To impart and transfer the desired knowledge, the health education curriculum must be community oriented and less academic in content.

In countries like Ethiopia, where the rural majority has little or no access to rural social services such as schools and health stations, water education programs using the medium of schools suffer from limitations. Well-organized, broader

approaches in the form of national water and sanitation campaigns are required for transferring meaningful knowledge and lasting changes regarding the water perception of the rural masses. A concerted effort to persuade people to adopt the use of improved water supplies would undoubtedly result in a great impact and change of attitudes.

One useful and suitable method of reaching the rural masses, particularly women, would be the effective use of mass media such as radio programs. In Ethiopia, there is a weekly health program transmitted through the radio voice of revolutionary Ethiopia. The content of the program is general environmental sanitation, of which the proper use of water both in the household and at the source is one aspect. In addition to radio programs, the use of local and traditional media such as the street announcer, locally produced printed matter, lectures, exhibitions, drama performances, puppet shows, etc., may provide easier accessibility (WHO 1979).

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