



## Community-based water supply and sanitation improvement

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SAFE WATER SUPPLY and sanitation are essential requirements for improved health and quality of life, for improved productivity, and for sustainable human development. Since the launch of the International Drinking Water Supply and Sanitation Decade (IDWSSD) in 1981, strenuous efforts have been made in the developing world to expand the service coverage. The percentages of the population in the developing world with reasonable access to safe water and sanitation facilities over the period of 1990-96 are estimated at 71 per cent and 39 per cent respectively [UNDP 1997]. Despite these achievements, there are many more people than ever who are yet to be served.

It is widely recognized today that communities and people who are involved in designing and building water supply systems from the very beginning have a greater chance of successfully operating and managing the systems. In low-income countries, water supply schemes are often not affordable to many poor communities. These communities usually depend on financial assistance extended by government or development agencies. Experience shows however that the operation and maintenance performance of those externally provided water supply systems is not satisfactory. Ways and means must be sought to enable people and communities to generate incomes on a sustained basis so that they can cover the recurrent costs for operation and maintenance.

This paper attempts to review, through a case study focusing on a specific project experience in Myanmar, the manner in which community-based water supply and sanitation improvement has been promoted, and also to identify therefrom some policy implications for healthy community development. Special attention is directed to the role of women in livelihood improvement and its

linkage with community water supply and sanitation improvement.

### Health for all by the year 2000

Myanmar, situated in the western corner of Southeast Asia, is a part of tropical Asia with pronounced wet and dry seasons. A long dry season occurs between November and April with hot summer from February to April. Myanmar is divided into five major geo-climatic zones representing various patterns of water availability and use. The heaviest annual precipitation of over 4,000 mm takes place along the coast while the annual precipitation in the central plains and in the mountains on the east and west ranges from 750 mm to 1,500 mm.

The population is estimated at 45.98 million in 1996 with an annual growth rate of 1.84 per cent. Despite abundant natural and human resources, Myanmar's economy had been stagnant up until the early 1990s. The economic policy previously adopted was based on central planning and state ownership of all important means of production. Public sector investment was a main driving force of economic development. It was in the period between 1988 and 1993 that new policies were adopted to transform the national economy towards a market oriented system. In consequence of the economic liberalization measures adopted, positive growth of GDP resumed and averaged 6% a year from 1989 through 1995.

During the IDWSSD a substantial amount of investment was made in the water supply and sanitation sector. Although the progress in rural water supply and sanitation was significant, the overall achievement fell short of the planned target of 50 per cent coverage (table 1). The main factors attributed to the limited progress include:

**Table 1. Population served by water supply and sanitation (population in million)**

**Table 2. Hospital-based data on the incidence of water related diseases (1990-1994)**

- low priority attached to the sector;
- insufficient external resource mobilization;
- weak institutional infrastructure; and
- poor operation and maintenance (Aung Kywe, 1994).

Meanwhile, the sector performance after 1990 is encouraging as can be inferred from table 1. The success may be attributed to the national health policy, which was formulated in 1993 with the objective of achieving the “Health for All by the Year 2000” goals through primary health care with emphasis on environmental health programmes. Among the strategies adopted are:

- development of model villages for environmental health, water supply, sanitation, solid waste management and personal hygiene;
- community involvement and promotion of the role of women; and
- capacity building and institutional strengthening.

It should also be noted that efforts has been made to promote community participation in water supply and

sanitation. The 1993 national health plan envisaged to mobilize community resources as much as three times larger than government input for water supply and sanitation (Aung Kywe, 1994).

Despite the recent progress in water supply and sanitation, the people in Myanmar are still suffering from a variety of water related diseases such as diarrhea, dysentery, typhoid, viral hepatitis and cholera (table 2).

Table 3 shows the types of technology used in water supply and sanitation in Myanmar. Rainwater collection ponds, roof catchment rainwater tank, dug well with hand pump, shallow tube well with hand pump are the popular technologies used in the rural water supply.

### **Water supply and sanitation in the context of community development**

Since water is needed not only for drinking and cooking but for personal hygiene, water must be easily accessible. Otherwise people tend to use other more convenient, but

**Table 3. Types of technology used in rural water supply and sanitation, Myanmar**

often polluted sources. Human wastes must be properly disposed of in order to avoid contamination of water and food and to prevent people from contact with disease vectors and organisms. This is especially important in tropical regions where conditions favor the growth of many disease vectors.

Country experiences reveal that one of the key causes of project failure has been the lack of participation of the people in local water supply and sanitation schemes, and the lack of the sense of ownership of the schemes among the users. Unless users are involved from the very beginning and are given appropriate opportunities to contribute to design, construction, operation and maintenance, there is a danger that the facilities developed through the schemes will not be properly used or maintained.

It has also been found that water supply and sanitation schemes must be planned and implemented in the broader context of community development in order to capture full benefits accruing from investments made. This observation points to three specific policy implications. First, water supply and sanitation schemes must be designed in ways that will enable the communities to enhance their capabilities in initiating and sustaining collective actions. Second, every effort must be made to promote income generation activities among the community members to enhance their ability to participate in the form of labour, cash and/or material contributions towards project construction, operation and maintenance. Third, in view of the fact that fetching water for cooking, child care and cleaning the house is usually done by women, and that they are more concerned about family health and the availability and quality of water for home consumption, the views and opinions of women must be fully reflected on the decisions affecting project design and implementation.

### **A case study of the revolving fund scheme in two townships**

An attempt has been made to review the manner in which community-based water supply and sanitation improvement has been promoted in Myanmar. The case chosen for this review is the revolving fund scheme initiated in 1995 as an integral part of the UNDP/UNCHS Community Water Supply and Sanitation Project. The principal objective of the revolving fund scheme is to provide soft loans to enable groups of villagers to initiate income generation activities.

The scheme has been implemented in some selected villages of two townships, i.e., Kyauk-pa-daung situated in the central dry zone of Myanmar and Ywa-ngan in the southern Shan State. Many village communities in both townships suffer from acute water shortages throughout the year, although water supply schemes were implemented through the National Programme of Action for Water Supply and Sanitation (NPA-WATSAN). Table 4 provides a summary of the main features and achievements of the revolving fund scheme.

The loan beneficiaries were chosen from among the women and youth of landless and marginal farm households in the selected villages. They were encouraged to form a small saving and credit group in each village with no more than 30 members. The groups thus formed made use of the loans extended by the revolving fund scheme to initiate a variety of income generation activities. It has been found that most of the groups in Kyauk-pa-daung (situated in the dry zone) made use of the loans for the rehabilitation of water supply facilities under an agreement with the respective village committees that the groups are allowed to sell part of the water thus made available, while the groups in Ywa-ngan opted to grow cash crops for sale or to initiate other types of business activity. It has also been found that part of the proceeds from the income generation activities were used to construct or renovate community water supply facilities or to support the construction of fly-proof latrines in the villages. Some groups contributed the proceeds to the improvement of elementary schools.

Four important lessons can be drawn from the review of the revolving fund scheme. First, water supply and sanitation projects in low-income communities are effective and sustainable when they are implemented along with income generation schemes to make the community members capable of meeting the recurrent costs for system operation and maintenance. Second, an appropriate form of credit schemes is instrumental in stimulating the disadvantaged groups to initiate income generation activities and also in enhancing their group solidarity. Third, the status of women in rural communities can be significantly enhanced when their access to income earning opportunities is secured. Fourth, women can assume a key role in managing community resources and facilities.

### **Concluding remarks**

Over the recent years, considerable progress has been made in the water supply and sanitation sector of Myanmar. The current sector policy with emphasis on community involvement and promotion of the role of women has to be reinforced in order to further expand the service coverage. Project experiences must be systematically reviewed to draw relevant lessons for designing more effective ways and means to enable local communities to serve as a viable partner in water supply and sanitation improvement. Government can no longer be a sole provider of services. The key role government can assume is to facilitate and stimulate local communities to meet their own needs.

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**Table 4. The revolving fund scheme of the UNDP/UNCHS community water supply and sanitation project**