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Water Supply and Sanitation in Lesotho

M.E. Petlane¹

Policy and Present Status

The policy of the Government of Lesotho on water supply and sanitation is outlined in the responsibilities of a number of government ministries whose activities include water and sanitation. The Ministry of Health and Social Welfare promotes personal and environmental health to prevent and control communicable diseases, the most notable of which are waterborne and sanitation-related diseases such as typhoid (enteric) fever, schistosomiasis (bilharzia), bacillary dysentery, and gastroenteritis in children under the age of 5 years. The Ministry of Rural Development designs programs to ensure that social and economic benefits reach the poor and that government action assists the poor to help themselves. Although the Ministry of Rural Development is responsible for a variety of rural projects, its major and dominant activity is rural water supply, primarily on a self-help basis. The ministry is also involved in rural sanitation, as part of a nationwide integrated hygiene program. The Water and Sewerage Branch of the Ministry of Water, Energy and Mining is responsible for development, operation, and maintenance of urban water supply and sewerage schemes in Lesotho. The Ministry of Interior is responsible for excreta and refuse disposal in urban areas.

Basically, the policy of the Government of Lesotho on drinking water and sanitation is to make these services available to both urban and rural communities through different government ministries; the selfhelp approach being used wherever feasible. The government's social objectives are reflected in the water sector policies in the Third Plan (1980-1985) objectives, which are to increase social welfare; promote social justice; protect the land and water resource base and exploit it to the fullest extent; and ensure deeper involvement and fuller participation of the community in national development. The plan also emphasizes the need to enhance the well-being of the rural population.

A proposal has already been made that various government ministries and departments involved in water and sanitation meet under the chairmanship of the Central Planning and Development Office. An interministerial action committee was established in 1976 to monitor the primary school sanitation project. This committee was comprised of representatives from the Ministry of Health (convener and chairmanship), Ministry of Interior, Ministry of Education, Ministry of Rural Development, and the United Nations Development Programme (UNDP). This committee has been inactive for some time but its reestablishment is being considered.

Urban Water Supply

Lesotho has 10 administrative districts. Each town has its own urban water supply for which the Water and Sewerage Branch of the Ministry of Water, Energy and Mining is responsible. The supply in most of the

¹Chief Health Educator, Ministry of Health, Maseru, Lesotho.

towns is generally from different sources. including springs, boreholes, streams, storage reservoirs, and run-of-river intakes. Water is supplied from these sources to standpipes or private connections; the latter are either metered or charged at a flat rate if unmetered. It has been estimated that in 1975, 57% (14 400) of Maseru's (the capital of Lesotho) population had access to treated piped water private connections; the remainder of the population had access to piped water at standpipes, private boreholes, or open water courses. At the end of 1974, the Maseru water supply comprised 2416 metered connections, 300 unmetered connections, and 33 public standpipes, which served about 6000 people. Details on other urban centres within other districts are not readily available.

Rural Water Supply

Provision of water in rural areas is primarily the responsibility of the Ministry of Rural Development. Most water for consumption comes from springs or boreholes; gravity-fed systems are provided where feasible. The involvement of the Ministry of Health in the provision of water supplies in rural areas is primarily in the area of controlling outbreaks of water-related diseases. In 1975, it was estimated that there were less than 250 piped supplies serving 98 500 people or 8.9% of the rural population. Another 3% of the rural population had protected springs. At the end of the Second Plan period, i.e., the beginning of 1980, there were 330 water supply schemes serving about 126000 people or 10.3% of the rural population.

Rural Sanitation

A small number of relatively well-off households have individual pit latrines, possibly between 4 and 13% in the lowlands and 3% or less in the mountain areas. The current primary school sanitation project was supposed to cover 600 schools during phase 1 and phase 2 would cover other primary schools within the country. This project experienced serious difficulties, however, and became inactive when only about 12.6% of the target had been reached. Efforts are underway to reactivate this project.

Urban Sanitation

The present status of urban sanitation is well summarized as follows:2 "Where sanitation exists in the urban areas, it is generally by either septic tank or pit latrines — in some cases by the bucket system. Maseru has a waterborne sewerage system which is in the final stages of major extensions. Currently, approximately 10000 of the population in western and central Maseru are on the system. The new extension which has biological filtration, cold digestion and final effluent chlorination will cater for a 1988 connected population (in western and central Maseru) of 23000 . . . There is a fairly extensive bucket latrine system in Maseru run by the Ministry of Interior (Maseru town clerk office). There are 6000 buckets in Maseru (the population service is not currently known) The water and sewerage department operates a vacuum tanker service which serves a population of some 2500."

Water supply and sanitation are constrained by: (1) the organization, and in many instances the inaccessibility and size, of some villages will make installation and, in some cases, the operation of village water supplies, calculated on a per capita basis, prohibitively expensive; (2) in many parts of the country, particularly the mountain areas, the topography precludes reliance upon the low-cost earth toilet structure as a means of improving the state of sanitation in the villages; (3) there is poor organization and a lack of coordination within the water sector between participating agencies; (4) there is a shortage of funds for recurrent costs; (5) some villages derive their water from seasonal sources that run dry during certain periods; and (6) there is insufficient health education coverage and impact to create the necessary climate for health promoting hygienic measures.

²Extracted from a memorandum by G. Read, consultant, UNDP project GLO/78/006, dated 5 January 1979.

National Sector Plans for the Decade

National development plans, which include water and sanitation sector activities. are prepared every 5 years. Annual plans are prepared for the capital development budget. In general, the objectives are to improve the general health status and social well-being of the underserved population, particularly the lower stratum. Specific objectives include: (1) during the third 5 year plan (1980-1985) the Ministry of Rural Development plans to construct 195 new water supplies and rebuild 83 existing schemes; (2) construction and maintenance capacities will be strengthened; (3) strengthening of planning and implementation of rural sanitation programs will be undertaken through a 3 year pilot project; (4) a nationwide integrated hygiene program will be designed, based on research from the 3 year pilot project; (5) health education programs will be strengthened and intensified: it is suggested that health education should provide information on growth and development of the individual; the relationship between the state of the environment and an individual's health; personal health practices; physical, social, mental, economic, and cultural factors and their affect on health; and protection and promotion of health as an individual. community, and international responsibility; (6) training of personnel for the water sector will be increased; and (7) the construction of water supply systems in 13 towns will be completed and the reticulation systems will be extended.

Policy Shifts Regarding Service Level

There are definite policy shifts regarding service level as more and more emphasis is placed on correcting the imbalances between services rendered for the rural and peri-urban areas. There is also recognition of the need to create and strengthen a health delivery infrastructure that is more oriented and better suited to preventive, promotive, and rehabilitative health care. An integrated approach to the provision of the basic services through primary health care is needed. These shifts auger well for sector development and the betterment of service levels.

Plans for Public Information

Public information programs are designed primarily to involve project beneficiaries in all phases of program development and to correct the lack of information and knowledge regarding benefits that can accrue to communities that avail themselves of acceptable water supply and sanitation systems.

Health Education Support

It is a well recognized fact that the provision of safe drinking water and sanitation systems in rural and other underserved areas is not enough unless complemented by health education for the people. Without such education, the incidence of waterborne and sanitationrelated diseases is not likely to be reduced. It is for this reason that the planned rural water and sanitation programs include health education components in the form of technical assistance, training of local personnel, research, and other inputs intended to strengthen the Health Education Unit of the Ministry of Health.

Procedures for Project Identification

At the village level, village development committees identify their needs and make a request to the district community development officer. In the case of water supply, the request is then passed on to the Ministry of Rural Development. Other development activities are coordinated by the district development committees, which are also responsible for securing the involvement of the people through their representatives. At the central level, ministries have planning units that coordinate sector plans for submission to the Central Planning and Development Office for approval and also to seek financing for approved projects.

Mobilization of Internal Resources

Allocation of Development Funds to the Sector

The allocation of development funds to the water sector is increasing in relation to the total national development budget due to the fact that water and sanitation are components of the basic infrastructure and also because of the government's policy to improve the health status and general wellbeing of the underserved population. It is not possible, however, to provide details of the extent of funds allocated to the sector due to the number of ministries and departments involved. Internal resources include self-help labour and other Government of Lesotho financial inputs. Table 1 indicates the financial inputs of the Government of Lesotho as reflected in the capital budget of financial year April 1978 to March 1979. A total of 1654900 maloti represents the Government of Lesotho funds in the budget for water and sewerage projects during the financial year 1978-1979. During the same year, total domestic resources amounted to 20 276 541 maloti. This means the sector was allocated 8.16% of the domestic resources.

Recurrent Allocations for Operation and Maintenance

Recurrent costs for operations within the sector are partly borne by the consumer, particularly in urban areas where there are charges for water and sewerage services. In rural areas, village committees are responsible for the mobilization of resources for the maintenance of water systems. To determine the relationship between recurrent allocations and development funds is not possible at this time.

Tariff Policy for the Sector

In urban areas, tariffs are levied for water consumed, where metered; for connecting sewerage disposal systems (where water carriage is provided); and for serving of septic conservancy tanks and buckets. Such tariffs are adjusted, as is economically and socially feasible, to cover, as much as possible, the operating and maintenance costs, including amortization of capital investments. In rural areas, the tariff policy is yet to be clearly defined. As far as meeting operating and maintenance costs, wherever possible, the government's position is that village committees should arrange for the generation of funds within the villages to meet such costs.

Ministry	Project	Total cost (maloti) (1 maloti = U.S.\$1.32)
Health	Nkau water supply	5000
Education	National University water and sewerage	226000
Interior	Sanitary services	233900
Works	Maseru sewerage	339000
	Maseru sewerage	300000
	Mafeteng reservoir	46000
	Township water supplies Industrial sewer Seapoint reticulation	273000 62000 20000
Rural		
Development	Village water supply	150000

Table 1. Financial inputs of the Government of Lesotho in water supply and sanitation.

Manpower Development

The need to develop appropriately trained manpower at all levels is recognized. Efforts are being directed toward providing fellowships to local candidates to undertake studies in sector-related disciplines.

In Lesotho, there is a need to conduct a preliminary survey of existing manpower that can be used in sanitation programs. The need for training should then be quantified. The Ministry of Health, Environmental Health Section, is the key department responsible for the training of sanitation workers (health assistants). These multipurpose health workers undergo a 2 year training program that includes germ theory, types of latrines and methods of installation, water supply in small communities, health education, and community organization skills. At present, 12 students are trained every 2 years. Of these, about four resign to go and work elsewhere and eight are posted in rural health centres and districts to take care of sanitation activities.

The Ministry of Community and Rural Development also produces a cadre called community development agents. These are high school graduates with "0" level or equivalent. The trainees undergo a 1-2 month program on community organization, village water supply, and latrine installation. This training is supported by regular workshops and seminars that are held locally and internationally. An average of about 10 graduates are produced every year. It is not known how many of these stay on the job. Also, the rate of upward mobility of these officers to become technicians is not clear.

Nurse Clinician Training

With the technical and financial assistance of the United States Agency for International Development (USAID) (University of Hawaii), the Ministry of Health will be mounting a training course for this cadre of health worker. It is envisaged that there will be a strong preventive health component in the training of this cadre. They will be expected to, in addition to providing curative health services in a rural setting, be responsible for the training and supervision of village health workers. This means that they will have to improve their knowledge and skills in order to teach villagers about sanitation and the provision of safe drinking water. The mechanism by which they will supervise village health workers is not clear, particularly when one considers the great demand for preventive health services in rural clinics where there is no doctor. Trainees are selected from those midwives who have had about 5 years of field experience in the profession.

Nurse Training Programs

The Health Education Unit of the Ministry of Health has been involved in efforts to include a public health aspect in several nurse training as well as midwife programs. Lectures are given on health education methods, environmental health, nutrition, MCH, and other topics. Before these students graduate they are taken to a rural health centre to gain practical experience in community organization, latrine siting, and other areas. Four nurse training schools are beginning to adopt this approach in their programs. One school is under government supervision and the other three are under the supervision of mission hospitals. The mission hospitals are members of the Private Health Association of Lesotho (PHAL), which has a very close working relationship with the Health Education Unit of the Ministry of Health.

Agricultural Training College

This college provides 2.5 year training courses for (1) extension workers who will be stationed in rural areas to advise farmers on farming methods and (2) home economics (nutrition) extension workers. The college has a 2 year diploma course for extension workers who have been in the field for some time. So far, health personnel have been giving lectures on environmental sanitation, human physiology and anatomy, and health education skills only to the home economics students. These other groups also need to be covered.

Health Education in Schools

The teaching of health in schools has been incidental. The Ministry of Education

recognizes the need for health education as well as the provision of health services in schools. A national workshop on curriculum development was recently held and health was one area of emphasis. The National Teacher Training College (NTTC) is also seriously considering producing teachers better trained to teach health. Through close collaboration between the Ministry of Education and the Ministry of Health, two health texts have been developed. Posters and flip charts have been developed for use by teachers and students. The United Nations Children's Fund (UNICEF) provided funds for this purpose. Teachers' workshops on health have been held on an ad hoc basis. So far only one teacher has been trained by the Health Education Unit staff to teach health in the single ecumenical school (vocational school).

In-Service Training and Workshops

The following in-service training programs and workshops are being carried out: (1) the Health Education Unit has collaborated with the Ministry of Agriculture, Nutrition Section, to conduct in-service training for their home economic assistants in the field; (2) the United Nations Children's Fund has continued to assist the Ministry of Health to conduct public health orientation/refresher courses for nurses in the field, with sanitation being one area of emphasis; (3) the Health Education Unit gives lectures and health education materials to community development agents during their workshops; (4) workshops are held for nurses and field workers by the Lesotho Family Planning Association (LFPA); and (5) training of nurses to work as village health worker teachers and the production of materials to be used by these village health workers when they are back in their villages is being carried out.

Training Village Health Workers

The Health Education Unit has worked with district health and related personnel, i.e., health inspectors, public health nurses, and home economics assistants, to help identify and train prospective village health workers. One specific area that has had to be emphasized is latrine installation and safe water supply because of a high incidence of typhoid and dysentery in children. The Housing Corporation has sought input from the Health Education Unit to train a similar cadre of health service providers in the urban Maseru area, where a new type of latrine is to be experimented with.

Additional Training Requirements

Some of the additional training needs include: (1) additional and better organized training programs and in-service training for environmental health personnel (health inspectors, health assistants, etc.) and related staff dealing with different methods of latrine and water supply installations; this would help reestablish the school latrine project, funded by the United Nations Capital Development Fund, which was halted because of some technical and administrative problems late in 1979; (2) workshops for teachers on sanitation and health; and (3) workshops and seminars for health and other personnel engaged in the provision of sanitation services.

Constraints Related to Technical Cooperation and Financial Assistance

Some of the factors affecting technical cooperation and the provision of funding include: (1) recruitment of experienced personnel for the sector is sometimes difficult; (2) recruited personnel sometimes have difficulty in applying their skills in a country where the conditions differ from those they are familiar with; (3) accommodation for expatriate personnel has been a problem; (4) complicated disbursement procedures of some donors lead to delays in project implementation; (5) there is a lack of local managerial and administrative skills for project implementation; and (6) there is an inadequate implementation capacity at different levels.

Some of these difficulties could be eliminated through the following methods: (1) intensifying training of locals in relevant fields; (2) if offered outside the country, training sites which have conditions similar to those that the individual will be working under upon completion of the training should be used; (3) project proposals should include staff accommodation; and (4) projects should, as much as possible, include strengthening of national planning and administrative capabilities.

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