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## **“We want water, not gold”**

A study in the dry-zone township of Ayadaw, Burma, has shown that the success of health development activities is largely attributable to collective leadership, viable community organization, balance between local and central priorities, the use of appropriate interventions and technology, community participation, and the maintenance of a proper community financing system. The Ayadaw township People's Health Plan Committee was awarded the 1986 Sasakawa Health Prize at the Thirty-ninth World Health Assembly.

Burma is an agricultural country with an estimated population of over 36 million, of whom 75% live in rural areas. Many people still suffer from malaria, tuberculosis, leprosy, diarrhoeal diseases, measles, or other diseases, and there are widespread problems related to mothers and children, such as protein-energy malnutrition, nutritional anaemia of mothers, and high infant mortality. The inadequacy of the health services is attributable in considerable measure to climatic and geographical conditions that make transportation, communications and vector control difficult. Problems also arise because of the sparsity of population, the diversity of ethnic groups, and poor health education.

The country's development policy is particularly concerned with social equity,

decentralization of planning and management, community involvement, and national self-reliance. The health sector is being developed within the framework of long- and medium-term socioeconomic plans. The planning process is based on the country health programming methodology advocated by the World Health Organization. A series of people's health plans aims to raise health standards as an investment in the overall development of Burma's human resources. These plans include service programmes for community health care, disease control, environmental health, and hospital care, together with support programmes for health education, health manpower development, logistics and maintenance of drugs and equipment, and health laboratories. Programmes for health information services and health systems research are incorporated throughout and there is a mechanism for monitoring and evaluation of the implementation of the health-for-all strategies and plan of action.

By early 1980 it was clear that Ayadaw township was achieving substantially more than others in health and health-related

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**Implementation of health programmes in Ayadaw township and nationally**

Indicators	Ayadaw		National in 1985
	1973	1985	
Infant mortality rate per 1000 live births	63.1	50.1	80.0
Maternal mortality rate per 1000 live births	0.7	0.0	2.1
% population access to safe water	1.2	97.2	30.0
% population with access to sanitation	1.0	90.0	25.0
% villages with a primary health care worker	15.0	100.0	52.0
% births attended by trained personnel	40.0	100.0	65.0
Immunization coverage (BCG and DT) for children under 1 year old (%)	0.0	60.0	50.0
Population per rural health centre (1000s)	33.0	24.5	22.0
Per capita income (US\$)	68.0	135.0	220.0

Sources: U Than Sein, *Health and development, a case of Ayadaw township*. Department of Health, Rangoon, 1985. *Health for all 2000: strategies and plan of action, review of progress*. Department of Health, Rangoon, 1985 (unpublished document).

development activities. The table shows how Ayadaw township successfully implemented health programmes, especially in respect of water supply and sanitation. The great demand for water was met by drilling 141 tube-wells during a 10-year period, so that there was one per village. Much community time, energy and money were invested in this activity, but the venture proved viable in that it led to an increase in the time available for work, with the result that incomes increased. The implementation of the programme induced the community to work closely in partnership with the health system. When the local health staff raised the matter of sanitation, the villagers willingly offered their cooperation. Within a few years, almost every household had a sanitary latrine. These activities were possible because of the strong infrastructure

of the health system, based on a network of voluntary health workers.

Although agriculture is the main economic activity in Ayadaw, only 81% of the land area is under cultivation. On average, only 8% is irrigated, the rest depending on rainfall. The main crops are cotton, sesame, groundnuts, pulses, rice and vegetables. The selling of *thanaka* bark for the cosmetics industry, the production of jaggery (brown sugar) from toddy palm, and home industries, notably textile manufacture, based on agricultural products, have expanded rapidly in recent years.

Because of a long tradition of education by monks, Ayadaw had an adult literacy rate of 60% even before the national literacy campaign was introduced in 1972. This campaign brought the community into contact with university students, and thus led to a broad education process. The community contributed a large sum of money to promote formal education so that future generations would be better able to work in a modern economy.

**People's Health Plan**

Ayadaw now has a township hospital and a station hospital, each with 16 beds; there are also five rural health centres, 20 rural health subunits, one maternal and child health centre with a town health unit attached, four allopathic cooperative health clinics, and one traditional medicine cooperative clinic. About 80 technical staff work full-time in these facilities. In addition, there are 146 community health workers, 26 auxiliary midwives, and 2500 ten-household health workers, all working as volunteers, after training by the township health department. The network of basic health services staff and volunteer health workers plays a vital role in encouraging the

community to participate in health development activities, in collaboration with local party and council members.

The main trigger to Ayadaw's health development was the launching of the People's Health Plan, which aimed to foster self-reliance. Although drawn up by the central health authorities, it gave the local people the chance to evolve, expand and strengthen their health development activities. It was recognized that the main challenge facing technical staff was that of encouraging people to improve their health by their own efforts. Volunteer health workers were assigned tasks intended to satisfy urgent needs of the community. This was a great challenge for village people whose livelihood depended on agricultural activities.

## Water

Since the People's Health Plan was introduced in 1978, the water supply and sanitation programme has been one of the country's major health service programmes, as part of the national development plan under the International Water Supply and Sanitation Decade. The main objective is to provide a safe and adequate water supply by drilling deep tube-wells in the dry zone. The first four-year plan involved drilling 3000 such wells and installing pumps. The community was asked to provide labour, to pay for transport, and to construct water tanks; in some places the cost of constructing the water distribution system was also borne by the community. During the second period of the People's Health Plan, the Health Department launched a latrine construction programme in places where the community was willing to do the building work. The aim was that at least 50% of families should have access to sanitary latrines.

Water was so scarce in Ayadaw that the main slogan of the community became “We want water, not gold”. Under the supervision and guidance of the local party and council, the township People's Health Plan Committee launched a water supply programme. From 1975 to 1985, 141 tube-wells were drilled, pumping machines were installed, and water tanks and distribution points were constructed. The whole programme was closely supported and supervised by the Rural Water Supply Division of the Agricultural Mechanization Department. As a consequence of the programme, about 97% of the population have access to safe water, the water consumption per capita per day increased from less than four gallons in 1973 to around ten gallons in 1985, and the time adults spent carrying water was roughly halved. This allowed an increase in the time they dedicated to farming activities, and there was an associated increase in livestock numbers.

In some villages with artesian wells, surplus water has been used to irrigate both food and cash crops. Bananas, which were scarce about ten years ago, are now plentiful and

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cheap. The Agricultural Department has assisted by introducing techniques for producing improved crop yields. A shift has occurred from growing one crop to growing two or three that ripen at different times. This has increased productivity per acre

two- or threefold, thus raising family incomes considerably.

## Sanitation

In 1978, after a safe water supply had been secured, the township party leaders and people's council began to coordinate community action for the provision of proper sanitation facilities, then available to only about 10% of the rural population. Working committees were formed under the township committee and villages were selected for pilot activities. In order to qualify, a village had to have a moderate to good economy; the community had to be fully supportive of its people's council in this matter; there had to be leaders, usually non-formal in character, who could provide an example; the village had to be of moderate size and situated on a road; a tube-well water supply had to be present; and there had to be a prospect that the

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benefits of the sanitation programme would be easy to demonstrate.

In the selected villages, an educational campaign dealt with diseases carried by water and human waste, the benefits of safe water and sanitation, and the activities required of villagers to combat adverse

sanitary conditions. Funds were collected from all households to cover certain costs, e.g., those of transporting cement. Labour was obtained to collect plastic pans, cement, chicken wire, and zinc sheets from the supply depot. Local masons were trained in the production of ferro-cement squatting plates, which took place in the township hospital compound. The pans and squatting plates were distributed in accordance with the availability of water and the ability of families to pay for them. Demonstrations were given by local staff of the basic health services and by volunteer health workers on the building of sanitary latrines, the different models available, and the use of local construction materials.

The construction of latrines was supervised by the village working committees, and frequent supervisory visits were made and encouragement given by the township party, people's council, and health officials. The township people's council arranged for the experiences of latrine construction and utilization to be shared with leaders of other communities. Other villages were motivated to follow the pattern of construction and use of sanitation facilities set by families in model villages, through monthly meetings of the township party and the people's council. The utilization and acceptance of latrines by families was evaluated, and advice on the proper use of latrines was given to those families who needed it.

The following factors appear to have favoured the latrine programme:

- community involvement at all stages from planning to evaluation and reprogramming;
- decentralization of decision-making on the type and siting of latrines;
- prestige obtained by the publicizing of successful implementation;

- willingness of the community to share experiences;
- effective leadership and supervision by senior personnel;
- cohesiveness and sense of collective responsibility in the community;
- the latrines were odourless, fly-proof, comfortable, easily accessible, and inexpensive, required only small amounts of water, and presented the user with a reduced risk of poisonous snake bites.

Sanitation has also been improved by cleansing procedures and the utilization of garbage pits by each household. Traditionally, there has been a tendency to accumulate garbage around houses and to store animal manure in a corner of the domestic compound. Villagers were asked to dig pits measuring approximately 1×1× $\frac{3}{4}$  metres for all garbage and animal manure and to cover them with ashes so that flies would not gain access. The decomposed material from the pits was used as a first-class fertilizer. High-yield production of cotton and beans was promoted simultaneously, and thus the improvement of health through sanitation indirectly helped to increase agricultural production.

Another factor in the promotion of sanitation was a competition in which the following criteria were used in selecting the best village:

- use of safe water from tube-wells;
- existence of one sanitary latrine per house;
- collection of garbage in pits and utilization of compost as fertilizer;
- participation of community sanitation measures, garbage-pit construction, and related activities;

- maintenance of records, drawing up of reports on progress, and suggestion of action to improve matters by the community.

The township evaluation team inspected the villages and gave the final marks. Marks were deducted in accordance with the following scale.

Findings	Maximum deduction
Unsanitary carrying, storage and use of water, including the use of domestic waste-water (waste-water can be used for animals or for flushing toilets)	15
Defecation on roadsides or in other public places, and inside compounds	20
Failure to use latrines or use of bush method	10
Improper garbage disposal; dirty domestic compounds and village streets	15
Failure to observe instructions of the village planning committee by:	
— resistance to latrine construction;	5
— resistance to digging garbage pits;	5
— failure to report and failure to explain why instructions not followed	5

Of 161 villages and wards, 27 villages were selected as models for sanitation over a four-year period of implementation. This method of competition encouraged other villages to participate more in the programme. If all the villages and wards are upgraded to model status, the whole township will become a “model for sanitation”.

### Finance

Over and above the inputs provided by central government, e.g., drug kits, drilling

rigs, pipes, pumping machines, cement, plastic pans, and training, the community contributes to the capital and current costs of health and health-related development activities. A total of kyats 11.5 million (US\$ 1.6 million) was raised by the

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community for capital expenditure between 1975 and 1985. The recurrent cost of medicines, fuel for pumping machines, remuneration for pump operators and volunteer health workers, school meals, and so on, amounts to kyats 9 million (US\$ 1.3 million) annually. Funds for capital and recurrent expenditure are obtained as follows.

- The township's wealthy families are especially asked to help, and the names of those who contribute are displayed prominently on a public notice board.
- Village leaders ask their communities to contribute funds as necessary. The donors' names are displayed or announced over public address systems. In addition, donation boxes are permanently in place so that gifts can be made at any time.
- Village leaders sometimes collect funds in proportion to family income.
- Each family contributes a fixed proportion of its produce, including rice, cotton and beans, which is sold annually.
- The funds initially raised as contributions from families are invested in economic activities such as jaggery production, the income from which is reinvested in

commercial enterprises. Investment decisions are made collectively by village elders.

### Community organization

In Burma, collective leadership is found at all levels of organization. The community's response to it helps to transform the health-for-all goals into reality. Sector professionals become generalists working for community development. Everybody contributes ideas with the common objective of raising living standards.

Village-level development depends, in large part, on the ability of the community to plan, implement, supervise and evaluate its own efforts. The collection of funds on a large scale, the construction of buildings, and the sustained labours of volunteer health workers, are endeavours that continue for years and could not do so satisfactorily without community organization as seen in Ayadaw. The formation of effective community groups requires representation from political, administrative and technical personnel and the support of community members who are ready to help others. Local groups need proper guidance from a higher level. Everybody has to be free to present their ideas and feelings on the programme. After collective decisions have been made, each person takes on particular tasks. Usually the elders are responsible for planning, the younger people for implementation.

Health development in Ayadaw was undertaken by the township People's Health Plan Committee, presided over by the chairman of the township's branch of the Burma Socialist Programme Party. The chairman of the township peoples' council was vice-chairman; the secretary and the joint secretary were the township medical

officer and township health officer respectively. The committee members came from mass organizations, health-related departments and corporations, cooperatives, and voluntary organizations. Similarly structured village-level committees were set up. These committees established links with all other groups active in the community. The combined leadership of the party and the peoples' council in the committees brought together the political, administrative and technical staffs and the community members to work in partnership for the betterment of the whole community. The successful experience of Ayadaw township

shows that a close-knit community organization can be a vital force in health development.

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The Ayadaw case study has thrown light on how community organization evolved in relation to primary health care. It has also indicated effective mechanisms of technology transfer and has shown the importance of timing and sequencing of steps taken for the implementation of health development plans. Further study should help towards planning the expansion of community participation in this work. □

## *Yellow fever—routine immunization of population at risk*

*Yellow fever is a zoonosis which is impossible to control and which is capable of causing dramatic epidemics in human populations. These epidemics are unpredictable and sometimes difficult to detect at an early stage. The year 1986 was marked by an important epidemic of yellow fever in Nigeria with 3291 reported cases and 623 deaths. Four South American countries reported 159 cases and 131 deaths. Close clinical surveillance by properly trained and alert health-care staff is needed for detection of cases. Virological and/or serological confirmation of suspected cases requires access to national or regional laboratories. In areas where the risk of epidemics is high (tropical Africa) the prevention of epidemics depends on the development of routine immunization of the population at risk.*

— *Weekly epidemiological record*, No. 49,  
4 December 1987, page 371.