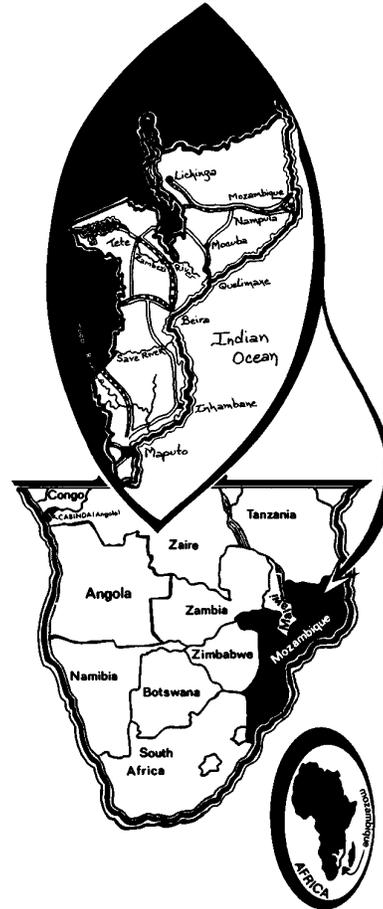


Community Based Diarrhea Control in Mozambique

Commitment to *Health for All* Amidst War

Following liberation from the colonial rule of the Portuguese in 1975, the new popular government of Mozambique, headed by FRELIMO (the Front for the Liberation of Mozambique), began the process of social and economic restructuring to better meet the needs of all the country's people. Declaring health a basic right, the Health Ministry set out to build a network of health centers and health posts, and to train a legion of community health workers supported by paramedics, nurses and doctors to provide basic, but comprehensive primary health care to the entire population. The initiative focused on rural areas, where needs were greatest.

Combined with a strong emphasis on agriculture, nutrition, and education, this comprehensive initiative to improve health started to yield results. In spite of severe economic difficulties and a shortage of trained personnel, child mortality dropped and life expectancy increased dramatically. Unfortunately, this positive trend was interrupted by the escalation of terrorist attacks by the South Africa-sponsored paramilitary organization RENAMO (Mozambique National Resistance). But in spite of the relentless destabilization tactics by RENAMO and the staggering costs of fighting the brutal war, courageous efforts to help the people meet their health needs continued.



Problems with the Standard ORS Approach

In Mozambique, as in other poor countries, diarrhea has been a major killer of children. Soon after liberation Mozambique launched a comprehensive, multi-sectoral campaign against diarrheal disease. Components included:

- promotion of Oral Rehydration Therapy (ORT);
- promotion of *breastfeeding*, with legislated restrictions on the availability of baby bottles and artificial milk;
- *vaccination* campaigns against infectious diseases that cause diarrhea and weaken children's resistance to diarrheal disease (such as measles);

- *growth monitoring* of children under five, with counseling to parents. And, in critical cases, *food supplements* to underweight children;
- *health and sanitation education* through a variety of media, including radio, public loudspeakers, and the rural newspaper called *O Campo*;
- measures to improve *sanitation* and introduce the use of latrines;
- improvements in *water supply*.

While all these activities helped, it was recognized that reducing the incidence and severity of diarrhea is a difficult long-term process that depends, above all else, on

improving the economy and living conditions of the entire population. Given the logistical and economic constraints, the Ministry of Health decided that the best stop-gap option was to focus diarrhea control efforts on oral rehydration therapy.

In doing this, the ministry loosely followed the WHO and UNICEF guidelines emphasizing the production and use of ORS packets, working with the United Nations Industrial Development Organization to construct a factory to produce ORS packets in the city of Beira. The factory began production in March 1983, with a target of two million packets a year—an output that, to the best of our knowledge, was never reached.

Evaluations in 1985, two years after the Beira factory had opened, showed that the introduction of ORS packets had not significantly reduced child mortality from diarrhea. The under-five mortality rate (U5MR) for Mozambique as a whole was between 252 and 375 per 1,000, one of the highest rates in the world.⁴ In Beira itself, the death rate from diarrhea among children under five remained very high, with diarrhea taking the lives of 14.7 percent of all children under five, or about 40% of all child deaths.⁵

A subsequent analysis gave the following reasons for the failure of Mozambique's initial ORT strategy:

- terrorism that obstructed factory production of packets, destroyed avenues and means of transportation, burned down health posts, and often targeted health workers;
- inadequate packet supply and difficulty in supplying outlying areas;
- medicalization of ORS—including people's belief that ORS is a medicine that stops or slows down the

diarrhea (which it does not), or that it can be taken like other anti-diarrheal drugs for children: 1 spoonful 4 times a day (far too little to do any good);

- the common practice of giving only one packet per episode of diarrhea;
- inadequate and inappropriate education, with a continuation of authoritarian colonial teaching methods;
- insufficient consideration of people's beliefs, traditions, and home remedies;
- inadequate health infrastructure, especially in remote parts of the country⁶

Seeking the Advice of Village Women

Realizing that the standard WHO/UNICEF approach was not working adequately in their country, the Mozambique Ministry of Health decided to explore alternatives that might better respond to the special needs of their situation. A look at hospital mortality data from different parts of the country revealed that the death rate of children from diarrhea in the vicinity of Inhambane on the southern coast was lower than in most other parts of Mozambique. An investigation of health center records and interviews with mothers confirmed this observation.

A team from the Ministry of Health decided to learn from the mothers of Inhambane what they were doing that might explain the exceptionally low child mortality rate from diarrhea in the area. The team met with a group of 40 mothers from a poor, semi-rural *barrio* of the city. The health officials opened the meeting by informing the women that they had come to them to ask for their help. They explained that Mozambique's diarrhea control program, based on the recommendations of foreign experts, was failing—except in the Inhambane area. The mothers confirmed that few of their babies had died from diarrhea: of the 40 mothers present, only one said she had lost a child to diarrhea. However, they admitted that their babies fell ill with diarrhea quite often.

Initially, the mothers were reluctant to speak openly, and told officials what they thought they wanted to hear—that they were all using



ORS packets, just as they had been taught. Later, once assured they could speak honestly, they admitted that they had tried ORS but were no longer using it because the health center was far away, and often it had run out of packets. If the center did have packets, it would only give a mother one at a time—just enough to begin treatment. In any case, the ORS medicine tasted bad; often their child refused it. And if they could get the child to drink it, it did not even slow down the diarrhea! So why bother?

The health officials continued their questions: if the mothers of Inhambane were not using ORS, then what were they giving to treat their children's diarrhea? The mothers said they had gone back to their traditional remedies. They were giving their babies drinks which they made with ground-up maize, or rice flour, or certain native tubers, or they made drinks from cooked or roasted wheat flour donated to the area for famine relief. They would put about one tablespoonful of the finely mashed cereal in a glass of water. These drinks obviously worked better than the ORS packets, the mothers explained, because they quickly slowed down the diarrhea. And the children liked them better. In addition, the home drinks cost almost nothing—much less than the bus fare to the health center.

The health officials recognized that this successful traditional method of treating diarrhea practiced by the



School children in Mozambique are involved in participatory epidemiology of diarrheal disease.

Inhambane mothers was strikingly similar to cereal-based ORT. After a long debate, the Mozambique Health Ministry decided to try a pilot program with the possibility of revising its national diarrheal disease control program—in line with the experience and advice of local village women.

The pilot program in Nampula

The pilot community and school-based diarrhea control program was initiated on a small scale in the rural area outside Nampula, in the north of Mozambique. Although the program was selective in that it focused on the problem of child diarrhea, from another perspective it was unusually comprehensive. Rather than being restricted to the health sector, it involved close collaboration between the ministries of health and education. The educational component of the pilot program was in some ways revolutionary (in keeping with the goals for a new, more egalitarian society in Mozambique). By introducing participatory, problem-solving learning methods into primary schools, and by involving both teachers and schoolchildren in practical action related to community needs, the pilot program addressed one of the major barriers to social progress in Third World countries: that of an archaic, authoritarian school system.

Mozambique's attempt to transform its public schools was quite a challenge. In most Third World countries the educational system, like the health system, has failed to meet the most pressing needs of ordinary people, and for similar reasons. It is a relic from colonial times, based more on the needs of the colonizers than of the colonized. To colonial rulers, education of the "natives" meant stern discipline, good work habits, and obedient, unquestioning respect for authority. It did not help students learn to think for themselves, develop problem-solving skills, or to analyze and take organized action to meet their most pressing needs. From the colonial perspective (or the perspective of any elitist, nonrepresentative government) education—and especially literacy—is a double-edged sword. On the one hand, it can inculcate standardized behavior and instruct people in the new skills needed for a productive and compliant work force. But on the other hand, it can open avenues of communication and empowerment that could be dangerous in the hands and minds of a subjugated people. In this sense, education is potentially subversive. Not surprisingly, therefore, the colonial school system was based on rote learning, parrot-like repetition of facts, and unquestioning, subservient submission to rules, norms, codes, limits, schedules, time-tables, restrictions, and other forms of psychosocial incarceration designed to teach children

and other second-class citizens their designated stations in an unfair and hierarchical society. What is more, much of the subject matter taught in colonial schools was based on the life and times of the European colonizers, and was largely irrelevant to the needs and lives of poor rural people in the South.

After independence, the new Mozambique government aimed to make educational content and methodology more relevant to the daily reality and needs of the children, their families, and communities. To achieve this, the government encouraged close intersectoral collaboration between the Ministry of Health and the Ministry of Education. So, in the early planning phase of the pilot project, a meeting of high officials of the two ministries was held.

The goal was to teach information that would be of immediate value to the children and their families. The idea of involving the school children in a pioneering venture to save the lives of their baby brothers and sisters as part of their basic schooling was perfectly suited to this objective. The pilot program was therefore launched as a joint project of both ministries. The enthusiasm on both sides and at all levels—from planners to facilitators to teachers to children—was impressive.

Perhaps the most revolutionary component of this pilot project was what might be called *participatory epidemiology*: involving teachers and children in collecting, recording, and analyzing health information in their communities, in conjunction with research by the Ministry of Health. In this way schoolchildren not only began to learn about such things as math, functional human biology, and practical record-keeping, but they actually contributed to epidemiological research at the national level. Such an approach has the potential not only for making a country's diarrhea control program more participatory, but also more tuned-in to the real situation, the obstacles, and potentials which exist locally. There is much rhetoric about community participation in the planning, implementation, and evaluation of health care interventions at national and international levels, but few examples of it actually happening. This pilot program in Mozambique—however circumscribed and short-lived it proved to be—is one example.

The program was designed to function as follows. Within each village there are five groups of primary actors in the diarrhea control program: volunteer home visitors, school teachers, schoolchildren, mothers, and community health workers. The home visitors—mostly women who belong to the local women's political organization—were women who had had special training in the home management of diarrhea. (In the Nampula pilot program the home visitors were trained by a group of "monitors"—in this case midwives—who, in preparation for their role as "multipliers," had been trained both

in diarrheal management and in nonformal discovery-based teaching methods.) Each primary school teacher in the village was also trained by the visiting monitor to teach the schoolchildren what to do about diarrhea.

The teacher asked all the children to check to see whether of their baby brothers or sisters had diarrhea before they came to school each morning. Then, the first thing each morning, the teacher would ask the children if any of their little brothers or sisters had diarrhea that day. Any child who answered "yes" was asked to go at once to the volunteer home visitor who lived nearest their home, to tell her about the child with diarrhea, and to have her accompany them to the child's home.

The volunteer home visitor then guided the sick child's mother and the school child through the steps of home management: increasing fluids and foods, and seeing a health worker if certain signs of danger occur. She then would help them prepare a special home-made drink—either a cereal drink or a sugar and salt drink, depending on what seemed easiest, and most appropriate.

Back at school, the teacher would ask the pupil to help each day in caring for the sick child during the entire episode of diarrhea. Each day, the school child was asked to report to the class on the sick child's progress. The class discussed the problem and asked how the diarrhea was being managed. In this way, each time a child in the community had diarrhea, the basic lessons of home care were reinforced.

The teacher, with the help of the pupils, kept a record on a wall chart supplied by the Ministry of Health of all the children reported to have diarrhea and how they were managed. The teacher also recorded which rehydration liquids were used, how long the diarrhea lasted, how many children were referred to the health center, and other epidemiological information.

The district health officer periodically collected these records from the teachers and sent the results to the Diarrheal Disease Control research team in the capital city. There the information was used to evaluate the community action approach as well as to augment studies of diarrhea for the country. In addition to this home management program, each village had a community health brigade which met periodically with the head of the local health post to review progress, to provide additional teaching of home visitors and, where possible, to expand the program to include diarrhea prevention (latrines, clean water, improvements in nutrition, etc.) and other aspects of primary health care.

The response to this new approach to community/school/home-based diarrhea management was very positive. Although both the methods and approach were new to school teachers, they became excited about working with an activity that brought schooling closer to the lives and needs of the children and their families. Through the participatory, learning-by-doing methods, they could see the children's self-confidence and problem-solving abilities begin to grow.

Another innovative aspect of this pilot program was that it introduced methods of oral rehydration based on the recommendations of Mozambican mothers, with a strong emphasis on home cereal and food-based drinks. This process-oriented approach to health education—rather than a product-oriented approach to the delivery of health services—was not only empowering, but in terms of long-term cost-effectiveness and sustainability, has the potential to be self-perpetuating. People tend to remember what they actively learn.

Although there are initial costs associated with teaching and reinforcing new ideas and practices, these diminish in time. By contrast, investment in nonreusable products such as ORS packets is never-ending. As a product-oriented program is expanded, costs continue to mount, making sustainability increasingly difficult. Conversely, as a process-oriented approach evolves, at some point the new knowledge reaches a critical number of people. Discovering the effectiveness of their new knowledge, people share it with others, and the health messages gather their own momentum and become self-spreading. Except for occasional updates, refreshers, and monitoring, little new financial input is needed.

In summary, the initial trials of the pilot program for diarrhea control in Mozambique showed great promise. Both the health and education ministries were involved from central to local levels. Although the program was initiated by government ministries, it was based on the advice of successful village mothers and implemented by schoolchildren and their teachers, who also took part

in relevant epidemiological research. Many participants felt that this pilot program held promise for extension (with local adaptation) throughout the country. It not only had potential for meeting pressing short-term needs in a highly effective way, but also for advancing the long-term national goal of a participatory development process through which government would listen and respond more closely to people's needs.

Unfortunately, this progressive approach to diarrhea control in Mozambique—despite initial enthusiasm and success—was nipped in the bud. Instead of being expanded nationwide, as had originally been the plan, it was canceled after only a year and a half. The program's demise was reportedly caused by a lack of funding as well as pressure from WHO officials, who were apparently upset that the program was advocating home ORT drinks over ORS packets, and were concerned that other Third World countries might follow Mozambique's example in this regard.⁷

Like so many initiatives that are designed with and for the people in greatest need, this small pilot project ran into opposition from high level policy-makers. But although it came to an untimely end, the project remains an important example of how a government initiated program can take a genuinely participatory approach which links urgent short-term interventions with long-term transformative goals. For a government to facilitate such an approach is exceptional. We are in touch with dozens of community health initiatives throughout the Third World which, like the Mozambique initiative, try to meet people's immediate needs in ways that also help lay the groundwork for long-term social change. But most of these forward-looking, empowering initiatives are initiated by small nongovernmental organizations. What makes this Mozambique example noteworthy is the fact that it was an intersectoral initiative in which a national government listened to and worked closely with the people. That it ran into high-level opposition from international policy-makers gives little cause for surprise.