AN EVALUATION OF THE FACTORS OF SUSTAINABILITY IN THE LESOTHO RURAL HEALTH DEVELOPMENT PROJECT

A.I.D. EVALUATION SPECIAL STUDY NO. 52
(Document Order No. PN-AAL-099)

by

Joseph Lieberson, Team Leader, Economist
(Bureau for Program and Policy Coordination, A.I.D.)

Devorah Miller, Financial Economist
(Bureau for Program and Policy Coordination, A.I.D.)

Howard Keller, Health/Population Specialist
(Bureau for Science and Technology, A.I.D.)

U.S. Agency for International Development

December 1987

TABLE OF CONTENTS

ACKNOWLEDGMENTS

The evaluation team wishes to thank the people contacted during the October 1986 field investigation. Special thanks go to John Nelson, the Lesotho Combating Childhood Communicable Diseases Coordinator, and Adrian de Graffenreid of the USAID Mission. The team appreciates the time given by the Ministry of Health staff, especially those in the Planning and Nurse Clinician Training Units. And finally, special thanks to Mr. Mafike of the Expanded Program of Immunization Unit of the Ministry of Health, who accompanied the team on its visits to the various health facilities where our many questions were patiently answered by all concerned.

SUMMARY

This evaluation is a "sustainability evaluation." It differs from A.I.D. project evaluations (which examine the efficiency and effectiveness of project efforts) and impact evaluations (which examine the effects of a project on the welfare of beneficiaries). A sustainability evaluation examines a successful project in order to assess whether the benefits of project activities can be sustained once A.I.D. funding ends.

A project is considered sustainable if it continues to deliver a high level of benefits after the donor ends major financial, managerial, and technical support. Benefits should continue for an extended period of time. Assessing sustainability requires an examination of the financial and institutional factors that allow project activities to move to the point where they can be successfully managed by a developing country with minimal outside assistance. To sustain a project independently, a developing country must have the capacity and willingness to provide the personnel, material, and financial resources required to operate an effective project and to plan and manage that project with little or no outside assistance.

Although sustainability depends largely on a developing country's institutional and financial capacity, it also depends on the way a donor designs a project. This includes a project's economic, financial, technological, and operational structures; its organizational and management requirements; and the political and sociocultural context in which it must operate.

The delivery of health care to the rural poor can be costly and difficult to sustain. The Lesotho Rural Health Development project, however, was an exception. It was able to provide health care at reasonable cost by using paramedical "physician-extenders." This project was a success; it created an effective, self-sustaining Government capacity for the training, management, and supervision of health workers. The purpose of this evaluation was to determine how much of the project effort was sustained and what factors contributed to sustainability.

The project had two objectives: (1) the creation of a new system of paramedical physician-extenders and (2) the strengthening of Lesotho's primary health care management system to support the new physician-extender approach.

The project was designed in two phases. Phase I, which took 2 years, concentrated on upgrading the planning, administrative, and management capabilities of Lesotho's

Ministry of Health so that it could successfully operate a decentralized rural health care system that used physician-extenders. Phase II, which took 4 years, established

and institutionalized the new physician-extender approach, including the development of new training programs and the creation of Ministry of Health capabilities to operate these programs. The two phases were designed to ensure that the Ministry of Health would have the administrative and technical capacities to support the new type of paramedical health workers in a decentralized health care delivery system.

A.I.D. provided $3.3 million of the project's $4.1 million cost. A.I.D. funded a health planner/administrator, a health management specialist, and a physician and nurse who were responsible for the training programs. Participants were sent overseas for training; when they returned, they worked closely with the project technical advisers and eventually took over their duties. The project funded the development of the nurse clinician training curriculum, the construction of classrooms and offices, and the purchase of equipment and supplies for the training programs.

In early project planning, A.I.D. and the Government of Lesotho recognized the impossibility of providing enough physicians to cover all of the rural areas. Therefore, planners decided to rely on a tiered system of health facilities using the physician-extender approach. The core of the system is the nurse clinician, a qualified nurse-midwife who received training in advanced medical diagnosis and treatment. This approach enabled Lesotho to use and strengthen an existing resource base to relieve the demands on the limited number of physicians. The goal was to provide low-cost, decentralized health care at the local level.

At the village level, a village health worker is responsible for encouraging efforts to improve village sanitation and hygiene, for identifying and treating simple ailments, and for recognizing and referring more serious medical problems to the rural health center. The center is managed by a nurse clinician trained in medical diagnostics. The nurse clinician identifies ailments, prescribes drugs, sets broken bones, delivers babies, and sutures wounds. In most countries such care would be provided by a physician, not a nurse. The system works in Lesotho because the nurse clinician receives extensive and high-level training and is closely supported and supervised by a physician from the district hospital. Nurse clinicians are able to handle 90 percent of the medical problems at the health center, but an important part of their training is learning how to identify the 10 percent of the medical problems that have to be referred to a doctor.

Under the project, each health center had a two-way radio that allowed the nurse clinician to talk directly with a physician when medical advice was needed. A comprehensive system of training and retraining sessions and regular supervisory visits provided the support needed for the village health worker and the nurse clinician.

Quite often, when an A.I.D. project ends, the developing

country has difficulty funding project costs. That was not a problem with the Lesotho project, in part because the design included a planned annual phase-in of host government financial contributions. As counterparts and nurse clinicians were trained and assigned to project operations, they were included on the Government civil service rolls and their salary was incorporated into the Government budget. By the end of the project, the Government was funding all personnel costs and nearly all training and supervision costs of the fully staffed project.

The only threat to financial sustainability is the low level of user fees. For political reasons, the Government of Lesotho decided not to charge patients the full cost of medical treatments. However, Government revenues have been falling and the International Monetary Fund reform package will require increased budgetary stringency. The Government is already having problems financing the present level of health services, so further expansion of health coverage will not be possible. Although Ministry of Health technical specialists recognize the problem and know that user fees must be increased, Government policymakers must be convinced. Indications are that pressure from A.I.D., the World Bank, and other donors will move the Government to make the necessary changes.

In summary, the project was sustainable because the technical package was appropriate to Lesotho's conditions and capabilities. The training, supervision, management, and logistical requirements were successfully integrated within the institutional structure of the Ministry of Health: the project was successfully institutionalized. Financial sustainablity was achieved because the Government incorporated adequate funding for all operating costs in its Five-Year Plan and annual budgets. However, that might not be the case in future years as Government revenues become tighter. Low user fees are a clear threat to long-term financial sustainability.

Two years after A.I.D. funding ended, the project was still operating effectively. The evaluation team found that Lesotho had the capacity to continue managing and operating the project. The project had good prospects for delivering a high level of benefits over the near term: it was sustainable.

FACTORS IMPORTANT TO THE SUSTAINABILITY OF THE LESOTHO RURAL HEALTH DEVELOPMENT PROJECT

This evaluation identified a number of factors that were important in building a sustainable health program in Lesotho. These have been grouped under four categories: (1) economic and financial factors; (2) project design and implementation factors; (3) the organization and management structure of the project; and (4) the political and sociocultural context in which the project will operate.

The benefits of the Lesotho Rural Health Development project

appear to be sustainable over the near term. The sustainability factors that were important in the project are presented below. The findings relating to the factors have general applicability to other health projects and can be used by designers to improve project sustainability.

Economic and Financial Factors

1. The project design should match the country's level of development and economic conditions. A fairly sophisticated health intervention can be appropriate even for some of the poorest developing countries (as this project was in Lesotho), if adequate institutions, manpower, and support services are available. (pp. 9-11)

2. Effective rural primary health care is not cheap. Adequate user fees are necessary for financial sustainability. Other health financing decisions are also important to sustainability: the balance in budget allocations between curative and preventive care and between rural primary health care and hospital-based care, and the role of private versus public health care. Lesotho's Government health facilities charge low user fees and are heavily dependent on the national budget. The Government is facing increasing financial pressures. Financial sustainability will be threatened unless there is an increase in user fees or a change in health resource allocations. (pp. 11-12)

3. To avoid inequitable bias, the user fee structure should not discriminate against the poor and should encourage the use of the least costly health facilities. However, Lesotho's health user fees are highest in the poor regions, and the fee structure fails to encourage the use of lower cost health facilities. (pp. 12-13)

4. In the short run, a completely new investment is often more expensive than upgrading and improving an existing investment. As was done in the Lesotho project, a project stands a better chance of succeeding if it builds on an existing capacity. (pp. 13-15)

5. Recurrent costs are easier for a developing country to handle if the marginal increases are small and if they are budgeted and phased-in each year. In the Lesotho project, personnel and financial costs increased moderately each year and were well within the Government's financial capacity. (pp. 13-15)

6. An orderly phase-in plan must be in place to enable the host government to take over project funding. The Lesotho project included such a plan and when the project ended, the host country was fully prepared to assume project funding. (pp. 15-16)

7. Even if a project is a success and the developing country has good intentions, it may still lack the resources

required to maintain full project efforts. After the Lesotho project ended, A.I.D. and other donors were able to provide, for a limited time, that small extra margin needed to ensure sustainability. (pp. 15-16)

Project Design and Implementation Factors

1. The first step in project design must be a clear and realistic definition of goals and targets and agreement on the strategy for reaching them. Equally important is a precise statement of the role each participant in the project will play as the project evolves and as responsibilities are transferred to host government personnel. (pp. 16-17)

2. Project designers and USAID Missions should stress the need for appropriate counterparts early in their dialogue with the host country so that counterparts will be ready to continue the program when advisers leave. (pp. 18-24)

3. The project design must fit the country's needs and, even more important, it must match the country's economic and institutional capacities. (pp. 18-24)

4. A project must plan for the integration of the required capabilities within host country institutions and must allow enough time for institutionalization to occur. Achievement of physical targets is insufficient to ensure sustainability; institutional capacity must exist if sustainability is to be achieved. The Lesotho project included major emphasis on the development of self sustaining training, management, and planning capabilities. (pp. 24-27)

5. Phased project design is an effective means of enabling the desired institutional changes to take place. The Lesotho project invested adequate time during Phase I to ensure that health policies, planning capacity, and training modules were developed before moving into the operation of Phase II. (pp. 24-27)

6. Preventive and promotive health care are critical for the long-term improvement of health status. However, a basic level of curative care must be provided before preventive and promotive efforts can be successful. Donors and host governments face immense pressure to provide curative services, and both must assume responsibility for providing an appropriate mix of services by public and private health care providers. (pp. 27-28)

Organizational and Management Factors

1. Supervision is a critical element of any primary health care system. Regardless of the initial training, workers must receive systematic support and guidance if they are to remain

effective. Without such supervision, early gains are easily lost. The project initiated a series of monthly visits by doctors and health specialists to the nurse clinicians and village health workers. The nurse clinicians in turn provided the village health workers with weekly consultations. (pp. 29-31)

2. Supervision is a difficult and costly component of a primary health care system. This, coupled with the fact that little tangible output is observable, makes it a prime target for deletion during periods of budget stingency. (pp. 29-31)

3. Vertical health programs should ultimately be integrated into the primary health care system, which is not an easy process. However, the result of successful integration is a strong primary health care system capable of focusing on a particular problem area (e.g., childhood immunization or infant diarrhea), but within the context of the primary health care structure. (pp. 32-33)

Political and Sociocultural Context

1. It is important to involve all interest groups in the project early on and to ensure that they fully understand the approach of the project. The introduction of paraphysicians was a potential competitive threat to Lesotho's doctors. The project worked hard to alleviate physicians' fears and misgivings and gain their cooperation, which was important to the quality of patient care and project success. (pp. 34-35)

2. It is important that projects work with existing professionals and take advantage of any good will and credibility these groups possess. (pp. 34-35)

3. It is difficult to maintain the enthusiasm and interest of village health worker volunteers. The project found that nurturing and encouraging a strong sense of community service, along with training sessions, helped boost health worker morale. (p. 36)

4. The donor's assistance priorities often determine the type of health project carried out. However, donors must make sure that their objectives are consistent with the needs and objectives of the host country. At the time the Lesotho project was launched, both A.I.D. and the host government had a strong interest in encouraging rural primary health care. (pp. 37-38)

5. It is important to include beneficiary participation in the design and operation of a village health project. Without local participation and political support, health workers are unlikely to receive the cooperation they need. Project planning must also be realistic about how much can be expected from the community. (pp. 38-39)

COUNTRY DATA SHEET: LESOTHO

	Most Recent Estimate	Annual Rate of Growth (1980-1984)
1. General		
Area (thousand sq. km.)	30.4	
Population (1983 est.; thousands)		
de factoa	1,400	2.3
de jurea	1,728	2.3
2. Economic		
GDP ($ millions)b	376	0.7
GNP ($ millions)b	797	6.0
GNP per capita ($)	510	
Exports of goods and services ($ millions)	486.5	-15.4
Imports of goods and services ($ millions)	604.7	12.5
Current account balance ($ millions)	-21.1	

Rate of exchange	1980	1981	1982	1983	1984	Oct 1986
1 Maloti =	$1.28	$1.15	$.92	$.90	$.70	$.45

aThe de facto population is based on individuals actually residing in Lesotho. The de jure population includes Basotho migrant laborers working primarily in the Republic of South Africa.

bGross domestic product (GDP) is the value of final goods and services produced within a nation. Gross national product (GNP) is the value of all final goods and services produced by a nation and also includes net factor income from abroad. Because of substantial remittances by Basotho working in South Africa, GNP is considerably higher than GDP.

COUNTRY DATA SHEET: LESOTHO (cont.)

3. Health	
Ministry of Health percentage share of total Government expenditure	

Fiscal Year	Recurrent	Development	Total
1975-1979 (av.)	8.1	0.9	5.1
1980	6.7	0.8	3.9
1981	7.6	1.3	5.3
1982	8.8	2.6	6.5
1983	8.3	1.0	5.8
1984	8.8	2.8	7.1
1985	8.6	1.0	6.1
1980-1985 (av.)	8.2	1.6	5.8

	Most Recent Estimate
Crude birth rate	42/1,000
Crude death rate	15/1,000
Life expectancy at birth	51 years (male) 55 years (female)
Infant mortality rate	97/1,000
Health service coverage	
Population per health center	12,000
Population per general hospital	76,000
Population per referral hospital	1,400,000
Population per hospital bed	775
Population per physician (1983)	10,000
Population per total health service personnel (1982)	2,100
Deliveries under skilled attendance	40%
Children between 1 and 2 years old	
Fully immunized	40%
Tuberculosis immunization	81%
DPT (3 doses)	56%
Polio (3 doses)	54%
Measles	49%

PROJECT DATA SHEET

1. Country: Lesotho

2. Project Title: Rural Health Development Project

3. AID Project Number: 690-0058

4. Mode of Implementation:

a. The A.I.D. grant was implemented by the MEDEX Group of the University of Hawaii

b. The Government of Lesotho contributed funds largely for trainee salaries and other training program costs.

c. The Private Health Association of Lesotho (PHAL) supported a portion of the training program, including the costs of trainee allowances, personnel, and training facilities.

5. Project Funding: (March 1979 through March 1985)

a.	A.I.D.	$3.3 million (80%)
b.	Government of Lesotho	$ .7 million (18%)
c.	PHAL	$ .1 million (2%)
	Total	$4.1 million (100%)

GLOSSARY

A.I.D. - Agency for International Development

Basotho - Citizens of Lesotho

GDP - gross domestic product

GNP - gross national product

MMHP - Mass Media and Health Practices project

PHAL - Private Health Association of Lesotho

Map of Lesotho

1. INTRODUCTION

This field study of the Lesotho Rural Health Development Project is part of a broader Agency for International Development (A.I.D.) study of the sustainability of its health projects. A.I.D. is interested in identifying the conditions that allow projects to continue delivering benefits after donor funding ends. If the factors of sustainability can be identified, A.I.D. will be able to design assistance programs that have a greater chance of sustaining benefit flows.

The factors of sustainability examined in this report were based on the preliminary findings of a synthesis study that reviewed the evaluation documentation on 62 completed health projects. The synthesis study found that the presence or absence

of certain factors was correlated with a project's prospects for sustainability. While a fairly extensive list of factors was developed, it was based on written reports of evaluations that were often done before projects were completed. To effectively assess sustainability, one should examine projects 2-5 years after A.I.D. funding ends. Because postproject evaluations were generally not available, field visits were required. Two projects were selected for field verification: the Gambia Mass Media and Health Practices (MMHP) project, which was a vertically oriented child survival intervention emphasizing treatment of diarrhea, and the Lesotho Rural Health Development Project, which trained nurses to support a horizontally organized, rural primary health care program.

After the two projects were selected, the evaluation team reviewed all available project documentation in detail and developed a questionnaire protocol. Key informant interviews were conducted with project designers and implementers in Washington before and after the fieldwork.

The evaluation team visited Lesotho for 2 weeks, where they interviewed USAID Mission personnel, Ministry of Health officials, counterpart project personnel, nurse clinicians, and other health workers. (See the Appendix for a list of those contacted.) The data from these interviews were analyzed in the context of sustainability, that is, what happened after A.I.D. funding ended and why. This case study is not a formal evaluation of project activities based on an analysis of inputs and outputs, but an examination of the design, management, and contextual factors only as they pertain to sustainability.

A project is considered to be sustained if it continues to deliver a high level of benefits after the donor ends major financial, managerial, and technical support. If enough of the key elements are sustained, the project has a good chance of surviving, and benefits should continue for an extended period. This project produced a sustained flow of health benefits.

This study includes an examination of all the factors that were important to the viability of the Lesotho project. Each factor is discussed in the context of its influence on the current level of project-related benefits as observed by the evaluation team. The analysis of most of the factors led to more general lessons that have been learned from the experience. These are summarized for project designers since they are likely to be important in the design of any health project.

2. PROJECT HISTORY AND BACKGROUND

2.1 Situation Before the Project

When Lesotho gained its independence in 1966, the Ministry of Health was a highly centralized, bureaucratic organization.

Health services were primarily curative. Health resources were concentrated in urban and lowland areas and were predominantly hospital based. The rural population in the highlands received very limited health care.

In 1979, Lesotho had about 25 Basotho and 35 expatriate physicians, many of whom were located in and around the capital, Maseru. Furthermore, turnover among expatriate physicians was high; most served in Lesotho for only 2 to 4 years before returning to their home countries. By contrast, the nursing profession was strong in number and organization. There were three nursing schools for registered nurses and one for student nurses. Together they produced a total of 25 to 40 graduates per year.

Project designers realized that the Ministry of Health had no effective plan to increase the number of physicians and that for many years to come there would not be enough physicians to serve the country's clinics and health centers. Planners also realized that the diagnosis and treatment of the vast majority of patients seen in Lesotho's outpatient facilities did not require a physician's skills. Therefore, the Ministry decided to improve the diagnostic and treatment skills of nurses as a means of extending more professional health care to rural areas.

2.2 Project Strategy

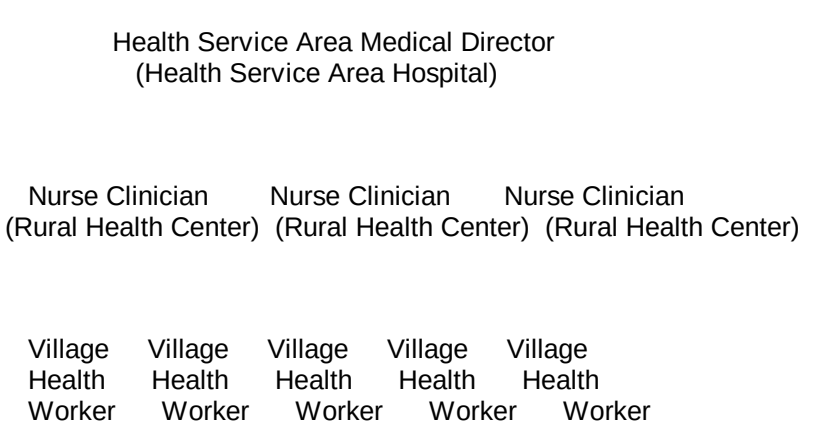
From March 1979 to March 1985 A.I.D. supported the Lesotho Rural Health Development Project. The project's strategy was to provide integrated basic health services to Lesotho's rural population using the "physician-extender" approach. The project assisted in the establishment and institutionalization of a new cadre of health worker called nurse clinicians. The concept of the nurse clinician was based on the assumption that basic health services could be made more accessible and more cost-effective by upgrading existing nurse-midwives to be clinically competent paraphysicians. It was further assumed that the need for disease prevention and health promotive services could be more broadly extended through community participation by training village health workers. These two types of health workers were critical to the Ministry's long-range goal of redressing the imbalances between the urban and rural populations' access to health services.

The physician-extender approach required a reorganization of the rural health care system, with the nurse clinician as the focal point. In order to better use resources, the Ministry of Health created a new, decentralized district structure, with a district health team responsible for planning, coordinating, and evaluating the health programs and operations of all services within each of the administrative districts. This was a big change from the previous cumbersome, centralized administration of all health care from Maseru. The decentralization and devolution of authority and responsibility for managing health

care supply and demand were important to improving the prospects for project sustainability.

Each district reports to the central Director of Health Services. Eighteen district hospitals (half Government and half mission-affiliated) became the central management points for each of the health service areas. These district hospitals then became responsible for providing all the supervisory support services for the rural health centers and community health centers in their areas. Figure 1 shows the design of the three-tiered supervisory and support structure.

Figure 1. Supervisory and Support Structure of District Health Services



Below each service area hospital are 2 to 15 rural health centers, which are either Government or private facilities ancillary to and supervised by the health service area hospital. Each rural health center is staffed by a nurse clinician and nurse assistants. A critical assumption of the project was that the nurse clinicians would be able to diagnose and treat the problems of 90 percent of patients seeking health care at the clinic level, thus reducing the patient load on the health service area hospitals. The remaining 10 percent of patients with complicated health problems would be referred to the health service area hospital.

The nurse clinician was to be supervised and assisted by a physician-led team of health staff from the health service area hospital. In turn, nurse clinicians were to manage and supervise the health center staff nurses and nurse assistants and train and supervise village health workers. The training of the village health workers was to be highly functional and focus entirely on the tasks the Ministry expected the workers to carry out.

The Nurse Clinician Practice Act, passed in 1984, established civil service positions and salary levels for nurse clinicians, thereby providing official sanction and recognition of their capabilities and contribution to the health care system

of the country. Thus, a major change in the method of delivering health care had been accomplished and officially recognized by the Government.

Village health workers bring the simplest elements of health care to the villages; each may serve two to five villages in the area in which he or she lives. They are supervised and supported by a nurse clinician. Although village health workers were expected to provide some curative services, the major emphasis was preventive health care.

Through a short training program, village health workers acquired limited, though critical, medical skills. They could treat minor illnesses and refer patients with more serious symptoms, whose care was beyond their limited skills, to the rural health centers for care.

2.3 Project Purpose and Objectives

The project had two major and interdependent objectives: (1) to strengthen the Ministry of Health's management support infrastructure for primary health care activities and (2) to develop and prepare appropriate training modules and establish and train two cadres of health workers--the nurse clinicians and the village health workers.

Efforts to strengthen the management support infrastructure of the Ministry focused on the following:

- -- Decentralization of administrative functions to the health service areas
- -- Policy formation
- -- Reorganization of the Ministry of Health

Among the management elements that received special attention were financial planning and control, health information systems, manpower planning capability, personnel management, drugs and medical supplies, and transportation and two-way radio communication.

Human resource development had the following three major objectives:

- -- To establish in the Ministry of Health a permanent capability to train nurse clinicians
- -- To train 55 nurse clinicians during the lifetime of the project
- -- To train 300 village health workers

The final project evaluation noted that the major management

support objectives and the human resource development objectives had been met.

2.4 Project Design and Implementation

2.4.1 Project Phasing

The project was designed to be implemented over a 5-year period in two distinct phases. (The actual project period, however, was 6 years.) Activities under Phase I began in March 1979 and were designed to upgrade the planning, administrative, and management capacities of the Ministry of Health to the level required to maintain and support a rural primary health care delivery system. Of the total $3.3 million grant, $1.1 million was used to support training of administrative and management personnel, organization of management and logistical support systems, establishment of a planning unit in the Ministry of Health, and assistance with the drafting of Lesotho's Five-Year Health Plan.

Phase II was contingent on the successful completion of Phase I. In the transition from Phase I to Phase II, there was a shift from essentially planning and administrative activities, handled by technical assistance advisers, to actual implementation of the training program, with gradual assumption of responsibility by Government of Lesotho counterparts.

The purpose of Phase II was to establish and institutionalize the new health worker cadres required for the rural health services delivery system. Phase II activities focused on establishing a training program for nurse clinicians, improving the training of other auxiliary health workers, and providing training in other countries for tutors for the nurse clinician program. Strengthening existing training programs for village health workers and nurse assistants was also emphasized. The training program began approximately 18 months after the start of the project, when planning and management activities were well underway.

2.4.2 Project Inputs

The major project inputs were the provision of technical assistance advisers, participant training, local training, and some commodities and construction. Table 1 presents a breakdown of A.I.D., Government of Lesotho, and Private Health Association of Lesotho (PHAL) contributions.

Table 1. Lesotho Rural Health Development Project Costs

Inputs	Obligations ($000)	Percentage of Total
A.I.D. Project Inputs		
Contractor Services		
Technical Assistance	2,400	58.5
Participant Training	96	2.3
Commodities	220	5.4
Other	134	3.3
Other Direct Costs (e.g., construction, local training, and operational costs)	150	3.7
Short-Term Technical Assistance; Personnel Services; Miscellaneous (outside of contract)	300	7.3
Subtotal	3,300	80.5
Inputs by Others		
Government of Lesotho	700	17.1
PHAL	100	2.4
Total	4,100	100.0

2.4.3 Implementation Process

The project was implemented by the MEDEX Group of the John F. Burns School of Medicine of the University of Hawaii. MEDEX supplied long- and short-term advisers in management, planning, training, and finance. An important part of project implementation was the Ministry of Health workshops and seminars, to which concerned individuals and organizations were invited. The workshops were used to clarify issues, inform people of plans, receive feedback, and train health service personnel in new procedures.

The project prepared standard reference manuals as a means of documenting and diffusing new procedures. The manuals were drafted in close collaboration with Ministry personnel and discussed and refined in workshops before publication. The manuals have been revised and reissued periodically and are used daily as reference manuals throughout the primary health care system.

A nurse clinician trainer and a physician trainer arrived in Lesotho in the fall of 1979 and began working with Ministry of Health officials on the design of the basic training program. The final training texts consisted almost entirely of the five volumes that the project had adapted from early drafts of the prototype modules produced by the MEDEX Group. The five series included community management, core skills, clinical problems, maternal and child health, and family planning. These volumes were accompanied by workbooks used during training.

Following an initial 10-month training period, nurse clinician trainees were assigned to 2 months of clinical practice in the outpatient departments of the health service area hospitals. Working in a health service area hospital taught them to identify the types of cases that should be referred to the hospital and to learn about the kinds of medical treatment these patients received. The work in the hospital also helped the nurse clinicians establish professional and personal contacts with supervisors and medical staff who would support them once they were in the field.

During the last 3 months of training, trainees worked in the health centers to which they would later be permanently assigned. They spent the final week prior to graduation at the Nurse Clinician Training Center in Maseru.

2.5 Private Health Association of Lesotho

Historically, religious and other voluntary organizations have provided the majority of health services in Lesotho. Both the private health organizations and the Ministry of Health saw the need for a more effective integration of all health activities. In 1974 the private agencies began to coordinate their activities with the Ministry through the newly formed Private Health Association of Lesotho (PHAL). The importance of this association is indicated by the fact that when the project began, PHAL affiliates provided 43 percent of Lesotho's total bed capacity and 71 percent of its health facilities and employed 30 percent of Lesotho's physicians and 39 percent of the nurses.

Steps were taken to ensure close coordination and cooperation between the Ministry of Health and PHAL in all phases of project development and implementation to avoid jealousy and turf battles between the two organizations. PHAL was included in the early project planning and design. Thus, the valuable knowledge and experience that PHAL personnel had gained over the years was not lost; they felt it was their project as much as the ministry's. This direct involvement and the sense of project "ownership" that it fostered contributed to the sustainability of project benefits.

3. FACTORS OF SUSTAINABILITY

3.1 Economic and Financial Factors

3.1.1 Macroeconomic Context

Lesotho faces many problems as a very poor developing country. Gross national product (GNP) in 1983 was only $510, making it one of the world's least developed countries, according to the U.N. designation. Among its other major problems are the following:

-- The land is rugged, soil erosion is extensive, and only about 13 percent of the land is suitable for crop production. Three-quarters of the country consists of mountains and highlands at altitudes above 7,000 feet.

-- Lesotho is landlocked within the Republic of South Africa and highly dependent on its political and economic decisions. Over 95 percent of Lesotho's imports originate in South Africa, and about half of the male labor force migrates there to work.

-- Economic growth was strong in the 1970s but has slowed during the 1980s because of drought, the worldwide recession, and an economic downturn in the Republic of South Africa.

Along with these rather formidable problems, Lesotho has some strengths that worked in favor of the project:

-- As a high-altitude country, Lesotho does not have the endemic diseases found in hot, tropical developing countries (in particular, there is no malaria).

-- Because many Basotho work in the Republic of South Africa or have relatives working there, cash income from remittances is high. The economy is more monetized than in most of the least developed countries. People have cash and are used to paying for goods and services. In most cases they are willing and able to pay for health care.

-- The geographic proximity of the Republic of South Africa, a developed country, provides development projects with needed equipment and support services--the supply chain is good and it is short.

-- Compared with many other least developed countries, Lesotho has a relatively good primary health care system, well-developed Government institutional structures, and an active religious mission hospital system.

-- Compared with other least developed countries, Lesotho's

literacy rates are relatively high (especially among women), which made it easier to extend preventive and promotive health practices.

Lesson Learned: The project design should match the country's level of development and economic conditions.

The use of the physician-extender approach and the use of nurse clinicians is a fairly sophisticated health intervention. Although these interventions might be too sophisticated for most least developed countries, the project design was appropriate because Lesotho had a high level of institutional development and a rapidly growing economy (see also Section 3.2).

It is difficult to introduce a comprehensive rural primary health care system in a developing country. However, Lesotho already had a well-developed health care system and educated personnel who could be upgraded through an intensive training program. In addition Lesotho had a strong institutional base, a literate population, and a healthy cash economy that was rapidly modernizing.

3.1.2 User Fees and Beneficiary Financing

Beneficiary contributions, whether cash or in-kind, are an important determinant of financial sustainability. A worldwide study of 62 A.I.D. health projects found that projects that provided curative health services were the most likely candidates for user charges. People are willing to pay for services that provide immediate and easily observable benefits, such as for curative medical care. In Lesotho, people were accustomed to paying for private health care from physicians, drug sellers, herbalists, and traditional healers.

Adequacy of User Fees. The project provided health care that included curative services. However, user charges were inadequate, particularly at Ministry of Health facilities. In the PHAL system, user fees cover 60-80 percent of operating costs. In contrast, user fees at Ministry of Health facilities have been low and declining in real terms. They were 16 percent of recurrent expenditures in FY 1975, 8 percent in FY l980, and only 6 percent in FY 1984. Ministry user fees have been consistently lower than PHAL fees and declined in real terms as inflation accelerated during the 1980s. PHAL fees are adjusted each year for inflation and changes in costs. Ministry of Health fees have not been adjusted since 1980; moreover, fee collection is not always fully enforced.

PHAL has charged reasonable fees that allow it to cover most operating costs. The Ministry of Health has not. Moreover, the Ministry's recurrent health costs will continue to grow as the

population expands, coverage increases, and new facilities and services are provided. The World Bank projects a one-third increase (in constant prices) for recurrent health expenditures during the 5-year period of FY 1985 to FY 1990, a rate that well exceeds World Bank projections of Government revenue growth.

Lesotho, like many developing countries, is faced with a thorny political/technical issue: is it better to offer free health care to all and be unable to deliver a reasonable level of coverage or to make the politically difficult choice to charge adequate user fees that will cover the costs of a full level of health services to a much larger number of people? This dilemma is likely to continue for some time, with the Government making up shortfalls as best it can from whatever sources are available.

Based on discussions with representatives of the Government of Lesotho, it is clear that they recognize the problem and want to improve cost-recovery rates. A.I.D., the World Bank, and other donors have been pressing for changes. However, there has been no action yet.

Lesson Learned: Effective rural primary health care is not cheap; adequate user fees are necessary for financial sustainability. Other health financing decisions are also important to sustainability--for example, the balance in budget allocations between curative and preventive care and between rural primary health care and hospital-based care, and the role of private versus public health care.

Based on World Bank projections of GNP and recurrent revenue growth rates, financial sustainability will not be possible in Lesotho without an increase in user fees or a change in health resource allocations.

Equity and Efficiency Considerations. Lesotho's rural health care coverage still has gaps. In addition, some areas receive better services than others, and not all areas receive the same types of services. The Government's Five-Year Plan calls for continued expansion in quantity and quality of coverage.

De facto health care rationing takes place in Lesotho as it does in most other countries; long lines of patients wait for care. Those who live closest to facilities and those who can get to the better facilities receive better services. There are also differences in fees between Ministry of Health facilities (where fees are very low) and PHAL facilities (which charge higher fees). This creates distortions in resource allocation. It is not clear whether PHAL facilities offer better quality care. However, if the quality of care is perceived as equal, patients who have a choice will use the cheaper Ministry facilities rather than PHAL facilities.

Another factor considered by a patient is the quality and sophistication of health care. A village health worker cannot provide the level of care provided at a health center. Quality of care is better at district hospitals than at health centers. In turn, the national hospital provides more comprehensive care than district hospitals. Because there is little difference in cost to the patient, there is a natural tendency to go to the better facility. Thus, within the Ministry of Health system, patients are being "overtreated," receiving care at higher and more expensive levels of the system than their condition requires.

The distribution of Ministry of Health and PHAL facilities has created an inequitable delivery system. Ministry facilities tend to be located in the more urban and lowland areas, while many PHAL facilities serve the more remote highland areas. Because PHAL fees are higher, and collection is more efficient, the highland population is likely to pay more for medical care. However, their cash incomes are lower than those of the urban and lowland populations. Highland patients also incur greater nonmonetary costs, such as travel time. Thus, poorer people are paying higher fees, while the better-off receive highly subsidized health care in Ministry facilities.

Lesson Learned: User fees are not only important for financing, and thus helping to sustain, health care delivery systems, but they also affect the efficiency and equity of health care delivery. User fees should be structured so that they are not biased against the poor.

The project was designed to improve the quality and effectiveness of lower and mid-level health workers. It was also designed to encourage decentralized, local health care. Project user fees are not adequately structured to support this strategy. An inequitable bias results from the difference in user fees charged at Ministry of Health and PHAL facilities. Because of the distribution of health facilities, the poor are paying more for health care than are the better-off.

3.1.3 Establishment of New Systems Versus the Upgrading of Existing Systems

Although the project required the adoption of new health care techniques and new delivery approaches, it worked through an existing private and public health care system, using an internationally tested approach. The project aimed to improve the quality and effectiveness of an ongoing health care system.

The project funded limited "bricks and mortar" components: only one classroom and four staff offices were built (and are still being used). The project was able to rely almost

completely on existing training facilities, management staff, nurses, and health clinics.

Although the physician-extender approach was new to Lesotho, the approach had already been developed and tested in the United States and some developing countries. The training modules and teaching materials already existed; they only had to be adapted to Lesotho's conditions. Although not a simple task, it was easier than starting from scratch. The project was able to take advantage of the many years of research and development that had already gone into the development of the MEDEX approach.

The project's training programs concentrated on developing a new cadre of nurse clinicians. The nurse clinician trainees were certified nurse-midwives with professional training and practical, on-the-job experience. They were accepted by the physicians and the community as knowledgeable, committed professionals. Their attrition rate during training and after graduation was very low--less than 5 percent.

This project trained already experienced nurse-midwives to be highly skilled, supervisory nurses and trainers. In contrast, many health projects take high school graduates and train them as lower level health auxiliaries and nurses. The costs and dropout rates are high while the acquired skill levels are low. However, there is often no choice. If there are not enough nurses available, the project has to work with the human resources available. Lesotho had a pool of skilled nurse- midwives. What was needed was a higher level, supervisory nurse clinician who could also train and supervise village health workers. The marginal cost of upgrading and improving already skilled nurse-midwives was much less than that of training raw recruits. And the returns were substantial. The nurse clinicians perform many of the functions performed by physicians in other countries.

The project's marginal costs were low, and thus the project generated few additional costs. The project-funded offices and the classroom were modest structures that required only limited maintenance. The project was able to use existing Ministry offices, nurses' dormitories, and other existing training facilities. The increased personnel levels (6 new Ministry of Health trainers and 10-20 new nurse clinicians a year) were included in the Five-Year Plan, and funding for the new positions was included in the annual budgets. These costs were well within the Government's budget capacities. Supervision, transport, and retraining created some problems (see Section 3.3), but they were not beyond the Government's financial capacities.

Lessons Learned: In the short run, a completely new investment is often more expensive than upgrading and improving an existing investment. It is particularly true in developing country projects, where development and startup costs are high. Upgrading a proven system is usually more effective and less risky than

creating a completely new one.

Recurrent costs are easier for a developing country to handle if the marginal increases are small and if they are budgeted and phased-in each year. However, the developing country must plan for even modest increases and include them in its forward budget planning.

The project introduced an innovative approach that built effectively on the existing system, thus limiting the recurrent cost burden. It basically institutionalized Ministry of Health capabilities to upgrade, train, and retrain existing staff. The Government made budget plans to cover such costs and to fund the yearly increase in new nurse clinicians.

3.1.4 Postproject Funding

When a project is completed and donor funding ends, there is often a void. A project that was once resource rich with technical advisers, participant training, travel money, and commodities now must depend on the developing country's own limited budget resources. The shock can be severe and the result traumatic. It is often difficult to maintain a high level of enthusiasm and effectiveness. Monuments to donor efforts can crumble quickly. The Rural Health Development project had a well-designed phaseout plan that allowed the A.I.D. advisers to gradually but steadily turn over project planning and management to their counterparts (see Section 3.2.3).

The Ministry of Health established Government positions for all project-related health trainers and all nurse clinician graduates. During each year of project operations, the Ministry funded these additional personnel costs. At the end of the project, the Five-Year Plan and the Annual Recurrent Budget included most of the funding needed to maintain project operations.

The project had the misfortune of ending at a time when Government revenues were rapidly falling. There were Government-wide budget reductions that included the budget of the Ministry of Health. The result was that the project came under close financial scrutiny. However, the Ministry of Health and project funding fared no worse than most other ministries. In fact, the project did better than many others. Some ministries faced funding cutbacks and personnel reductions, but the Ministry of Health did not have to reduce its staff. The project was able to continue training new nurse clinicians, who were placed in newly created field positions. Growth was still possible.

The Government of Lesotho funded most supervisory travel, gasoline, training courses, and supplies. However, the project needed more funds, and donors were able to provide that extra margin. The project would have lost some of its momentum if it

had had to depend completely on Government funding.

UNICEF provided limited funding ($10,000 or less a year) for village health worker training and medical kits and for equipment and materials for nurse clinician training. The USAID Mission funded some consultants, training courses, and miscellaneous project inputs, at a yearly cost of about $20,000-30,000.

Lessons Learned: An orderly phase-in plan must be in place to enable the host government to take over project funding. The host government should begin to include such funding in its budget well before the project ends.

The project had a well-designed plan to phase-out donor support and to phase-in host government inputs. Government of Lesotho funding was steadily staged and phased-in over the life of the project. Government positions were established for all project-related trainers and nurse clinicians. Limited postproject donor support filled critical gaps.

Even if a project is a success and the developing country has good intentions, the country may still lack the resources required to maintain full project efforts. Donors should be ready to provide that extra margin, for a clearly limited time, to ensure sustainability.

For the Lesotho project, A.I.D. postproject funding of under $30,000 a year represented less than 1 percent of the total project cost of $3.3 million. It is a small price to pay to help ensure the sustainability of a successful project investment.

3.2 Project Design and Implementation Factors

3.2.1 Focused and Shared Agenda

In its second Five-Year Development Plan (1975-1980), the Ministry of Health had two major objectives:

-- Improving and expanding health services beyond the capital and the few small rural towns that already had health care facilities

-- Emphasizing and improving preventive and promotive health care

The project was designed to support those objectives. The 1977 Project Paper noted that "long-term viability of physician-extender programs is possible only if all major interest groups

in the health field are involved in planning and implementing the program. The Ministry of Health and the Central Planning and Development Office strongly support the concept of the 'physician-extender.'" The importance of involving beneficiary groups early in the project design stage was confirmed in interviews conducted by the evaluation team. Persons at all levels of the health system clearly felt that the project was theirs-- that they had been substantially involved in the early design phase. Furthermore, they felt that the project served their needs, which had been identified early-on by the project designers.

Often agreement on long-term goals is easier to reach than decisions on how these goals will be achieved. But in the case of this project, both the donor and the host country agreed on the physician-extender approach. The next critical step was to clearly define the roles of each of the participants. Project designers gave particular attention to this task, which is indicated by the clear description of positions outlined in the Project Paper, including that of health planner, management specialist, physician-trainer, nurse-clinician trainer, and nurse clinician. The project also outlined the training requirements, proposed salaries, and a career ladder for nurse clinicians. Discussions were held with the Ministry of Health and PHAL regarding their financial commitments to the project and their roles in carrying out the management, supervision, planning, and training responsibilities of the project.

Lesson Learned: The first step in project design must be a clear and realistic definition of the goals and agreement on the strategy for reaching them. Equally important is a precise statement describing the role that each host country institution will have in the project.

In the Lesotho project, the strategy was consistent with the development objectives of the Ministry of Health. The project offered a viable mechanism through which both donor and host government objectives could be achieved. Furthermore, project designers provided precise descriptions of the responsibilities of each of the critical participants.

3.2.2 Appropriateness of the Technology

A major component of the project was the training of the nurse clinicians and village health workers. The project took into consideration that for many years the rural health centers had been providing good, though limited services. These services were limited because the nurses had limited training and no formal linkages to physicians or hospitals.

All too often programs are planned and decided on arbitrarily at the central level and then imposed on districts,

villages, and people without any meaningful participation or discussion. Fortunately, that was not the case with the project in Lesotho. Before the training began, discussions were held at the village, district, and national levels to gain agreement on project approach. Discussions were also held with the PHAL health care providers.

The MEDEX Approach--Competency-Based Training. The contractor for the project was the MEDEX Group of the John F. Burns School of Medicine of the University of Hawaii. The MEDEX Group had spent many years on research and development of the MEDEX approach to primary health care. An important element of this approach was the use of competency-based training.

The MEDEX approach was based on the successful experience of the U.S. Army Medical Corps in training corpsmen during World War II, the Korean War, and the Vietnam War. Competency-based training provides only the knowledge that is essential for performing a specific task. For example, knowing where to inject a local anesthetic is essential; knowing the actual chemical composition of the anesthetic or how it works in the body is not. Thus, such bioneurological information is not taught.

The Training Program. One of the outputs of the first phase of the project was the identification of the tasks that nurse clinicians would be expected to perform and the development of job descriptions. Using these job descriptions, MEDEX worked with the Ministry of Health to develop the curriculum for nurse clinician training.

Based on work in the United States and in developing countries, the MEDEX group had already developed a series of modules covering different topics such as respiratory infections, skin diseases, inoculations, oral rehydration therapy, and environmental sanitation. Although the modules already existed, to be effective they had to be modified and adapted to local conditions. The contractor worked closely with Ministry of Health staff as the modules were tested and adapted to the unique needs and conditions of Lesotho. Only when the adaptation had been completed and accepted did the actual training begin.

Each session of nurse clinician training lasted 15 months and was divided into five distinct areas: (1) concepts of primary health care, (2) practicals in clinical medicine, (3) involvement in community-related activities, (4) training of village health workers, and (5) fundamentals of health center management.

In the clinical training, theory was closely integrated with the practical. For example, when hernias were being discussed, the lecturer brought patients to the classroom to demonstrate how one can differentiate between a hernia and a hydrocele. Students were also given the opportunity to see and examine patients on

the wards who had the same problems as those being taught in class that week. Later, during their training at the hospital, they were given further opportunity to practice, under close supervision, the skills learned in the classroom. Much later on they spent approximately 2 months at the outpatient departments of rural hospitals gaining more experience under the supervision of the physicians attached to those rural facilities.

In the design of the nurse clinician curriculum, the following principles of education philosophy were followed:

-- Students must understand why a certain fact is important to remember.

-- Students must be allowed to learn at their own pace.

-- Students should be taught in a step-by-step process-- from the easy to the increasingly complex and difficult.

-- Students must be given ample opportunity to practice their skills and to use their recently acquired knowledge in an everyday situation.

-- Students must be periodically evaluated and informed of evaluation results so that corrective measures can be taken to improve performance.

-- Each student is different, and what may work well for one student may not suit another.

Initially, students were pretested to determine their skill levels. Then they started the course, which was divided into module, rotation, and health center phases. Then concepts of primary health care were taught. Course discussions also included some of the basic concepts that related to all levels, whether that of nurse clinician, nurse assistant, village health worker, or trainer. During these discussions, students began to understand the concept of primary health care, their role in the whole approach, and how people learn to change their actions and their attitudes.

The students spent at least 60 percent of their training time outside the classroom. Some of this time was spent in the community; the rest was spent in hospital wards, outpatient clinics, or in the rural health centers.

In addition to gaining hands-on experience in seeing and treating patients, students were given practical training in managing the rural health center, in conducting discussion meetings to mobilize community support, and in training and supervising village health workers. These activities were all closely supervised, so that problems were identified early and immediate corrective measures taken.

Throughout the training program, attention was given to the development of good personal relationships with fellow workers.

The teaching involved numerous role-playing exercises designed to prepare the students for those troublesome situations that commonly arise because of uncomfortable staff relations.

In community-related activities, much time was spent in the field learning to recognize the factors that contribute to the health of a community and the corrective measures to be taken, given a community's needs, available resources, and willingness to make changes. For example, students were taught the basic principle that clean water is vitally linked to good health and that the lack of it leads to ill health. They were then taught to recognize what constitutes clean, safe water and whether the village source, be it pond, spring, well, tank, or river, was safe. The next step was one of community intervention. What can be done, and what is eventually done, depends on what is available at the community level and how the community is motivated to protect its water supply from contamination.

The approach to community intervention is through the use of properly trained and supervised village health workers. The nurse-clinician students learned how to supervise, train, and provide continuing education for village health workers. The students were taught both the techniques used in training village health workers in Lesotho and some new techniques that had worked elsewhere in the world. The teaching of village health workers was very simple. Visual aids were developed and field-tested for cultural appropriateness and clarity. An important aspect of training village health workers was teaching them that certain health problems were beyond their competency and should be referred to the next higher level of health care.

Benefits of the MEDEX Approach. MEDEX established a tiered, decentralized system designed to reduce the patient load on doctors, a very scarce resource in Lesotho. Each health service area has a hospital and, ideally, a physician. Each health service area organizes, operates, and supports a tiered health care system for its region. At the village level the village health worker delivers curative and preventive care for the simple problems that constitute the vast majority of the patient case load. This system provides the patient with adequate care close to home and at low cost to the system. It reduces the case load for the nurse clinicians at the health center. The health center treats the majority of cases and refers only those patients whose needs go beyond the health center skills to the physicians at the health service area hospital. The nurse clinician refers to the hospital patients with serious health problems like tuberculosis and leprosy, which might otherwise go undetected in the early stages. This tiered system maximizes the use of physicians' scarce time because it frees them from the need to handle minor, but time-consuming problems, such as colds and infant diarrhea. These routine cases are generally attended to at the health center or in the village by the nurse clinician or the village health worker.

As with any system, efforts are needed to maintain interest

and enthusiasm. This has been addressed by supportive supervisory visits at each level, retraining workshops, technical newsletters, and meetings. The evaluation team found that because of a shortage of vehicles and fuel, supervisory visits were not taking place regularly. Nevertheless, supervision was adequate and supportive of the field workers.

Recognition and financial rewards are important factors in maintaining good morale and enthusiasm. In 1984 the Ministry of Health was able to improve the career structure of nurse clinicians by establishing a nurse clinician position and salary grade on the civil service list. The payment of a retroactive salary increase at that time was a great morale booster. During discussion of personnel issues, the evaluation team was told that there is still a need to establish a career ladder for nurse clinicians so that they can have an opportunity to rise in the health system along with other health specialists.

Because the nurse clinician training program has continued to function effectively, technical followup with graduates has been possible. The field supervision system provides regular followup, and there is an annual continuing education seminar for practitioners (attended by 80 percent of the graduates in 1985). Also, four to six technical newsletters go out to all nurse clinicians each year.

Village Health Worker Training. The village health workers have the following duties:

-- Motivating mothers to go to clinics for prenatal care and to bring their children to health centers for immunizations

-- Promoting environmental hygiene and general health education

-- Visiting homes to identify health problems

-- Encouraging home treatment of diarrhea with a water-sugar-salt solution

The 1985 project evaluation (Gilbert et al.) found that 74 percent of village health workers had more than 2 years of on-the-job experience. Nearly 90 percent stated that their training was adequate for the tasks that they faced. The majority of village health workers kept records of their activities and discussed them with their supervising nurse clinician when they visited the clinic, which most did monthly.

Although village health workers could use more drug supplies, medical kits, and more frequent supervisory visits from nurse clinicians, they are effectively delivering promotive and preventive health service. Credit for the success of the approach should be given to the fact that most village health workers are literate and thus can receive more comprehensive

training; to the supervision provided by the nurse clinician, which helps maintain interest; and to the high esteem in which village health workers are generally held by their fellow villagers. Village health workers are unpaid volunteers who have to take time away from their own work and family to treat members of their village. Volunteer enthusiasm and commitment has not been a problem so far. However, over a long period, it may be hard to expect unpaid workers to continue providing free service and advice.

Traditional Birth Attendants and Traditional Healers. During project design there was concern that traditional birth attendants and traditional healers might feel threatened and thus might oppose the project. The problem never developed. The evaluation team found that some traditional birth attendants were serving as village health workers. However, most traditional birth attendants and all traditional healers were outside the system. This might be due to the fact that in Lesotho (which differs from many other African countries) the traditional birth attendants and traditional healers are not well organized or politically powerful. The Ministry of Health and PHAL are still searching for ways to incorporate the traditional birth attendants and traditional healers into the system on terms acceptable to all.

The incorporation of traditional healers is a difficult, if not impossible, issue to resolve. But there are some encouraging signs of cooperation. The evaluation team interviews with nurse clinicians revealed that some of their cases were referrals from traditional healers. When nurse clinicians were asked what types of cases they might refer to traditional healers, mental illness was mentioned. The parallel system of traditional healers and traditional birth attendants has not threatened the nurse-clinician/village health worker system.

The project's training program was very successful. Fifty-three nurse clinicians were trained during the 6 years of the project. They are effectively delivering health care in rural areas and are happy with their work and the personal recognition they receive from patients and the health care system. Ninety-five percent of nurse clinicians are still in their jobs--a remarkably high retention rate. Training is continuing. There are 10 nurse clinician trainees in the current class, and the recruitment goal for the 1987 class is 18-20 students.

If there are any problems, they may lie in the selection process. Demand for the program is very high, and there are some reports of favoritism in the selection of trainees. There are also suggestions that some trainees are attracted by the high salaries and status and not motivated by a desire to help others. However, no bureaucratic system is without internal politics and complaints about personnel selection policies; we should not expect Lesotho to be an exception.

The program is now being run by former counterparts to the project technical assistance advisers: a physician trainer, a nurse trainer, and four to six instructors. They continue to use the equipment and materials provided by the project.

The Ministry of Health is hard at work on the final stages of the next Five-Year Plan. One of the tasks of the technical assistance advisers in the first phase of the project was the preparation of the first Five-Year Plan. Now, 6 years later, the Ministry of Health has the capability to prepare a comprehensive plan without outside assistance. That represents a solid accomplishment.

The evaluation team visited the Ministry of Health, the Nurse Clinician Training Center, and field locations where nurse clinicians and village health workers were delivering health care to the rural population. Although preproject baseline data that could be used for comparison do not exist, it is the judgment of the evaluation team that the rural health care system is now operating effectively. The technical package is appropriate to local conditions. The project has been effectively institutionalized. The Ministry of Health is able to manage the planning, training, supervision, and operation of a comprehensive primary health care program centered on the nurse clinician.

In most developing countries, it is difficult to introduce a rural primary health care system. In the least developed countries it is even harder. Lesotho already had a well-developed health care system and a good institutional base, and the MEDEX system was an appropriate match for that context. MEDEX projects have been tried in other developing countries, but they have not always been as successful as in Lesotho.

Lessons Learned: The project design must fit the country's needs and, even more important, it must fit the country's economic and institutional capacities. In the Lesotho project there was a "good fit" between the project technology and local institutional and manpower capabilities.

Project designers and USAID Missions should stress the need for appropriate counterparts early in their dialogue with the host country so that counterparts will be ready to continue when advisers leave.

Project sustainability in Lesotho was largely due to the selection and adaptation of a technology that was appropriate to local conditions. The technology was effectively institutionalized and disseminated through training that included theoretical and practical on-the-job skills development. Also, collaborative working relationships were developed in each village. Continued training and retraining of village health workers and nurse clinicians further helped ensure

that project benefits would be sustained.

3.2.3 Phasing and Time Frame

When the Lesotho project was being designed, the USAID Mission and the Ministry of Health agreed that in order to sustain and support the new health delivery system, it would be necessary first to strengthen the capabilities of the Ministry of Health. Management and administrative systems of the Ministry needed improvement. The Ministry required training and systems development for financial management, personnel management, transportation, logistics, planning, and statistics. This strengthening was necessary if (1) nurse clinician graduates were to be supported by the Ministry of Health once they were posted to the field and (2) the Ministry was to continue the training programs once the A.I.D. contractor left the country.

To accomplish these objectives, the project was designed and implemented in two distinct phases. The goals of Phase I were (1) to develop the general systems necessary to successfully establish and maintain the health service delivery network and (2) to set the stage for the initiation of the Nurse Clinician Training Program. Phase II was to be the implementa- tion of the training program.

During the first phase, which lasted approximately 18 months, project staff worked closely with the Ministry to improve its planning, administrative, and management capabilities. Support was provided through advisory staff, including a health planner, a management specialist, a physician-trainer, and a family nurse clinician.

In addition to the need for technical skill development, there was a need for a more decentralized, rural-based approach in the Ministry. As discussed in Section 2, when Lesotho gained its independence, the Ministry of Health had inherited a very centralized bureaucratic structure. Project designers and the Ministry of Health agreed that to successfully serve remote rural areas, the Ministry had to decentralize responsibilities. During Phase I, this reorganization and planning capability was developed; only when it was completed was Phase II started.

Movement of the project into Phase II was contingent upon the successful achievement of the goals of the first phase. Phase I activities were perceived as being so critical to the total success of the project that the Project Paper stated: "If at the end of Phase I, it is decided that the project should not proceed to Phase II, the evaluation team will determine whether: (1) further Phase I development continues; (2) the project should be modified in conformity with more realistic objectives; or (3) the project should be terminated" (USAID 1977). In 1980, a major external evaluation determined that the project was ready to proceed into Phase II (USAID 1980).

The emphasis shifted in Phase II from essentially administrative matters to the actual implementation of the training program. It is to the credit of the Government of Lesotho and the project designers that this commitment to institutionalization was made. In a similar A.I.D.-funded MEDEX project in Asia, the task of strengthening Ministry of Health capabilities was not part of the project design. Although that project achieved physical targets in terms of number of health workers trained, the project did not function effectively after the departure of the A.I.D. technicians. In the Lesotho project, donor and host government commitment to institutional- ization led to agreement on the need for a slower pace, which sacrificed short-term gains for the longer term goal of institutionalization. The evidence indicates that this institutionalization process was necessary for the sustainability of project benefits after donor assistance ended.

Another element in the process of institutionalization was the commitment of the Lesotho Government to the reorganization process. Such administrative changes are often politically costly and difficult to accomplish. The commitment to reorganization may have been facilitated by the understanding that the continuation of donor funds was contingent on such change.

The Ministry of Health and PHAL were involved in decisions from the start of Phase I. The technical assistance team, together with their counterparts, identified the political and financial issues--for example, establishment of personnel slots and budgets for nurse clinician salaries and training--that had to be resolved if the project were to succeed. Work on these problems was started early enough to allow the Ministry of Health to solve these problems by establishing posts and phasing in the financing in time for the nurse clinicians to be absorbed into the system upon graduation.

In addition to the phasing of project activities, the total time allowed for project development is important. Phase I had a definite time limit, as did Phase II. Had the project been open-ended, or allowed to run for 8-10 years, there would have been little pressure to complete the process of institutionaliza- tion. The technical assistance advisers knew they had to bring their counterparts up to speed and turn the project over to them at the end of 6 years. Conversely, had the project run for only 2 or 3 years, there would not have been enough time to train and develop a self-sustaining Government capacity to deliver expanded rural health care services.

Lessons Learned: A project must plan for the integration of the required capabilities within the host government and must allow enough time for institutionalization to occur. Achievement of physical targets is insufficient to ensure sustainability; institutional capability must exist if sustainability is to be achieved. In most developing

countries, the ministry of health tends to be weak in financial assets and human resource skills. It is important to accurately assess the capacity of the ministry before the project begins. If weaknesses are found, it is important to establish an explicit plan for strengthening that capacity.

Phased project design is an effective means of enabling the desired institutional changes to take place. Such a design can be used as leverage by the donor to influence decisions by host country policymakers.

The Lesotho project was designed and implemented in two distinct phases. Funding for Phase II, the actual implementation of the training program, was contingent on successful completion of Phase I, which focused on improving planning, administrative, and management capabilities. In addition, the evaluation team found that the time allowed for the project was appropriate.

3.2.4 The Balance Between Promotive and Curative Care

In the health field there is an ongoing tug of war between proponents of curative care and proponents of preventive/ promotive care. The arguments in favor of preventive and promotive care are quite convincing. It has been shown that it is more cost-effective to prevent disease than to try to treat and control it. Although there is much vocal support for preventive health care, the bulk of the resources in most developing country health programs goes for curative care. Lesotho is typical of most developing countries: 82 percent of the Government health budget is allocated to hospital-based care, which is mainly curative.

In large part, this emphasis on curative care comes from the natural desire of health workers to minimize immediate suffering. People demand these services and give credibility and respect to individuals who can meet these needs. Preventive measures such as immunization and prenatal care and promotive activities such as environmental sanitation become subordinate, despite their long-term benefits and the greater cost-effectiveness of preventing rather than treating disease. However, the pressure on health providers, host governments, and project designers is to show immediate improvements. In addition, it is often difficult to convincingly explain to villagers the links between disease and such activities as handwashing and the use of latrines and clean water.

The village health worker cadre was created to bring preventive and promotive care to villages. Both project designers and the Ministry of Health were convinced that the long-term improvement of health status depended on such activities. The evaluation team interviews with nurse clinicians

confirmed that village health workers were performing preventive and promotive activities. There was unanimous agreement by health providers at all levels that the village health workers spent most of their time promoting clean drinking water, village refuse disposal, gardens for improved nutrition, latrine construction, and the use of first-aid procedures. The village health workers stress preventive and promotive activities, but they are also trained to recognize symptoms and refer patients requiring curative care to the rural health center. The evaluation team frequently heard complaints that village health workers lacked the medical supplies and training for curative care. This hurt their credibility and acceptance in the villages.

Experience shows that a minimal level of curative care must be provided if preventive and promotive efforts are to succeed. It is almost impossible, for example, to interest parents in family planning if they are worried about the health of the children they already have. Although there is no set formula, any health care system must strive for an acceptable mix of curative/preventive/promotive care.

The evaluation team believes that the project has in large measure succeeded in striking a reasonable balance. This was possible because basic curative care was available at the health centers, while village health workers reinforced preventive and promotive behavior patterns at the village level.

Lesson Learned: Preventive and promotive health care are necessary for the long-term improvement of health status. However, a basic level of curative care must be provided before preventive and promotive efforts can succeed. Donor health projects and host govern- ments face immense pressure to provide curative services, and both must assume responsibility for encouraging an appropriate mix of public and private health services.

The Lesotho project was able to provide a good mix of preventive and promotive services along with curative services. The village health workers, with assistance from the nurse clinicians, encouraged village-level preventive health measures. This was supported by quality curative service at the rural health centers.

3.2.5 Maintenance and Transport

Although maintenance has been a problem, it has not been a major one in the Lesotho project because of two factors not usually found in the least developed countries: (1) Lesotho has a fairly high level of maintenance capability in Maseru, and (2) what cannot be repaired locally can usually be repaired in the Republic of South Africa.

The Government of Lesotho has established a limited official

formulary for drugs and medical supplies that has minimized duplication and made it easier to keep reasonable quantities of essential drugs in stock. Nurse clinicians at rural health centers showed the evaluation team their pharmacies, which were neatly maintained and reasonably stocked. The nurse clinicians confirmed that the major problem with the logistics system was the shortage of transport. Clinics close to main roads seemed to have better supplies than more remote sites.

Transportation is a serious problem, experienced at all levels of the health system, from the Ministry of Health to the primary health care system. Limited funding from the A.I.D. Combating Childhood Communicable Diseases project has eased transport problems, which could have seriously compromised sustainability.

The project placed major emphasis on strengthening the administrative, planning, and managerial capabilities of the Ministry of Health. These efforts were relatively successful. Although there still are maintenance and logistics problems, the project is able to manage and support the field staff reasonably well.

3.3 Organizational and Management Factors

3.3.1 Supervision

In rural health delivery systems, supervision is usually the weakest link and becomes one of the most critical issues of sustainability. From the start, the project had a systematic plan for supervision, based on the following procedures:

-- The nurse clinician in the rural health center supervises an average of 15 village health workers, spending half a day a month with each village health worker, either in the village or in the rural health center.

-- Each health service area hospital has at least one supervisor to support the nurse clinicians in the rural health centers in its region.

-- The doctors have ultimate responsibility for all activities of the health service area unit. They receive reports from supervisors and directly supervise poorly performing workers.

The November 1985 final project evaluation (Gilbert et al.) made the following observations:

> Over 90 percent of the village health workers were supervised by nurse clinicians. The remainder were supervised by hospital-based village health

coordinators. The frequency of supervision was satisfactory in 77 percent of the cases. In the case of 6 percent of village health workers, their supervisors visited them weekly, and in the case of 64 percent of village health workers, their supervisors visited them monthly. Frequency of contact with nurse clinician supervisors is higher than indicated by the above figures since almost 100 percent of village health workers come to the health center on a regular basis to accompany patients, turn in records, or get supplies.

The evaluation team visited five rural health centers in the northwest area of Lesotho. The number of village health workers under a nurse clinician ranged between 5 and 19. In all of the interviews, the nurse clinician expressed a keen appreciation of the need for frequent contact and supervision of village health workers. All of the nurse clinicians responded that they saw their village health workers at least once a month, and most of them more often. Most nurse clinicians set aside one day a week for "community work," when they traveled to the villages, usually by bus.

The record of supervision and consultation from each health service area was equally impressive. All nurse clinicians responded without hesitation that the supervising physician visited them once a month. The visits were regularly scheduled so that the nurse clinician could ask patients to return on the scheduled day if they required further consultation or diagnosis. This proved to be an effective way for nurse clinicians to advance their skills and gain confidence.

Finally, there is continuing contact with the Nurse Clinician Training Center. Annually, all nurse clinicians return to Maseru for refresher training, which lasts 1 week. In the interim, there are visits by various Ministry officers, for example the Extended Immunization Program field supervisor, and others affiliated with specific health programs. Finally, there is a bimonthly newsletter that keeps nurse clinicians apprised of the latest technical and administrative developments.

The project has achieved an effective level of supervision. Evaluation team interviews made it clear that workers feel they are a part of an integrated network that provides needed support and encouragement.

Lessons Learned: Supervision is a critical element of any health system. Regardless of the effectiveness of initial training, workers must receive systematic support and guidance if they are to remain effective. Without such supervision, early gains are easily lost.

Supervision is a difficult and costly component of a primary health care system and produces little observable or tangible output. Thus, the supervision

component is likely to be eliminated during periods of budgetary stringency. Transportation is expensive, with many competing uses for fuel allocations. Staff shortages and high demand for treatment make it difficult for supervisors to find time to visit the field. A successful supervisory program does not just happen; it requires design and implementation and the kind of commitment demonstrated in the Lesotho project. Donors have a responsibility to ensure that adequate provisions are made for this critical and often neglected component.

The supervision system in place in the Lesotho health system is impressive. Field health workers are visited on a regular basis. Two-way radio communication further links remote health centers to area hospitals, which can provide immediate consultation.

3.3.2 Donor and Ministerial Coordination

In 1974, the Private Health Association of Lesotho (PHAL) was founded by missions from six churches, which are major providers of health care in Lesotho. Relations between the Ministry and PHAL are good. The nurse clinicians trained in the Government program are employed by both the Ministry and PHAL. Coordination is good both at the central level, with frequent meetings and joint planning, and in the field at the health service area and the health center levels.

Donor coordination is exceptionally good. The Lesotho Donor Health Coordination Group is chaired by the World Health Organization (WHO) resident representative. It meets regularly in Maseru and has been successful in facilitating the exchange of information and in avoiding duplication of efforts. At a recent meeting, there were representatives from WHO, the United Nations Development Program, the United Nations Fund for Population Assistance, the Combating Childhood Communicable Diseases project, A.I.D., the World Bank, Catholic Relief Services, and the United Nations Children's Fund.

3.3.3 Information Feedback

The 1985 final evaluation (Gilbert et al.) found that 84 percent of the nurse clinicians had either a functioning two-way radio or a telephone. The Ministry is continuing to buy more two-way radios and should reach 100-percent radio coverage soon. The availability of radio communications has greatly extended the capabilities of the health centers to improve their services. They can call in requests for supplies, consult with health service area physicians on patient treatment, and arrange for emergency treatment or transportation for seriously ill patients.

The final evaluation also found that 97 percent of the nurse clinicians were routinely forwarding management information reports to their health service area or to the Ministry directly. They also found that 92 percent of nurse clinicians were involved in surveys and other efforts to determine and evaluate health needs in their areas.

Recording, tracking, and reporting procedures seem to be well established. If anything, the reporting has improved to the point where the Ministry may be getting more than it can digest and analyze for planning and decision-making. The Ministry of Health needs to do much more to improve the use of field data in management planning. The suggestion has been made to improve this capacity by furnishing computers and computer training for the Ministry as part of an upcoming World Bank project.

3.3.4 Integration Issues

The Lesotho project is typical of what is often referred to as a horizontal program. Horizontal programs attempt to deliver a wide range of health services in a comprehensive, coordinated fashion. In contrast, vertical programs are focused on a particular disease or health problem (like malaria or infant diarrhea). Vertical programs are normally used when the existing health system has difficulty addressing a pressing health problem.

Although vertical programs are effective in achieving physical targets and are often the quickest way of making a change in the health status of a population, they may create some longer run problems. A health system based on a wide range of vertical programs is difficult and expensive to manage. There is competition among programs for scarce resources and duplication is frequent. Therefore, vertical programs should ultimately be integrated into the comprehensive health care delivery system.

Prior to the project some important health programs, such as those for childhood immunizations, were being implemented in vertical programs that led to less than optimal use of Ministry of Health resources. For example, immunization staff created additional transportation needs for surveillance and special clinics and separate requirements for supplies, medicines, and staff. The project helped reduce waste of resources by establishing an integrated system through which Ministry and donor efforts could be effectively managed. The same delivery mechanism, based on the nurse clinician and village health worker, is now used for all programs. For example, immunization supplies and medicines are now delivered with regular shipments. Nurse clinicians maintain the immunization records of children in their area. Immunization coverage is available on a continuing basis at the clinics. If there is an epidemic requiring special action, the Ministry has a trained cadre in place through which they can begin work immediately.

Lesson Learned: In the interest of efficiency, vertical programs should ultimately be integrated into the primary health care system. Although not easy, the result of successful integration is a strong primary health care system capable of focusing on a particular problem area (e.g., childhood immunization or infant diarrhea), but within the context of the primary health care structure.

The Lesotho project has helped strengthen the primary health care system in Lesotho, and the system is now able to formally complement vertical health efforts like childhood immunization. Also, in Lesotho, the same delivery system is used for all health programs, resulting in a more efficient and effective use of resources.

3.4 Political and Sociocultural Context of the Project

3.4.1 Acceptance of Physician-Extenders

Physicians in Lesotho have accepted the use of physician-extenders to deliver primary health care. If the physicians had opposed this approach, the project would have faced serious problems. The potential problem was recognized early in the project planning stage and was skillfully handled. The project was thus successful in disarming the issue and developing good relations between the physicians and the nurse clinicians.

Why has the response of physicians in Lesotho been so positive when the response in many other countries has been unsupportive or even antagonistic? In other countries, physicians have felt threatened by the physician-extenders and refused to cooperate with them, arguing that patient care would suffer if paraprofessionals provided basic health care. In some cases physicians have sabotaged efforts to implement such systems. Why did it work in Lesotho? Evaluators making a short visit to a country cannot presume to give the definitive answer to so complex a question. However, based on a review of documents and discussions with nurse clinicians in the field and representatives of the USAID Mission, the Ministry of Health, and PHAL, the evaluation team identified the following factors that may have helped the approach to succeed:

1. Lesotho is extremely short of physicians, and there was no hope of being able to provide enough physicians to cover all the needs of rural areas any time soon.

2. As is the case in many developing countries, most physicians are in the capital, and it is difficult to recruit them to live and work in rural areas. In addition, more than half of the physicians are expatriates.

3. The Ministry of Health operates a nurse-midwife training program based on the British method of nurse training. The British method prepares nurses to assume substantial responsibilities and to diagnose and provide treatment (dispensing drugs, suturing, minor surgery) that American nurses are not allowed to do because of restrictive legislation.

4. Nurses are highly respected in the community and by the physicians.

5. Considerable effort was made by the project to actively include physicians in the development of the nurse clinician-village health worker training program. Physicians have also been directly involved in the training during the rotation period when the nurse clinician trainees worked in the health service area outpatient clinic.

6. The project produced and distributed a manual to physicians, explaining the project, how physicians fit into the system, and how the nurse clinicians could lighten the physicians' work load. The manual explained that the nurse clinicians would take care of routine patients and would pass on to the physician only those few cases that they could not handle. The physician would no longer have to see every patient and thus would have more time to spend on serious cases. There were also meetings and discussions with physicians to clarify the physician-extender concept and to assure the physicians that patient care would not suffer.

7. The Government of Lesotho prepared administrative and legislative acts recognizing the role of the nurse clinician.

8. The high esteem that the nursing profession has in Lesotho played a major part in the success of the program.

Lessons Learned: It is important to involve all interest groups in the project early on and to ensure that they fully understand the approach of the project. This will help alleviate their fears and misgivings and gain their cooperation, which is important to the quality of patient care.

It is important that projects work with existing professionals and take advantage of the goodwill and credibility these groups possess.

Because of a shortage of physicians, the great respect for the nursing profession in Lesotho, and the substantial responsibilities carried out by nurses, physicians in Lesotho have not resisted, but rather have cooperated with the physician-extender program. Recognizing that the doctors had to be won over to the concept, the project made a concerted effort to explain the nurse clinician approach to physicians in

order to gain their cooperation and allay their fears regarding possible competition or a decline in the quality of patient care.

3.4.2 Use of Volunteers

Many developing countries view volunteers as an effective means of providing health services to remote rural areas. The obvious advantage of this approach is that it reduces costs and encourages local-level participation. Volunteers are often considered a free resource. A donor project usually funds the volunteer training program and normally provides the startup supplies. The recurrent cost obligations of the host government are thus nominal. Although this sounds attractive in theory, there are often problems with using volunteers.

For example, project designers and ministry of health officials assume that volunteer time is cost free, which in reality it is not. Serving the needs of the community takes people away from productive activities, and ultimately there is a need for compensation. The most desired form of compensation is financial, but it can also take the form of in-kind payment or rewards, or prestige and recognition in the village.

In the Lesotho project, the village health worker was an unpaid volunteer. Individuals interviewed, both in the USAID Mission and in the Ministry, stated that while problems with attrition exist, the program seems to be working well. When asked why the program worked, the most frequent response from the Ministry was that in Lesotho there is a very strong sense of responsibility and civic duty to the community.

The Lesotho Director of the Combating Childhood Communicable Diseases project indicated that the provision of good meals, praise, and retraining sessions were part of the efforts to keep volunteers motivated. He viewed the annual training sessions (usually held at the district level for 2 days) as morale-bosters that gave the workers something to look forward to.

Lesson Learned: It is difficult to maintain the enthusiasm and interest of volunteers. A strong sense of community service, along with training sessions, can help to boost morale.

Only the village health workers are volunteers in the Lesotho health care system. Periodic retraining sessions have been used to boost morale.

3.4.3 Timing and Receptivity

The timing of the project was fortuitous for A.I.D. and the

Government of Lesotho. As discussed in earlier sections, the physician-extender approach was consistent with the Ministry of Health's goal of extending rural health services. The approach tapped an existing human resource base of nurses and relieved the pressure on Lesotho's few and overextended physicians.

Perhaps it was equally important that during the period of the project, A.I.D. was interested in providing assistance for primary health care activities. Following the 1973 "New Directions" policy, A.I.D. emphasized basic human needs. The delivery of services to the rural poor was central to A.I.D.'s health sector strategy, which at that time emphasized strengthening comprehensive rural health care delivery systems. The physician-extender approach had been used in other A.I.D. health projects and offered the Agency a methodology that could be transferred to even more countries if successful.

The Ministry of Health already had the desire and recognized the need for change; all it required was direction. The project provided the mechanism. It was the appropriateness and timeliness of the project that persuaded the Government to pursue this strategy rather than another. As a result, the Government of Lesotho was receptive to the project. There was a happy coincidence of objectives and a strategy that seemed to address both donor and recipient needs.

One cannot help but notice how critical timing was. Only 5 years before this project began, or even now (less than 2 years after completion), A.I.D. would probably not have designed a project like this one. At the time this project was designed, there was a major shift in health policy toward comprehensive rural primary health care. Perhaps because of the difficulties A.I.D. has had with so many other primary health care programs, the Agency now believes it can be more effective if it supports a limited number of focused interventions. An example of such an effort is the recent priority given to child survival strategies. Rather than a comprehensive, broad-based effort to promote child health, A.I.D. selected several critical interventions through which, it is believed, a significant change in health status can be effected. Examples of such interventions are immunization campaigns and the use of oral rehydration therapy to combat dehydration caused by diarrhea. If A.I.D. were planning a project for Lesotho now, facing the same set of circumstances that existed in 1976, the program would most likely center on these two activities, not a comprehensive primary health care system.

Lesson Learned: The donor's assistance priorities often determine the type of health project that is carried out. However, donors must make certain that this is also what the host country wants.

In the case of the Lesotho project, it was fortunate that the intervention was both what the recipient needed and a priority area for the donor.

3.4.4 Community Participation

The role of local communities in the delivery of health services is very limited in Lesotho. Traditionally, the Central Government assumed most of these responsibilities. The project followed that tradition. To the extent that community participation did occur, it was through the village health worker.

The Project Paper noted that "lack of desired success in physician-extender programs can frequently be traced to inadequate preparation for this new approach to health care of (1) the graduate, (2) the health service system, and (3) the community" (USAID 1977). To help ensure greater support, the communities were asked to select their own village health workers after Ministry of Health representatives visited the village to provide information about the new health care system.

Lesotho has two parallel political systems: the modern elected government and the hereditary system of chiefs. Decisions made by village chiefs have a more direct impact on the lives of most rural people than do national policies. These community-level decisions affect important areas such as land tenure, property disputes, and social behavior. Therefore, cooperation with the chiefs and headmen is critical to the effectiveness of the village health worker. The project intentionally chose to involve the village chiefs as much as possible in the selection of village health worker candidates. In order to maximize village acceptance, those who were sent for training returned after training to work in their home villages.

The evaluation team found some difficulties emerging from the village health workers' relationship with the chiefs. Medical extensionists at all levels, but especially nurse clinicians who work closely with village health workers, reported conflicts. The nurse clinician was often asked to intervene and support the health worker's case with the village chief. This was particularly true in gaining cooperation for community activities such as latrine construction, water source protection, and other promotive efforts. Also, village health workers are often frustrated by the lack of prestige associated with the position and poor community support. Without the external encouragement given by the nurse clinician, it is doubtful that village health workers would be as effective as they are.

> Lesson Learned: It is important to consider the local community's political structure when designing a project. Without local political support, health workers are unlikely to receive the cooperation they need.

In Lesotho, the village health worker, chosen by the

villagers, is the principal link between the Government providers and the community. With the support of the nurse clinicians, who have considerable respect, cooperation has been possible.

APPENDIX

PERSONS CONTACTED

USAID/Maseru

Mr. Jess Snyder	USAID Mission Director, Maseru
Ms. Carole Tyson	Assistant Mission Director
Mr. Adrian de Graffenreid	Project Implementation Officer
Mr. John Nelson	CCCD Project Coordinator

Ministry of Health

Mrs. Ntunsi Borotho	Chief Health Planner
Mrs. Nthari Matsau	Senior Health Planner
Mrs. M. Ntholi	Primary Health Care Program Coordinator

Nurse Clinician Training Center

Dr. M. Nyaphisi	Physician Trainer
Ms. J. N. Rankhethoa	Principal Nursing Officer for Nurse Clinicians

Expanded Program for Immunization

Mr. C. Thabo Mafike	Field Supervisor

Butha Buthe Health Service Area (HSA), Ministry of Health

Butha Buthe Government Hospital

Mrs. C. Polisa	District Public Health Nurse
Mrs. M. Utebelo	Senior Nursing Officer
Mrs. F. M. Qhobela	Hospital Administrator
Mr. E. T. Molefi	Senior Health Assistant
Mr. Makhabane	Pharmacy Technician

Linakeng Health Center, Ministry of Health

Mrs. T. Makhetha	Nurse Clinician

Sebocho Health Service Area (PHAL-Roman Catholic Hospital)

Qholaqhoe Health Center

Mrs. G. Moliboea Nurse Clinician

Leribe Health Service Area (PHAL-Adventist Hospital)

Likhetlane Health Center (Ministry of Health)

Mrs. Elizabeth Maloi Nurse Clinician
Ms. Malente Motaung Nurse

Maloti Health Service Area (PHAL-Adventist Hospital)

Emmanuel Health Center (PHAL-Seventh Day Adventist)

Mrs. K. Matela Nurse Clinician

Private Health Association of Lesotho (PHAL)

Mr. Thabo Makara Executive Director

BIBLIOGRAPHY

Alden, John, Theresa Lukas, and W. Delano Meriwether. An Evaluation of the Lesotho Rural Health Development Project. USAID, April 1982.

American Public Health Association. Evaluation of Lesotho Rural Health Development Project. APHA/USAID, February 1980.

Gilbert, Lynn, Dan Makuto, and, Jack Sterken. Final Evaluation of the Lesotho Rural Health Development Project. USAID, November 1985.

International Development Association. Lesotho: Health and Population Project. IDA/R85-53. International Development Association. April 1985.

MEDEX. Lesotho Rural Health Development Project. Final Report. January 1979-May 1984, Maseru, Lesotho: MEDEX, October 1984.

USAID/Lesotho. "Lesotho Rural Health Development." Project Paper No. 690/0058. January 1977, as approved September 29, 1977.

World Bank. Staff Appraisal Report--Lesotho Health and Population Project. World Bank Report No. 5437-LSO. Washington, D.C.: World Bank, April 1, 1985.

World Bank. Economic Memorandum on Lesotho. World Bank Report No. 4415-LSO. Washington, D.C.: World Bank, October 1983.