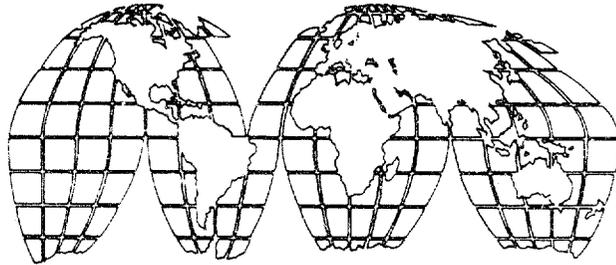


USAID Working Paper No. 174

Center for Development Information and Evaluation



A Synthesis Study of the Factors
of Sustainability in A.I.D. Health
Projects

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

A SYNTHESIS STUDY OF THE FACTORS OF
SUSTAINABILITY IN A.I.D. HEALTH PROJECTS

A.I.D. EVALUATION SPECIAL STUDY NO. ____

by

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U.S. Agency for International Development

August 1987

The views and interpretations expressed in this report are those of the authors and should not be attributed to the Agency for International Development.

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FORWARD

Health assistance programs
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development assistance

A.I.D. has been very successful in designing and implementing health assistance programs that deliver benefits to those most in need. Nearly all are successful during the period of A.I.D. funding. However, such efforts need to continue after A.I.D. funding ends. The sustainability issue goes to the heart of development assistance -- how can we design health projects so that health benefits continue to flow effectively long after projects are completed.

All too often a project is successful during the period of A.I.D. funding but then dies once A.I.D. funding ends. The key is to develop a program that creates indigenous capabilities and the institutional strengths required to carry on the program. A.I.D. projects need to develop and nurture those capabilities so that developing countries can take charge of the pace and direction of their own development. That is what sustainability is all about -- building a viable development capability.

project on benefits?

Part of the sustainability problem relates to the need to generate immediate and measurable outputs. A.I.D. managers are accountable for success during the life of a project. A typical health project has a 4 or 5 year life. All attention focuses on generating benefits during the life of the project, preferably early in the life of the project. Project commodities, training and technical assistance are focused on generating cost effective outputs during the period of A.I.D. funding. Project Papers rarely examine costs and benefits beyond the period of A.I.D. funding. A.I.D.'s interest all too often ends once the project is completed. However, the technical design and organization of the project will generate manpower, administrative and financial requirements that the developing country will have to bear for years into the future. This study recommends that A.I.D. health planners also consider what will happen once the project ends.

The study analyzes sustainability from the experience of 62 completed A.I.D. health projects. It identifies a number of factors that are important and should be considered when planners are designing a health project. Those factors are discussed throughout the paper. For the convenience of project designers they are summarized on page viii, "Improving Project Sustainability --- A Project Design Checklist." The checklist is a useful guide for assuring that sustainability is considered in the design of A.I.D. health projects. It is hoped that this study will aid those who are designing new health projects when they address the issues of sustainability.

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SUMMARY

This 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 beneficiary welfare). A sustainability evaluation examines a successful project to see if the benefits of project activities can be sustained once A.I.D. funding ends. 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 reach that point, a developing country must have the capacity and willingness to provide the human, material, and financial resources required to operate an effective project and to plan and manage that project with little or no outside assistance.

While project 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 selecting the right technical and operational structure, and adapting the project to the political, social, and bureaucratic context in which it must operate.

This paper looks at the experiences of selected A.I.D. health projects, and explores the ability of these efforts to continue providing benefits after A.I.D. support ends. Sustainability is fundamental to the achievement of the objective of a lasting improvement in health conditions in developing countries. As compared to other assistance sectors, health projects are particularly susceptible to sustainability problems. Typical of these problems are high recurrent costs along with extensive training, logistical and management requirements. However difficult, it is particularly important that the benefits of health projects be sustained because they address the most basic needs of development--easing pain and suffering while increasing the productive capacity of poor people. It is hoped that this study moves toward a better understanding of that process.

This study is part of a broader evaluation exercise that has examined health sustainability in individual projects and country programs. While the analysis focuses on health sustainability, many of the problems and many of the solutions also apply to other sectors. This synthesis is based primarily

on evaluation documents available to the authors during the period of research. The review included 62 completed health projects. Analysis of these documents suggested that the presence or absence of certain factors was related to the project's prospects for sustainability. While a fairly extensive list of factors was developed, it was based on written reports 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. Since post-project evaluations were generally not available, field visits were required. Two projects were selected for field verification: The Gambia Mass Media and Health Practices Project, which was a focused intervention emphasizing child survival, and the Rural Health Development project in Lesotho, which was an integrated, comprehensive health service intervention. The reports on these two projects are part of the A.I.D. Evaluation Special Studies Series.

The central theme of this study is the identification of the factors that contribute to sustainability. These are the conditions that will make it possible to design health projects that have a greater chance of being sustained. There are four broad categories into which the factors of sustainability identified in this study can be grouped:

- Economic and Financial Factors
- Technical, Design and Implementation Factors
- Management and Institutional Factors
- Policy, Bureaucratic and Social-Cultural Context

While some of the lessons learned and recommendations to designers may seem self evident or common knowledge, this review found that all too often they are ignored. Failure to address these factors adversely affected the sustainability of health projects. For example:

1. The more a health project includes a financing system that provides funds from the developing country's own resources, the greater are the chances for sustainability. Therefore, projects must consider all sources of funding (such as user fees, local village contributions, private sector participation, and national budget allocations). This review found that financial responsibilities are easier for a developing country if, early in the project, an agreement

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is reached whereby the host country steadily assumes an increasing share of project financing.

2. An adequate timeframe is one of the most important factors affecting program sustainability. There is a pervasive tendency to make unrealistic, optimistic projections at the design stage regarding the time required to meet project goals. Institutionalization of activities takes longer than most projects anticipate. One technique that can be used to assure that time is well spent is breaking the project's activities into phases. The use of a phased design approach can help projects focus on the elements required to meet some immediate goals, while preparing the foundation for the next group of activities.

3. Both donors and host governments want to see quick results from their development activities. However, if benefits are to be sustained, a project must balance pressures to produce immediate outputs with a longer-run emphasis on training and skills development which lead to a viable institutional structure. Recognizing that leadership and management skills are the scarcest of human resources required for development, it will often be necessary to include explicit measures to strengthen such skills in the project design.

4. While community participation can play an important role in providing health care, this review found that the successful organization of community development activities is often more difficult than the initial establishment and operation of a health services system. The very nature of cooperative, democratic procedures is foreign to villagers in most developing countries. Such behavior requires that the highly individualist community members recognize community goals and be convinced of the benefits of working in common with other members of the community to achieve them.

5. Volunteers are not a free resource that can be used indefinitely. This review suggests that, with a few exceptions, volunteers will eventually require compensation for their services. If not compensated, high attrition rates and subsequent loss of the project's investment in human capital is likely. All possible mechanisms for establishing salaries should be explored.

IMPROVING PROJECT SUSTAINABILITY

A PROJECT DESIGN CHECKLIST

The review of evaluations of A.I.D. health projects identified a number of factors that are important in building a sustainable project or program. 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, bureaucratic and social-cultural context in which the project will operate.

The sustainability factors that were important in the projects reviewed for this study are presented below. Summary findings relating to the factors form a checklist which may be useful to project designers when they are planning a new project.

Economic and Financial Factors

1. Health projects in poor, low-income developing countries are risky. Sustainability is threatened since those countries lack the necessary financial, manpower and institutional resources. To counter such problems, projects should be kept simple with extra attention given to finance, training and institutional development.
2. Consumer demand has an important role in sustainability. If health services are seen as useful and relevant, the community and beneficiaries are likely to provide the financial support necessary to sustain benefits.
3. Project designers all too often assume that poor people can't pay for their own medical care. Experience shows that poor people are willing and able to pay for traditional healers, traditional birth attendants and medicines. To the maximum extent practicable, user fees and drug sales should be used to generate revenues to support project efforts. If the health services are valued, people will pay a large share of the costs.
4. Project designers must make a realistic assessment of a country's financial ability to pay for a project during both the period of A.I.D. funding and after A.I.D. support ends. A project is more likely to be sustained if early in the project life the host country agrees to steadily assume an increasing share of project costs. Such costs are easier for a developing country to handle if the increases are small and are steadily budgeted and phased-in each year.

5. Health projects must have a high benefit cost ratio. In addition, costs must be reasonable in relation to a developing country's ability to pay. In an LDC with a per capita GNP of \$200, a project with annual per capita costs of \$20 is questionable. One with a per capita cost of under \$2 stands a much better chance of being sustainable.

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6. Projects using highly advanced technologies that are dependent on foreign imports and projects that rely heavily on government funding are particularly vulnerable. A balance of payments crisis or government budget shortfall will threaten sustainability. Project designers should try to minimize dependence on imports and government funding.

7. While many projects use volunteer health workers as a way to mobilize local participation and as a means to cut costs, they usually fail. The use of volunteers is rarely successful for more than a few years. Projects that depend on volunteers will rarely achieve long-run sustainability.

Design, Implementation and Technical Factors

1. All too often A.I.D. has a clear idea of project objectives, but they are not shared by the host government. The project then runs the risk of becoming an A.I.D. project with little interest or support from the host country. Project goals and purpose must be explicit, understood and shared by all parties if benefits are to be sustained.

2. Those working in the field of economic development are optimistic. Those working on health projects are the quintessential optimists. They consistently make unrealistic and overly optimistic projections regarding the time required to meet project goals. In the health field, the usual A.I.D. 5-year project timeframe is rarely long enough. Projects need to allow enough time for manpower development and institutionalization to take hold. That may require up to 10 years.

3. The more simple, precise and cheap a technology, the more likely it will be sustained. When designing a project in a developing country that has limited institutional capacity, technology must be adapted to these realities.

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4. Phased design can lead to continuity of implementation, and can help a project assure that the first stages are completed and firmly established before the project attempts to move into the second stage.

5. The organizational structure of a national program is more likely to be sustained if it is based on the prior experience of a pilot program.

6. An adequate transportation, maintenance and commodity supply system is essential for sustainability. In addition to establishing these systems, projects must develop host country capability to manage them once donor assistance ends.

8. Indigenous practitioners are usually already delivering health services to a population. The role they play should be understood by project designers, and if practicable, they should be included in the project.

9. Preventive/promotive health care is necessary for long-run improvement of health status. In most developing countries there is a clear bias in favor of curative care, primarily because it is demanded by beneficiaries. There is a tendency to wait until benefits are observable before adopting promotive practices. A minimal level of curative care must be provided if preventive/promotive efforts are to succeed.

10. Sustainability is related to the capacity of host government institutions to maintain the flow of benefits. A major part of sustainability is the institutionalization of skills, knowledge and capabilities. A trade-off between speed of implementation and institutionalization exists. To be sustained, pressures to produce immediate outputs must be effectively balanced with a longer-run emphasis on training and skills development.

11. Careful and gradual phased integration of a vertical program into a horizontal program offers the best prospects for success. The basic organization needs to be established, staffed, and adequately budgeted before the program begins to be phased in. If this is not done, economic gains already achieved may be lost.

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Organizational and Management Factors

1. In developing countries, effective management and leadership skills are among the scarcest of human resources. Care has to be taken to not overburden the managers of developing country health institutions or to set unrealistic goals and objectives. This may mean that the project has to move at either a slower or scaled-down pace until this capacity is built.

2. Spread effects and spin-offs are tangible evidence of sustainability. Care has to be taken that the demand for the technology does not out-pace project capacity. An important role for donor assistance can be to increase the capacity and quality of host country staff responsible for disseminating the technology. In addition, investment of project resources in local enterprises can provide a base for growth after the project ends.

3. A management information system helps managers determine how well their project is performing and which methods work most effectively. Sustainability can be encouraged by a continuing flow of information so that efforts can be reevaluated and redesigned as the project unfolds.
4. The more a project depends on advanced, technical skills, the more a commitment must be made to long-term participant training. Retraining is as important for sustainability as the initial training. The newer the concept, the more there is a need for reinforcement through retraining. Sustainability of training benefits can be threatened by high attrition rates.
5. Effective supervision contributes to improved worker performance and is important to sustaining training benefits. Supervision is an expensive component in terms of professional time and high travel costs to field health posts. Sustainability will be helped by including supervision that can be effectively maintained (at minimal cost) by the LDC after the project is completed.
6. Improved donor and host government coordination can lead to more effective use of limited resources. When ministerial coordination will be required, project designers should take into consideration the disruptive impact that bureaucratic conflicts and dependencies can have on development projects.

Policy, Bureaucratic and Social-Cultural Context

1. Government policies that support project objectives are critical to project relevancy and sustainability. To the extent practicable, donors should encourage the adoption of effective policies. Projects should not include elements where known policy conflicts are going to preclude success.
2. When the sustainability of a project depends on certain host government actions, these actions should be clearly identified before the project is started. In addition, a specific and realistic plan for accomplishing the tasks must be in place.
3. Political factors figure prominently in the survivability of infrastructure. Projects operating in such environments should have realistic expectations about national and local level support.
4. Where special interest or opposition groups are strong, they must be recognized as potential obstacles to project activities. The first step in addressing the problem is a concerted effort to explain the project and the role of project workers to the affected parties. Many times this will allay fears of quality of health care or competition.

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1. INTRODUCTION

1.1 Purpose and Objectives

This synthesis study is one part of the A.I.D. Center for Development Information and Evaluation's larger effort of evaluating A.I.D. health assistance. It examines the factors assumed to be important in creating sustainable health benefits against actual experience in selected A.I.D. health projects. The focus is on what happens after funding ends, and why.

Development is more than transferring resources. Donors need to apply resources to sustainable programs that will have lasting benefits--rather than supporting projects that will collapse once donor funding ends. This is of particular importance in the field of health. Health projects affect the quality of life and can provide a more equitable distribution of benefits. They meet one of the most basic needs of development--easing pain and suffering while increasing the productive capacity of poor people. As compared to other sectors, health projects are particularly susceptible to sustainability problems. Health projects generally have high recurrent costs, and extensive training, logistical and management requirements.

A.I.D. needs to identify the conditions that allow donor supported health projects to become accepted and integrated into a developing country's socio-economic fabric and to be carried on long after donor funding ends. If those conditions can be identified, it will be possible to design health projects that have a greater chance of being sustained. Such projects will generate important spread effects, develop indigenous problem solving capabilities and help direct local efforts and resources.

1.2 Definition of Sustainability

A project is considered to be sustained if it continues to deliver a high level of benefits after a donor ends major financial, managerial and technical support. Note that the emphasis is on maintaining the flow of benefits from a project activity, not necessarily the project itself. A project must first generate benefits, but it cannot stop there. It is equally important that it provide a mechanism for those benefits to be perpetuated. The formal project structure may dissipate as activities are integrated into the host country's line agencies or some other public or private executing body. For benefits to be sustained, a developing country must have the capability and willingness to provide the human, material and financial resources required to operate activities, and to be able to plan and manage those activities with little or no outside assistance.

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All assistance projects are designed to deliver development benefits to a target population. That is the short-run objective. The key is whether the project is able to go beyond that point--to create the capacity within a developing country to cope with development problems on a self-sustaining basis. In the broadest sense, sustainability is a measure of development success--projects that are effective continue to deliver benefits and thus are important enough to be carried on by the host country after the donor departs. Other programs slowly wind-down and dissipate. Almost every project proposal claims that it will achieve sustainability. In actual practice, all too many do not.

1.3 A.I.D. Context

1.3.1 The Health Problem

Despite progress toward increasing life expectancy, the majority of people in most developing countries remain in poor health. For those at the lowest income levels, health conditions are abysmal. In many countries life expectancy does not exceed 50 years, one-third or more of infants die before the age of five, and millions of adults suffer from chronic, debilitating diseases. In addition to continual pain and suffering, there are economic effects. Chronic disease leads to higher mortality and a shortened overall worklife. Even during that shortened worklife, each person has less working time and lower productivity.

Economic growth and human capital development are closely related; sustained growth cannot be achieved without at least a minimally trained and healthy population. Reduced mortality through improved health is critical to improving productivity in general, and agricultural output in particular.

There is a direct relationship between improvements in life expectancy, a widely-used health indicator, and economic progress. The development success stories of the 1960s (Korea, Taiwan, Singapore, and Hong Kong) combined a high rate of economic growth with broad and systematic investments in their most abundant resource--people. While direct causal relationships are hard to identify, improved health and increased life expectancy are closely linked to rapid economic development.

The most sensitive national-level indicator of general health status is infant and child mortality. Life expectancy also serves as a useful measure of health status, although in developing countries increases in life expectancy stem largely from reductions in infant mortality. Early childhood mortality is a result of conditions of poverty which contribute to and interact with a vicious cycle of infection, malnutrition and reinfection. The cycle often begins when closely spaced births and inadequate maternal nutrition contribute to low birth weight. The already weakened defense mechanisms of surviving children are further assailed by inadequate weaning practices and by repeated episodes of diarrhea and other infectious diseases. A lack of adequate, nutritious food increases the effect of disease episodes, until in the end children die of what would otherwise have been a routine childhood illness.

1.3.2 Health Policy and Assistance Strategy

A.I.D.'s health policy is based on directives from Congress contained in the Foreign Assistance Act of 1961, as amended. The legislation directs A.I.D. to concentrate on efforts to help less developed countries to: design and implement basic health care delivery systems; selective disease prevention and control; adequate drinking water and sanitation systems; and related health planning and research. Recently, Congress specifically added child survival to the list of objectives.

Over the last 25 years, A.I.D.'s health strategies have come full circle, starting with highly intense, selective interventions; moving to comprehensive, integrated primary health care programs; and most recently back to an emphasis on child survival that is in many ways similar to the earlier interventions. Vertical programs are often implemented as campaigns, where resources are mobilized to attack one health problem. Such programs are both highly visible and intensive. Many recent child survival projects have utilized the successful elements of the campaign approach. This is not necessarily going back to the 1960's however, because current programs focus on strengthening a part of a broader primary health care system. The remainder of this section briefly outlines the evolution of A.I.D.'s health strategies.

From the 1940's through the early 1960's A.I.D. and its predecessor agencies began to involve themselves with international health activities. The Marshall plan represented a fundamental policy shift for the United States to longer term foreign assistance. A.I.D.'s earliest programs were very focused interventions (mainly malaria control, immunizations, and food distribution/nutrition programs). Even before A.I.D.

was formally created, U.S. international health efforts had emphasized malaria eradication. A.I.D. worked in several vector-control programs, but in none with the consistency and endurance of its 30-year battle against malaria. The effort to control malaria has been a continuing and major theme of U.S. international health programs.

From the early 1970's into the early 1980's A.I.D. concentrated on developing and became a leader in funding primary health care systems. A.I.D.'s 1982 Health Policy Paper found that urban-oriented, hospital-based systems had not proven effective for improving general health conditions. Primary health care was recommended as a workable health delivery model since it provides access to those most in need of basic health services at costs well below those of traditional hospital-based care. Such programs were designed to achieve broad coverage of a developing country's population with low-cost, basic health services. Efforts were concentrated on integrated systems that were low cost and community-based. By 1982, one half of the Agency's development assistance health budget supported primary health care programs.

A.I.D.'s 1982 Health Policy Paper stressed: "helping developing countries to become self-sufficient in providing broad access to cost-effective preventative and curative health services directed at the primary causes of mortality and morbidity". It further stated: "that an integrated approach, combining maternal nutrition, immunization, nutrition monitoring, and expanded roles for village health workers is effective in diverse settings".

Three areas were identified for concentration:

- Increasing the cost-effectiveness of health programs through improved design, management and implementation;
- promoting self-financing, sustainable health programs; and
- increasing biomedical research and field testing.

The same policy paper also emphasized the relationship between health programs and the Agency's "Four Pillars" (policy reform, private enterprise, institutional development and technology transfer):

- Health policy reform should encourage governments to adopt cost-recovery schemes rather than a policy of free care for all.
- Private enterprise should be encouraged by (a) retraining existing informal or "traditional" practitioners to provide modern health services; (b) using private logistics and

distribution channels; (c) requiring private contributions (fees) for services and (d) encouraging private drug manufacturers and other enterprises.

--Institutional development of nursing and medical schools.

--Research, testing and adaption of critical health technologies would also be supported.

In the years after the 1982 Health Policy Paper, further thinking centered on two health problems that were central to nearly every developing country:

--Half of all those who die in developing countries are children under five; and

--Developing countries that were able to improve the life expectancy of their people, did it by sharply reducing infant and child mortality.

Thus, starting in 1985, A.I.D.'s primary health care emphasis was modified and focused on those two problems. This became the child survival strategy. This shift not only reflected the need to deal with high infant and child death rates but also problems that were developing with the traditional primary health care approach. Most primary health care programs emphasized a broad range of interventions--growth monitoring, breast feeding, nutrition education, prenatal screening, oral rehydration, family planning information and services, basic immunizations, sanitation and hygiene education, treatment of minor illnesses, emergency treatment for more serious injuries, and dispensing a wide-range of drugs and medical supplies.

Experience in many countries demonstrated the difficulty of the broad primary health care approach. By attempting too many varied interventions at once, the system becomes overloaded. In particular there was often little improvement in the health status of children. Increased recognition of the problem within the health community and Congressional directives helped to accelerate the trend toward focused interventions aimed at reducing infant and early childhood mortality.

2. METHODOLOGY

2.1 Sample Size and Selection

To assess sustainability it is best to look at completed projects, after A.I.D. funding has ended. Therefore, this study only analyzed completed projects. The disadvantage of such an approach is that many on-going projects, that reflect A.I.D.'s new health initiatives, are excluded. The most obvious of these are the projects emphasizing child survival. Almost all of these projects are too new to allow any judgments on sustainability. This study identifies many of the factors; like cost recovery, management skills and organizational capacity, that are basic to the sustainability of any health project. Even though many of the new initiative projects are excluded from the sample and analysis, it is felt that the lessons and experiences learned from older projects will be relevant to them.

All projects in the study were selected from the Bureau for Science and Technology, Office of Health Project Data Base. In addition to the health data base, the Office of Health maintains a Water and Sanitation Data Base. Since this study is more concerned with health delivery systems and their institutional requirements, the water and sanitation projects were excluded. It should be noted that some projects in the health data base have a major water and sanitation component. If they were in the Health Project Data Base and completed as of January 1987, they were included in the sample.

Projects that were mainly resource transfers or service delivery, without an institutional component, were excluded from the analysis. The key to sustainability is the development of viable developing country institutions. A resource transfer project (commodities) does little to create institutional capacities, and thus contributes little to an understanding of sustainability.

The Health Project Data Base contains projects started after 1974. No attempt was made to retrieve information on older projects because of the difficulty in obtaining evaluation documentation. Given the above criteria for selection, 158 projects were identified as potential candidates for the sample.

A search of A.I.D.'s automated document data base was done to determine the availability of evaluation documentation. Of the 158 completed projects, only 73 projects had documentation and of those only 62 contained a complete set of data. Appendix A gives a complete list of the 62 sample projects along with such summary information as project number, country, project title, years of funding and amount of funding.

2.2 Document Review

The analysis began with a review of the health literature, including A.I.D. health policy papers and recent health project evaluations. A preliminary list of sustainability issues was developed in a recent paper, "Issues in Health Impact Sustainability" (Shirley Buzzard, May 1986). As work progressed, new issues and alternative groupings of those issues evolved.

The typical project had three evaluation reports. The analysis of each of the projects included a careful review of: project papers, final evaluations, project evaluation summaries, project appraisal reports, special evaluation reports (including impact studies), audit reports and annual reports. Emphasis was given to the most recent evaluations, especially when final evaluations were available.

The quality of evaluation reports varied widely, and without exception sustainability was not the focus nor purpose of the evaluations. However, themes relevant to the prospects of sustainability were evident. As each project was reviewed, a two to four page data summary was prepared. The more illuminating of these observations are used as case examples later in this report. Each summary ended with a brief statement of the reviewer's overall impression of the project's sustainability prospects. This was immediately followed by a listing of the one or two critical or dominant factors that most influenced sustainability. While most projects have any number of factors interrelating with one another, a frequency tally of dominant factors showed that some are present far more often and have a greater influence on sustainability than others.

In addition to the summaries, a questionnaire was filled out for each project at the time it was reviewed. A sample of the questionnaire is in Appendix C. Like the list of issues, the questionnaire was revised as the study progressed, but the basic format remained unchanged. The questionnaire was a useful tool in analyzing the inter-relationships of issues. In effect it forced the reviewer to ask questions of the project. For example, was servicing and maintenance satisfactory or were foreign exchange shortages responsible for project inputs being delayed or unavailable? When applicable to the project, questions could be answered as positive, negative or uncertain.

Sustainability issues were organized into four categories:

1. Economic and Financial Factors
2. Project Design and Implementation Factors
3. Organizational and Management Factors
4. Political, Bureaucratic and Social-Cultural Context

Each of the categories in turn contained five to eight issues. The final step in the review process was to create a matrix to record the positive or negative responses to questions. The tables in Appendix B give the results of these tabulations. For most issues, the tables show the number of projects influenced by or possessing a particular characteristic. During the analysis stage, it was found that the presence or absence of certain issues was correlated to the project's prospects for sustainability.

The tables show the number of projects where evaluators noted the influence of an issue. For example, "Was the time frame unrealistic?" Appendix B, Table 2 shows that 19 projects did cite this issue. From this table one cannot infer anything about the remainder of the sample. In other words, it cannot be assumed that the rest had a realistic time frame. They are many times when the information is missing or just not relevant to the project being considered.

2.3 Rating of Projects

To make a judgment on sustainability, one should ideally evaluate a project some years after donor funding has ended. The problem is, that for most A.I.D. projects, post-project evaluations were not available. Since data do not allow an ex-post facto analysis, the sustainability issue was examined from a different angle. End of project evaluations were analyzed to see if the project put in place measures and procedures that would support sustainability after donor funding ended. It was an examination of "process" rather than actual achievement. The authors' judgments on the sustainability of the sample projects are based on whether explicit or implicit statements in the evaluation reports allow conclusions. In some cases, it was not possible to make a judgment simply because the evaluation reports did not take a position on how the projects would likely operate when A.I.D. funding ended.

A donor-supported health project goes through a number of different stages--it is established, starts operations and then moves toward the point where it provides health benefits on a continuing and sustainable basis. In the simplest of terms there are two stages. The first stage includes the early start-up and actual operations. Buildings are built, equipment ordered, trainees trained and operations started. During this first stage operating bugs are worked out and health services are delivered. By the end of the first stage the project has met its objectives and is operating at full capacity. Depending on the type of project, the first stage may last anywhere from 3 to 5 years. At the end of the first stage donor funding ends

and the donor considers the project completed. In fact, there is another stage which follows. In the second stage a system has to maintain operations. This is where sustainability comes in.

There are different types of issues and problems in each of the two stages. The second generation problems are the problems of sustainability. They are often assumed to be the "simple" problems of "maintenance". In fact, many successful projects have moved out of the first stage only to flounder on second generation problems. The second generation problems of sustainability center on management capabilities and affordability (user fees and government budgets must pay for project operations) that in turn depend on the technical and operational structure of the project (is it appropriate to the needs and capacity of the people and host government).

Of the 62 projects reviewed, 15 experienced first generation problems. These problems remained unresolved and threatened the attainment of project goals. Because the problems surfaced so early in the life of the project and persisted even though external assistance was still being given, the prospects for sustainable benefits were dim.

The remaining 43 projects made it to the second generation. Second generation projects are successes. By this we mean that during the life of the project, most project goals and targets were met. The project accomplished what it was designed to do. The quality and level of services delivered by these project's were such that one could address prospects for sustaining benefits after external assistance ends. The focus of this study is on what happened after the donor assistance ended -- the second generation.

To help understand why some projects could sustain benefits and others could not, it was useful to rate the second generation projects as unsustainable, partially sustainable or sustainable. A sustainable rating in this context means that substantial evidence was presented in the evaluations to indicate a high probability of project benefits continuing. Typically these projects had positive observations relating to elements in the sustainability matrix. On the other hand, an unsustainable project showed little or no prospect for continuation, evidenced by strong negative observations. If all the reviewed projects were placed on a continuum, those rated as partially sustainable fall somewhere in the middle. They have either (1) positive indicators of sustainability that are few in number and may be offset by negative elements or (2) indicators that are too weak to rate as sustainable without qualification. Of all projects, 53 percent were rated as failed or unsustainable.

2.4 Characteristics of the Sample

After all of the projects were rated as failed, unsustainable, partially sustainable or sustainable, they were grouped by type of project, region, and implementing agent. The categories used for type of project were: vertical, horizontal or institutional development. Briefly stated, 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 diarrhea). The issues of sustainability that relate to vertical and horizontal programs are further discussed in Section 3.3.2.

Institutional development projects reviewed were primarily involved in health research, training, or the strengthening of a health administration system. The key difference between the institutional development projects and other health projects is that the direct beneficiaries are often not the rural poor. Short term beneficiaries are those who receive training and experience. As the table below shows, the benefits from institutional development projects seem difficult to sustain. In fact, relative to other categories of health projects they are far more likely to not even meet the project's output objectives.

Distribution of Project by Type
(number of projects)

	Vertical	Horizontal	Institutional	Total
Failed	0	8	4	12
Unsustainable	4	15	2	21
Partially Sustainable	2	9	1	12
Sustainable	9	7	1	17
TOTAL -	15	39	8	62

Out of the 8 institutional development projects, 6 either failed or were unsustainable. A problem that many research projects faced was a lack of interest from the host country policy makers who should act on research findings. This may be because the priorities of the project and policy makers are

Implementing Agent¹
(number of projects)

	LDC	PVC	PVO	UNC	PSC	PEC	NGO/MLT	TOTAL
Failed	2	4	3	2	1			12
Unsustainable	6	3	7	2	1	1	1	21
Partially Sustainable	5	1	3	2			1	12
Sustainable	4	2	5	1	1	1	3	17
Totals	17	10	18	7	3	2	5	62
% of projects failed or unsustainable	47	70	55	57	66	50	20	53%

2.5 Field Visit Verification

While the desk study gives a fairly extensive list of sustainability issues, it is based on written reports 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. Since post-project evaluations were generally not available, field work was required. From the sample of 62 projects, two projects were selected for field verification of preliminary findings. The Gambia Mass Media and Health Practices Project being representative of a vertical, focused intervention emphasizing child survival and the Rural Health Delivery Service Project in Lesotho being representative of a comprehensive, horizontal delivery system.

¹ LDC - Less Developed Country government; PVC - private contract; PVO - Private Voluntary Organization; UNC - university contract; PSC - personal service contract, PEC - Peace Corps; NGO/MLT - Non-government or multilateral organization.

After the two projects were selected, all available project documentation was once again reviewed in detail. A protocol questionnaire (Appendix D) was developed and key informant interviews were conducted in Washington with project implementors and evaluators.

When the Sustainability Team arrived in each country, they interviewed A.I.D. Mission personnel. These were followed by interviews with host government officials, counterpart project personnel, village health workers and relevant international donor organizations. The data from these interviews were reviewed and evaluated by the team in the context of the sustainability issues outlined in this synthesis study. For each issue, agreement was reached on the influence of each factor.

In both countries, a report was drafted and presented to the A.I.D. Mission. This allowed the team to have immediate reaction to it's findings. When the team returned to Washington, each report was circulated for further comments and reactions. Both reports were published as CDIE Special Studies No. ____ (The Gambia) and No. ____ (Lesotho). The format of the case studies follows the format of this synthesis. Each factor of sustainability is discussed in the context of the project and is followed by a "lesson learned." As in this study, important lessons of sustainability were presented in the front of the report as a list of recommendations for project designers.

3.3. FACTORS OF SUSTAINABILITY

3.1 Economic and Financial

3.1.1 National Level of Economic Development

A favorable world economic environment and sound local macroeconomic policies are important to the sustainability of any project. Unless the national economy provides a sound basis for underwriting future costs, no amount of good intentions or binding agreements with donors can succeed in ensuring the actual availability of resources. This should not imply that projects are not to be done in countries experiencing financial crisis. Obviously, the poorer the country, the greater the need. What this does indicate is that economic crises can create special problems that require special actions. The donor must be realistic about the financial capacity of the host country. This may mean scaling things down or providing post-project support to bridge the crisis.

The structure of all assistance projects must reflect the unique setting in which they operate. Lower income developing countries, by their nature, differ from higher income developing countries. They generally have a lower level of institutional development, and lack of trained manpower and a poor resource base. If percapita GNP is used as a proxy for level of development, a relationship between level of development and sustainability emerges.

Distribution of Projects by Income Category
(number of projects and percent)

	Low Income	Lower Middle Income	Middle Income	Upper Middle Income
Failed	4	6	1	1
Unsustainable	13	5	1	3
Partially Sustained	3	7	2	0
Sustained	6	6	1	2
Total	23	24	5	6

*type of project
as a factor
downward
factor*

On a percentage basis:

	Low Income	Lower Middle Income	Middle Income	Upper Middle Income
Failed & Unsustainable	65	46	40	67
Partially Sustained & Sustained	35	54	60	33
	100%	100%	100%	100%

The share of projects that are sustained gradually increases with the level of economic development. Only 35 percent of projects in low income countries were considered at least partially sustainable, compared to 60 percent of projects in middle income countries. The exception is the final category, upper middle income countries, which contains only 6 projects. (A review of those projects show that 4 of the 6 are institution building projects which have a considerably lower record of performance than other categories.)

LESSON LEARNED: There is a strong correlation between the level of economic development and prospects for sustainability. Lower income countries generally have a lower level of institutional and manpower development. The poorer the country, the more attention must be directed to institutional development, appropriateness of technology and absorptive capacity of the host government. Most often this will mean a project that is less complicated, ambitious and expensive than what might be attempted in a relatively more developed country.

3.1.2 Health Project Cost/Benefit Estimates

Costs need to be reasonable in relation to benefits (i.e., a high economic rate of return). Two useful project cost measures are per capita costs of services delivered and the cost per death averted. The evaluations reviewed for this study were uneven and lacked complete data. Still, based on data that were available, and drawing on other studies, (Warren and Walsh) it is possible to provide rough cost estimates.

Comprehensive primary health care projects generally had per capita costs of roughly \$2 to \$5 or between 1/2 and 2 percent of per capita GNP. Other studies have shown that primary health care projects have a cost per infant death averted of roughly \$700.

Vertical disease control programs or vector control programs had an annual per capita cost of \$1.00 to \$3.70. Schistosomiasis control had an annual cost per person protected of \$3.70. Malaria control estimates from the World Health Organization were \$2 per capita for house-to-house spraying and \$600 per infant death averted. An evaluation of the Malaria Control Program in Indonesia reported the cost for treatment per case ranged from 12¢ to 75¢. The internal rate of return for the same program was estimated at 14%. Based on an A.I.D. CDIE evaluation (Kelly), onchocerciasis control costs were \$1.00 per person protected.

Selective health care projects provide treatment and protection for one or two diseases. Examples of such health programs include immunizations, chloroquine treatment for malaria, and oral rehydration therapy for childhood diarrhea. Warren estimates costs at \$0.50 to \$2.00 per patient treated and the cost per child death averted at \$200 to \$250. Selective health care interventions, which are central to A.I.D.'s child survival health strategy, appear to be the lowest cost approaches to health care.

*7. of project
& commitment*

3.1.3 Recurrent Costs

Recurrent costs are simply those costs of development activities which recur -- annual operating costs. Typically these are the responsibility of the host government. When a country is unwilling or unable to finance such costs, benefits from project activities end. Of the 13 projects where evaluators noted recurrent costs were not covered, 11 were rated as failed or unsustainable. The importance of assuring that a mechanism is in place for covering necessary costs cannot be overstated. Observations made of the Paraguay Health Education Project are typical:

The most serious shortcoming has been the financial incapacity to continue the program on a regular basis. This issue was not considered properly in the original project design and unless some external financial assistance is provided, the activities will be discontinued after A.I.D. funds are expended. Most of the income of the project implementor comes from regular outside donations from religious organizations. Funds are applied to the financing of activities of the institution, which do not include health education as an integral part. Some funds are generated locally through small charges to patients, but are insufficient to support a program of similar size to the one carried out under the grant.

There are many reasons recurrent costs may not be covered. One of the most important is the appropriateness of the costs. Regardless of how desirable an activity may be, if a country cannot afford to maintain it, it will not continue when external funding ends. The costs must be appropriate to the country's situation. For example in the Oukam Province Rural Health Project in the Central African Republic evaluators noted:

It is doubtful that the project gave serious consideration to the recurrent costs of the vehicle maintenance component. The evaluators did not concur with the economic determination of the project paper that the government was in a position to absorb the recurring costs of the project, especially when the Ministry of Health had a prior experience of operating similar trucks and ped-o-jets in an earlier smallpox program funded by A.I.D. and knew their high fuel and maintenance requirements. The evaluation team noted that 37 percent of the program's budget was earmarked for fuel, vehicle repair and molyettes - while less than 10 percent was budgeted for personnel to conduct studies and evaluation research of the programs effectiveness.

Development of institutional capabilities like training and management skills are more likely to have a lasting impact and be sustained than projects where recurrent costs are a large percent of project funds. For 7 of the projects reviewed, recurrent costs were over 40 percent of total project cost. This means the project was funding items like medicine and gasoline that would need to be replaced as they were consumed. Of the 7, 5 of these projects were rated as failed or unsustainable.

There is a balance between external assistance and self-help that needs to be found. Donors must set the stage for future development without creating dependency. This is illustrated by comments taken from an evaluation of the Southern Sudan Primary Health Project:

The South contributes very little from its local resources to the development and recurrent budgets. This means that this and other important projects, would not succeed if reliance is wholly placed on internal sources of financing. If reliance is wholly put on external aid, the region will suffer the burden of foreign debts which it cannot shoulder. On the other hand, without external aid the region cannot stand on its own feet should there be a stop in the flow of aid. It is therefore recommendable that both the internal plus the external sources of financing should jointly be made use of but on the background of an increasing self-reliance through self-help of the communities at the peripheral level.

For the South, a 1979/80 regional budget was approved that was more than adequate to cover the recurrent costs estimated. However, only 66 percent of the approved total budget was actually released. Thus, the project had a shortfall of 34 percent which it could not cover.

Developing countries are highly dependent on general budget revenues for their project resources. The institutions that are responsible for a project are, more often than not, regular line agencies of a central or local government whose only source of funds is the budget. During periods of budget stringencies, the future of a project can be seriously threatened. For the typical project, only a limited degree of attention seems to be given to this issue, especially at the design stage.

LESSONS LEARNED: Developing countries rely heavily on government budgets to fund health project activities. During periods of budget stringencies, the sustainability of these activities can be seriously threatened. At the outset, a realistic assessment of the government's capacity should be made. In addition, all sources of funding need to be considered (e.g. user fees and local village contributions).

Projects where recurrent costs are a large percent of project funds are less likely to be sustained. Donors must be careful to set the stage for self-help without creating dependency.

3.1.4 Consumer Demand

Because of the humanitarian implications involved, demand often appears to be given too little consideration in health projects. Demand is important to sustainability, because if services are perceived as useful and relevant, the community or beneficiaries are likely to provide the financial support necessary for sustaining benefits. It appears that in many cases the lack of community financial support for health workers relates to priorities and willingness to pay rather than an inability to pay. This is supported by the situation evaluators found in the Niger Improving Rural Health Project:

Villagers interviewed expressed satisfaction with services of the village health technicians and agreed that when possible medicines should be purchased. However, the villagers saw no need to remunerate the technicians for their services. One village health technician claimed that in 9 years he had not even received a chicken. This is in sharp contrast to attitudes toward training of first-aid workers for the treatment of animals. During an interview in one village evaluators discovered that 60 nomadic tribes were willing to contribute up to a total of 2 million CFA francs a year to maintain the animal care system, including operating costs for a Toyota vehicle and salaries for workers.

A similar example is the Rural Health Project in Mali where evaluators noted that people were paying for batteries for their radios, but refused to pay for health services at the project facility.

In many cases, including Niger and Mali, people were paying for some services by traditional healers and traditional birth attendants. Also, hospitals collect fees and medication is sold by Village Health Technicians and private pharmacies. The Oukam Province Rural Health Project in the Central African Republic observed:

The project paper states "the government feels ... the rural inhabitants do not have the financial resources to purchase medicines." An evaluation team was not convinced this assumption was valid. Various reports and scundness analysis within the project paper indicate that villagers do pay for medicines and do pay very dearly for the

services of traditional healers. The 3 pro-pharmacies visited by the evaluation team clearly demonstrated that villagers did in fact have financial resources to purchase drugs.

It is therefore too simplistic to assume that there is no capacity to pay for health services. The key is rather to make them relevant and valuable.

There is one warning that must be made about demand. Before a project creates demand, it must be certain it can meet it. Many projects that rely on media campaigns, like recent Oral Rehydration Therapy initiatives, are successful in generating new demand for a product. Special care must be taken to assure that the product, i.e. Oral Rehydration Therapy packets and training keep pace. If expectations of consumers are not met, future confidence in health efforts may be hard to gain.

LESSONS LEARNED: Demand has an important role in sustainability, because if services are perceived as useful and relevant, the community or beneficiaries are likely to provide the financial support necessary for sustaining benefits. Experience shows that poor people are willing and able to pay for traditional healers, traditional birth attendants and drugs. Therefore, it is too simplistic to make the frequent assumption that there is no capacity to pay for health services.

3.1.5 User Fees and Drug Sales

User fees and drug sales offer an excellent opportunity for cost recovery and to charge those costs to those receiving the benefits. User fees also encourage greater delivery of services by providing incentive payments for extra duty by service providers. A critical element of user fee success is consumer demand. While highly desirable, there are very few cases where user fees have been used to ensure the financial soundness of health activities.

The following comments were made in an impact evaluation of the Rural Health Service Delivery Project in Sine Saloum, Senegal:

A 1980 evaluation of the project reported that village health facilities (health huts) were not financially viable: huts were not recovering their operating costs (particularly the cost of medicines), and were decapitalizing rapidly. Many had closed or would soon cease operating because they lacked the cash to purchase new supplies of medicines. Moreover, the village health hut did not have on hand as much cash as their books stated.

The 1980 evaluation doubted that the huts had the ability to replenish medicine supplies. Charges for visits and medicines and payments to village health workers varied from site to site, and were determined without regard to the long-term financial viability of the huts. Village health workers were receiving about 60 percent of hut revenues as salaries, severely draining the system's capital. Underlying this situation was competition from other Ministry of Health facilities, particularly health posts, that provided free medicine and treatment. So it is not surprising that a two-tiered, inequitable system of health care evolved that was fiscally unsound. Villagers often preferred to walk to the nearest health post for free care.

As a result of the 1980 evaluation, changes were made in the project. The government had to first eliminate free services with a uniform policy requiring user fees at all level of the system. Also the fixed fee for consultation, was replaced by a system based on the real costs of medications and drugs. All payments were deposited in the village health committee treasury, rather than going directly to the health workers. A follow-up 1983 evaluation found that villages were financing a substantial portion of the costs at the community level. Under the new system villagers were paying for medicines and were compensating community health workers. Payment of health workers has been less satisfactory than with payment for medicines. Local funds have been used to provide such payment. Remuneration has taken a variety of forms with households making a contribution toward the workers salaries, usually an annual payment and occasionally payment in-kind.

The experience in Senegal stands in contrast to the more typical situation evaluators found in the Integration of Health Services Project in Nepal:

At present, there is no charge for services at the rural Health Post. The health officer in charge of the Post receives a salary from the government, irrespective of the number of patients seen. This reinforces the negative reception of clients by health personnel. From this perspective, the establishment of a fee for service would at least encourage the Health Post officers to see as many patients as possible. Furthermore, villagers do in fact pay some of their traditional healers and believe there is a correlation between the efficacy of treatment and the amount paid for it.

The most basic and acceptable user fee is the sale of drugs. Consumers are willing to pay for drugs and revenues can be used to replace depleted stocks. The Control of Diarrheal Disease Project in Egypt illustrates how charging for drugs can relieve the financial burden of the government:

Indirectly the project has reduced overall costs to the Ministry of Health for treating children with diarrhea by 90 percent. Use of intravenous fluids for treatment dropped from 80 percent to 2 percent in hospitals and there are indications that physicians have reduced the amount of drugs prescribed to children sick with diarrhea. Packets are sold at a price that covers production costs and allows pharmacies a 20% markup. Revenue from sales are kept in a separate account to be used by the Ministry of Health with A.I.D.'s consent.

A.I.D. is particularly interested in finding ways to encourage user fees and other self-financing mechanisms. The two following citations are from evaluations of on-going efforts in Liberia and Zaire that are part of the Combatting Childhood Communicable Disease Project. Because they are not completed, neither was included in the project sample. Nevertheless, the evaluations contained particularly interesting insight into the circumstances under which user fees can be collected:

Liberia: A revolving drug fund was established with "seed drugs" provided to clinics on credit with the agreement that they would pay back the value of the drugs issued. This was not a problem since the average value of drugs issued was \$145.00 and proceeds from the sale of the same drugs was about \$340.00. Based on one year's experience, evaluators concluded that the revolving drug fund can work in Liberia and is an excellent way of assuring that not only drugs are available at the clinics, but also by providing a service, clinics generate enough fees to support and maintain themselves independent of external aid. Once people came to realize that services are available, they will come for treatment and for the most part are willing to pay for it. Evaluators also noted that before the system is introduced, the community must understand the nature and value of the revolving drug fund and their role in it. Ideally, this includes providing seed money to pay for drugs and supervision to make sure the money is managed correctly.

The following case is particularly interesting because it shows that even for preventive care, some cost recovery is possible:

Zaire: The government program supported by the project has three major activities, immunization, oral rehydration therapy for diarrhea, and presumptive treatment of malaria with chloroquine. The latter two are curative interventions, the former preventive. The curative-intervention commodities, oral rehydration salts and chloroquine, should be able to be self-financing for all of the direct costs. It is the widely held opinion of professionals that users will pay the full costs of delivery of these curative services for which there is a perceived need. Vaccinations differ from the other two interventions, since they are preventive. It is generally held that users are less willing to pay for preventive activities than for curative. In Zaire, it is the general practice to charge mothers a nominal, one-time fee for a card which allows them to bring their children to pre-school clinics. As long as these fees are kept low they do not seem to hinder participation in the vaccination program. However, such fee levels are sufficient only to cover the cost of the personnel who deliver the vaccinations. Thus, all national, regional and zonal costs of vaccinations must be covered from other sources.

LESSONS LEARNED: To the maximum extent practicable, user fees and drug sales should be used to generate revenue to apply to project costs, thereby reducing the burden on host government budgets. User fees encourage greater service by providing incentive payments to the providers of the service. Before user fees can be effectively charged, whatever is being offered (services or drugs) must be valued by the consumer.

3.1.6 Community Financing

Local village contributions can ease the financial burden health care places on a developing country's government budget. Community financing schemes can take many forms that include voluntary contribution boxes, village owned pharmacies and allocations from community committees. Some examples of various systems that have been tried are given below:

Burma: Primary Health Care I. Annual recurrent costs for each Community and Auxiliary Health Worker were \$260. The local community was to finance 76 percent, amounting to about 50¢ per capita recurrent costs, or 1/6 current per capita health expenditure (\$3.09) in rural Burma.

A troublesome issue regarding self-sufficiency was the re-supply of the village health worker's kit, intended to be paid by community funds. Commodity re-supply needs were identified by the village health worker and money to meet this need was allocated by the village council or supplied through an informal remuneration system for the delivery of service by village health workers. Commodities were then purchased in cooperative stores and/or local markets; or they were provided by the Burmese Rural Health Care System through the government owned Burma Pharmaceutical Industries or external donors. This system often broke down due to financial constraints at the village level, exorbitant cost of local markets or problems with the pharmaceutical industry.

The Burma Pharmaceutical Industries was unable to meet supply needs because of limited production capacity, and heavy foreign exchange requirements to purchase ingredients and packaging. However an even more serious constraint was their production priorities which favored antibiotics, biologicals and patent medicines which were more profitable.

Cameroon: Rural Health Services. The village/family pharmacy exists either autonomously or as part of the family planning services in a village. It begins with an initial financial participation of each citizen. The pharmacy opens twice a month and makes a quantity of medicines available for purchase during the family planning sessions. In all cases items are limited to Nivaquino, Aspirin, eye ointment, Gambian, Mercurochrome, and cut ointment. Prices vary from dispensary to dispensary depending on the economic level of the people and the financial status of the dispensary. The family/village pharmacy is an important advance in the shift of basic health treatment from the dispensary to village. For example, the family pharmacy allows a family to treat malaria as soon as symptoms appear. All participating dispensaries were unanimous in declaring that the number of infected cuts, malaria and simple diarrhea cases reporting to the dispensary have fallen off sharply.

Evaluators noted an effort to standardize the use of medicines and treatment throughout the dispensary system. By ordering from exterior suppliers, it is expected that the overall price of medicines will decline. In an effort to move away from dependence on foreign donations and to clarify their financial situation, dispensaries are, in many cases, refusing all external donations of medicines.

The following case from the BICOL Integrated Health, Nutrition and Population Project in the Philippines illustrates some of the things that can go wrong:

A factor which hindered community participation, an important goal of the project, was the dire poverty of some residents. The requirement for even token payments to encourage initiative and self-reliance on the part of the recipient may be good philosophy but difficult reality for the poorest of the poor. The participants in this project could not, in many instances, afford the cost of the water-sealed household toilets, thus the realization of improved sanitary facilities and conditions had to be deferred.

There were funding problems noted during implementation, both in utilization of available funds, as well as in the transition from external to self-support. Evaluators noted that even though most, if not all, local communities had agreed to gradually take over funding of all required expenses to maintain the existing health delivery system network, the project documentation provided no evidence of financial viability when A.I.D. support was withdrawn. Local governments had agreed, at the beginning of the project, to gradually take over the stipends of the village health workers. The precise mechanism of this take over was unclear and even conflicting in the project documentation. Local officials complained they would have difficulty meeting this requirement after a 1983 unilateral decision by the government's project office to pay only half of the stipends. The local governments, while agreeing to try to accommodate this need, were unprepared for the sudden funding reduction and lacked an understanding of the magnitude of the initial commitment they had made.

LESSONS LEARNED: When it is successful, community financing can be a valuable incentive for good village health worker performance while helping control costs. A factor which can hinder community participation is the dire poverty of residents, which can make even token payments difficult.

The transition from external to self-support is often difficult. Even when local governments or communities agree, at the beginning of the project, to gradually take over the financial responsibilities of project activities, the precise mechanism that will be used is often unclear. Most local governments, while agreeing to try to assume responsibility, appear unprepared at the time of takeover and generally lack understanding of the magnitude of the commitments that had made.

3.1.7 Phase out

Few health projects are designed to develop special sources of funding that will provide the resources to ensure their viability into the indefinite future. Host country financial support must begin to be phased-in during the period when external support is being provided or it will be unlikely after such support ends.

The end of the project is clearly the wrong time to start thinking about post-project funding. Decisions must be made much earlier; ideally at the start of the project. A number of projects handled this problem by agreeing on a planned schedule for a local financial phase-in. Whether by formal conditions precedent or implementation letters, a multi-year financial plan needs to be established at the start of the project. In a typical case, A.I.D. would fund 100 percent of the costs in year 1, 80 percent in year 2 and a steadily declining percentage in latter years. Such a financing plan forces the host government Ministry of Finance and local beneficiaries to face the financial issue before it is too late. Projects that left funding unclear or postponed the decision often ran into trouble. In such cases A.I.D. was faced with the choice of providing additional, last minute funding or letting a promising effort die.

The following evaluators comments illustrate the use of financial phasing:

Hanang District Village Health Project in Tanzania: The private voluntary organization that is implementing the project hopes to help ease the transition to host government pickup. Phase-out will occur over a 2 year period. Outside medical technical assistance will continue to be available even after the project is terminated. The program is sustainable because its cost can probably be adjusted to the government's financial capacity. Certain costs are not permanent, e.g., expatriate salaries, cost of buildings, and the very heavy training cost might be reduced in a later service maintenance phase. These costs have amounted to 50 percent of project costs for the current build-up phase. If the government will continue to rely on village financial contribution it will maintain a valuable incentive for good Village Health Worker performance while helping control its own costs.

Malaria Control Project in Indonesia: The project covenant committed the government to a resource level which it could sustain after A.I.D. assistance terminated (a fixed percentage increase of the Malaria control budget during project life). By the end of the project it was envisioned by designers that DDT requirements would have naturally decreased by success of control. At the same time the transportation equipment and sprayers procured at the outset under the loan would have to be replaced. The government's 5-year budget provided for phased replacement of vehicles and equipment amounting to approximately 20 percent of the equipment originally purchased.

Thailand Rural Health Project (Mobile Medical Team Component): The majority of A.I.D. expenditures was for commodities with a long life expectancy, such as vehicles, medical equipment and hospitals. Since the inception of the program the government has gradually assumed a greater part of the cost. In FY 1967 A.I.D. financed 89 percent of the total. By FY 1968 the Thai government was paying 87 percent. This trend continued until FY 1970 when the Thai government assumed 96 percent and the U.S. 4 percent of total project cost.

LESSONS LEARNED: A system needs to be agreed upon and set-up early, during the donor support stage to assure funding after donor withdrawal. A project is more likely to be sustained if, early in the project life, an agreement is reached whereby the host country steadily assumes an increasing share of project financing. Such costs are easier for a developing country to handle if the increases are small and are budgeted and phased-in each year.

3.1.8 Health Worker Salaries and Volunteers

A critical component of financial sustainability is the decision to pay health workers, rather than to rely on volunteers. Those projects that were most sustainable did not rely on volunteer labor. Many evaluations attributed project sustainability to the use of paid workers as the following comments reflect:

Dominican Republic: Health Sector Loans I & II. Promoters, who are community residents and usually women, are part-time government workers. Promoters give vaccines each month and deliver other appropriate services biweekly. Families must go to the promoters or to the clinic to be treated for illnesses that occur in the interim. Their

salaries are a substantial supplement to their family incomes. A low turnover rate among rural promoters is attributable to financial as well as social incentives. Whether the Ministry of Health calls the 50 pesos a month a "salary", it is in fact considered a salary, although it is less than 1/2 the legal minimum 125 pesos per month for full-time work. If the 50 pesos were to be dropped and the health system were to go to an all volunteer system, we believe the currently existing infrastructure of promoters would rapidly deteriorate, unless some other financing mechanisms were developed.

Colombia: Health Sector I, II and Nutrition. Colombia has developed a highly motivated, effective cadre of health promoters. Part of the program's success may lie in the use of paid (minimum civil service wages) rather than volunteer promoters. Salaries cover transportation costs and leaves a small income of sorts. Colombia's decision to use paid promotoras from the local community rather than volunteers and to give them relatively lengthy training (3 months) contributed to this success. The high motivation and morale that the evaluation team observed may result from their treatment as paid "professionals". Although the salary cost of the promoter program is only U.S. \$2.80 per beneficiary, this would approach 4/5's of Colombia's current rural health budget, if full national coverage were achieved. At the time of the evaluation, promoters were being paid on time.

In some projects salaries were paid, but were not paid regularly or were not comparable to private sector opportunities.

Kenya: Blindness Prevention, Phase I. Problems included no incentive pay for extra work or overtime work. The salaries and benefits for personnel within the program were inadequate. The 1981 evaluation team felt it was essential to develop realistic salary scales in order to have highly qualified individuals attracted to these activities.

Bolivia: Rural Health Delivery Services. A serious problem has been the attrition rate among health promoters and auxiliaries, mainly because of payment and logistical problems in getting drugs and supplies. In August 1979 only 14 promoters were working (of 43 trainees); 11 communities were left without an active promoter. There has been much discussion of the need for a more stable way of paying promoters and for development of other nonmonetary incentives, but no final decisions have been made. Turnover among auxiliaries has been very high (estimated at 40-50 percent), largely because of low and irregular payment of the Ministry of Social Welfare and Public Health.

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. About one-third of the health projects analyzed in this study used volunteer health workers. Typically, an unpaid volunteer villager was trained by the project to provide health care. He/she would operate the village health hut, provide health advice and dispense drugs to fellow villagers. While it was a non-paying, part-time job, the volunteer would have to spend time at the health hut and be on-call for emergencies.

Nearly all of the health projects that relied on volunteer workers ran into trouble. When the project starts up and the donor funds training and other costs, volunteers are very motivated. In three or four years problems usually start to develop. There is sufficient evidence to believe that workers are unlikely to work without compensation indefinitely. The most desired form of compensation is financial, but it can also take the form of in-kind payment or rewards through prestige and recognition in the village or the physic satisfaction of doing something that will help one's community. The following illustrates how dependence on volunteer labor can lead to problems:

Peru: Rural/Water Health Services. Considering the problems encountered in this project in obtaining volunteer labor, it would be unrealistic to plan future sewerage projects based on the self-help concept. Without volunteer labor, the capital costs for sewerage projects would rise dramatically. These high capital costs combined with the massive labor requirements would eliminate any possibility of replicating this project component.

Project planners frequently assumed that a village health worker had free time and would be willing to work in a cooperative village effort to improve health conditions. In fact, evaluators found that free time was not that free. At times of peak agricultural operations (planting, weeding, harvesting) everyone was fully employed. If a health worker had to leave the fields to treat someone, he would lose agricultural production. Also, the idea of village cooperation did not always work. Mutual aid often only extended to a person's own family and cTan, not to others.

In the short-run, volunteers can help, but designers must be sensitive to the fact that workers will probably leave the program within a few years. This has serious implications for sustainability. One of the rare successful uses of volunteers was in the Burma Primary Health Care I Project. Evaluator's comments show the importance of understanding the socio-context,

and how unique the idea of community service was to Burma. Where this environment does not exist, success could be expected to be less.

In Burma the concept of volunteerism seems to be functioning beyond expectations. Workers take pride in their responsibilities and are accorded a high degree of respect in the community. Provision of health care is considered a meritorious act. Although not on government payroll, evidence indicates about half receive in-kind or cash payment for service by the community.

Volunteer attrition was low because there was a:

- (1) Spirit of volunteerism rooted in Buddhist culture
- (2) Socio-political structure - respect for authority and unquestioning obedience
- (3) Economic situation limits mobility and economic aspirations
- (4) Prestige from receiving medical training

It was noted that attrition was higher in remote areas and some village health workers dropped out because they could not afford to spend the time or money (e.g.. travel costs to deliver reports, paper to record service data, resupplies of medicines) required by the project.

LESSONS LEARNED: Payment of salaries to health workers can help sustain the infrastructure developed by a project. Where salary payments are untimely or inadequate, attrition rates are high. This seriously threatens the sustainability of project benefits, as replacement workers must be trained. The initial investment in human capital is lost and unnecessary demands are placed on host government resources after external funding has ended.

Where volunteers are used, attrition rates are high. It is difficult to maintain volunteer enthusiasm and interest over the long-run. Volunteers are not a simple answer to reducing costs, as eventually compensation will be required to reduce attrition rates.

3.1.9 Foreign Exchange Requirements

Based on the fact that most developing countries have periodic balance of payments crises and foreign exchange shortfalls, projects that are highly dependent on foreign exchange are unlikely to be sustained. When projects are designed, attempts should be made to minimize the use of

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 success*

imported commodities. For health programs, imported drugs are often necessary to project success. If it is determined that certain commodities are necessary, attempts should be made to institutionalize indigenous production or assure that foreign exchange will be available to meet basic project needs.

Imported materials tend to become the limiting element in development projects and produce rigidities in project design and implementation. They may also cause maintenance and repair problems. To enhance project sustainability and to support the development of local industries, the use of local construction materials should be encouraged even where their initial cost is greater than U.S. imports. This is illustrated by:

Peru: Rural Water Health Services Project. Village officials reported difficulties in finding replacement pipe on the local market. They also reported that they had to heat and force-fit locally available pipe to match the project pipe. To avoid delays in project implementation, imported pipe has to be procured quickly. This oversupply of imported pipe forced a change in project design. Had it been decided to purchase locally manufactured pipe, the project would not have had to buy all the pipe in the beginning and could have used some of the funds to bolster other weaker elements of the project.

Sudan: North and South Sudan Primary Health. Despite relatively low project costs, it is clear there are some types of expenditures which are particularly difficult to finance in the existing economic situation in Sudan. These are imported commodities which are difficult and expensive to obtain, in view of the country's tight balance of payments situation. Lack of drugs and gasoline in particular seriously hampered the operation.

Evaluators suggested that the orders for imported drugs which are placed by Community Health Workers be regularly reviewed in the light of changing prices. It is important that the limited foreign exchange available for drugs be spent on the items with greatest effectiveness in relation to their costs, for example chloroquine for malaria treatment. In the South, the project contractor recognized the Regional Ministry of Health's difficulty in obtaining foreign exchange with which to purchase petrol. As a partial solution, the contractor imported gasoline for sale to the Regional Ministry of Health in exchange for Sudanese currency, which in turn was used to support its own operations in Sudan.

LESSONS LEARNED: Projects that are highly dependent on foreign exchange are unlikely to be sustained. Projects using highly advanced technologies that are heavily dependent on foreign sources for spare parts and equipment are particularly vulnerable to foreign exchange shortages after external assistance ends. Under such circumstances, it would be very difficult for the host country to maintain the equipment needed to deliver the benefits. If it is determined that certain commodities are necessary, attempts should be made to institutionalize indigenous production - thus precluding the need for massive donor-funded expendable commodities.

3.2 Design, Implementation and Technical Factors

3.2.1 Goals and Purpose: Focused, Realistic and Understood

Every development project has one or more goals it hopes to achieve. These are desired final outcomes and are often stated in a very general fashion. The purpose describes the approach or means that will be used to reach these goals. It sets the physical targets that must be met if the goals are to be accomplished.

As the first step in the design process, the goals and purpose play a critical role. Together they define the scope of the project's activities. The resulting impact on sustainability can be profound. Of the 62 projects reviewed, 12 had references to goal problems in their evaluations -- the goals were either too ambitious or unclear. Of the 12, 7 were rated as failed and 3 as unsustainable.

A project must not be overambitious in relation to the developing country's resources and absorptive capacity. Trying to do too many things simultaneously may result in none being done well. A modest, yet focused set of tasks may ultimately accomplish more than a broad-range of general initiatives. For example in the case of a Health Education Project in Mauritania, evaluators found that a single message campaign sustained over a long period of time would have a stronger impact than a number of messages offered simultaneously.

Also designers must be realistic when setting goals. Failure to meet targets can be frustrating for both donors and host governments. Unrealistic targets soon become counterproductive. If activities are not firmly established and a minimum level of competency established with counterparts, sustainability will not occur.

As simple as it may sound, the goals and purpose of the project must be understood, roles clearly defined and expectations made explicit. The following examples from the HACHO: Rural Health project in Haiti and the Lofa County Rural Health and Health Management Planning projects in Liberia show how confusion can occur:

Donor ambivalence about what the primary purpose of HACHO should be affected institutionalization. There was confusion over HACHO's identity throughout its life: whether it was primarily a health organization, a community development organization, or a relief agency. Trying to have all hindered the capacity-building objectives.

In the Liberia Lofa County Project there was a lack of agreement within the government on project purposes. Was the project to serve Lofa county or was it to develop into a model for the country or was it to be an outreach for the national hospital. There was a lack of broad representation and agreement of all parts of the Ministry of Health and local politicians. No one could agree on what was to be done and who was to do it. Many viewed it as A.I.D.'s project.

Again in Liberia, the expectations of The Health Management Planning Project were overly optimistic and did not reflect the realities of the country and government. Based on this experience, an evaluation concluded that the host government must be involved in the project from the earliest design stage. This was an A.I.D. conceived and managed project. The Government of Liberia had little commitment or interest in its outcome. The host government must be aware of its responsibilities. Project planners assumed that the Liberian Government would provide manpower and supplies without confirming that there was a willingness of the host country part. In general there was no "felt need" on the part of the host government. They did not strongly want the project.

It is quite possible that the donor, host government and beneficiaries may have different priorities and development objectives. If any one of the parties is not interested or does not want the project, it will not be sustained. The Nigeria Basic Health Delivery Services project illustrates:

The Government of Nigeria was not interested in public health education and training. They were interested in curative measures and wanted the project advisors to work as operating personnel. At the design stage there was a misunderstanding between A.I.D., and Government of Nigeria and the contractor. As a result, the contractor provided a technical assistance component that included public health

and no curative services. If the different parties to a project have different objectives, there are bound to be implementation and management problems. In this case, the types of advisors, training, curriculum development, operations and institutional development objectives of the contractor, A.I.D. and the host government were at odds. The project was doomed to failure.

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LESSONS LEARNED: A project must be designed to be consistent with the resources and realities of the host country. Over-ambitious or unclear targets can be counterproductive. The project's goals and purpose must be explicit, understood and shared by all relevant parties if benefits are to be sustained.

3.2.2 Appropriateness of Technology

The technology chosen for a project is an important factor of sustainability. It must be appropriate to both the host country's financial and institutional capabilities and the project goals. The most sophisticated technology available is not necessarily the most appropriate, even where the users desire it. Advanced technology and expensive hardware which exceed an institution's financial or technical capacity for maintenance and repair are likely to be wasteful, ineffective and unused. Technology acceptance is likely to be enhanced where the users see immediate benefits from its application, are trained in its use and maintenance, feel that they have effective control of the technology as individuals or groups and believe that its operating and maintenance costs are sustainable.

For a technology to be sustained, it often means it must be simple, precise and cheap. A simple technology enables the counterparts to master it quickly and allows the important next step of diffusion to occur. By precise we mean it is tightly focused to meet the specific, technical requirements of the project. Finally, costs must not be excessive relative to benefits generated and should be within a range that the host government can handle. To summarize, a technology is more likely to be sustained when it gets the job done in an uncomplicated manner, and at a cost that is affordable.

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A project that illustrates all three of these characteristics is the Rural/Water Health Services Project in Peru:

The hardware installed, i.e., gate valves, pressure-reducing valves, and faucets, was simple and durable. Designs for gravity systems have proven to be the most trouble-free and lowest-cost of all types built in Peru. Spring-fed gravity water supplies are the simplest and cheapest type of system to operate and maintain. The designs used in this project avoided the use of any pump or motors and used only low-technology mechanical accessories such as gate-valves.

In contrast to the piped water systems, the sewer systems were not appropriate for the rural highland villages. Concrete pipe was expensive and difficult to transport over the dirt roads. Vast amounts of labor were required to install the systems and excessive cash investments were needed for sanitary fixtures. Furthermore, without adequate treatment, the systems succeeded only in concentrating and transferring the sanitation problem to another location. Viewed in the cultural context, where latrines were unknown, a modern sewer system represents a quantum jump that most villagers were not prepared to make at this time.

The Malaria Control Program in Pakistan ran into problems largely because the technical analysis documenting insecticide resistance was not acted upon. The technical analysis in the project design correctly pointed out the problem of insecticide resistance and stated that this factor will require continuous attention over the life of the project. During the last five years widespread DDT and BHC resistance occurred and the recommended use of malathion as an alternative has been required. However, use of locally produced and procured BHC and DDT persists, long after resistance has been documented. If malathion had been used as proposed in the plan of operation, results may have been better. Unfortunately, malathion may now be reaching its useful life as resistance has begun to be documented.

Appropriateness also means the ability to adapt the technology to local conditions.

The Lesotho Rural Health Project used the "physician extender" or MEDEX approach to meet health needs. The approach took advantage of an existing supply of qualified nurses and upgraded them to supplement a critical shortage of doctors. The project created a new cadre of double-trained practitioners, known as Nurse Clinicians, that were given competency based training, i.e. only that knowledge that was absolutely necessary to perform specific tasks.

Handwritten notes:
- Incomplete
- 100% success
- 100%

While the "physician extender approach" was new to Lesotho and fairly sophisticated, it had already been developed and tested elsewhere. The training modules and teaching materials already existed, and only had to be adapted to Lesotho's conditions. The project was able to take advantage of many years of research that had been done in other countries.

Handwritten notes:
- A. I. D. ...
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While technical assistance often makes an important contribution to successful implementation, care must be taken to assure that local staff are strengthened, not displaced, by it.

LESSONS LEARNED: The more simple, precise and cheap a technology, the more likely it will be sustained. When designing a project in a developing country with low per capita income and limited institutional capacity, technology must be adapted to these realities.

3.2.3 Time-Frame

3.2.3.1 Length of Project

Of all the factors of sustainability, time emerges as one of the most critical factors of sustainability. The life of a project must be appropriate to the task at hand and carefully balanced with the project's strategy, resource endowments, expected outputs and purpose. It takes more time than most planners anticipate to introduce training, education, community participation, etc.. -- all components of institutional development -- in a developing country. If time spent doing these activities is subtracted from the total project life, a relatively short period is left for activities to become institutionalized and self-sustaining.

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When the physical targets of a project are met, only the first step has been taken. While a project's initial demonstration of results is a necessary condition for sustainability, it is not sufficient. The project must take the next difficult step of shifting the capability to the host country. Experience shows that the process is a long one, and insistence that it take place within the traditional 5-year project framework practically guarantees failure. As a result, A.I.D.'s policy now allows the time frame to be extended.

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There is a pervasive tendency to make unrealistic, optimistic projections at the design stage regarding the time required to meet project goals. The following are typical of statements made in evaluations:

CARE Project in the Congo: Despite good conception and overall management, there were a number of weak points that lessened the probable impact of the project -- all referring to an underestimation of the levels of effort required to plan design and manage a complex educational campaign. It was unrealistic to expect this project to demonstrate changes in nutritional status within 3 years. Primarily the time frame was too short. Secondly, the infrastructure to collect nutritional status data is not yet in place.

Strengthening Health Services Project in Haiti: Major institutional reforms and training were to take place and a new health services program was to be introduced. The 5-year time frame was unrealistic for the size and complexity of such an effort. The project was not able to concentrate on institutional development and manpower training. Instead, it ended up working on training manuals and reports. The manuals and reports were used by the Ministry of Health as background documents--they were not adopted as procedural standards as hoped. The other tasks were beyond the time and capabilities of the technical assistance team.

Southern Sudan Primary Health: The problem of physical and management support for personnel and project activities in South Sudan, with a weak institutional base, makes project implementation exceedingly difficult compared with the North. In order to achieve inputs, outputs and the stated "end of project status", a much longer timeframe, possible double, is realistic.

As a constraint to institutionalization and a determinant of sustainability, time is perhaps second only to cost recovery. Of the 62 projects, 19 reported an unrealistic time frame as a major problem. The following table shows the distribution of these projects relative to their sustainability rating:

	Unrealistic Time Frame (# of projects)
Failed	7
Unsustainable	6
Partially Sustained	3
Sustained	3
<hr/>	
Total	19

As discussed in the methodology section, for each project a judgment was made by the authors as to which one or two factors influenced the final rating for each project the most. These were referred to as dominant factors. For 10 projects time frame was cited as the dominant factor. Only cost recovery was more frequently cited as the dominant factor.

*Any sense of
how much
time.*

LESSONS LEARNED: Time is a constraint to institutionalization and thus a critical factor of sustainability. There is a pervasive tendency to make unrealistic, optimistic projections at the design stage regarding the time required to meet project goals. The life of a project must be appropriate to the task at hand and carefully balanced with the project's strategy, resource endowments, expected outputs and purpose.

3.2.3.2 Phased Design and Pilot Projects

While the length of time given to reach project objectives is a critical determinant of sustainability, designers must also realize that the time issue cannot stop there. There are design options, such as phases within the project and the use of pilot projects, that can help assure that the time is used well.

It can be useful to think of a project as passing through several stages of maturity. By explicitly recognizing these stages in a design, attention can be better focused on the elements required for the project to meet some immediate goals, while preparing a foundation for the next group of activities. In a sense the designers are recognizing that everything cannot happen simultaneously, and there are benefits in doing first things first. The phases may be within a single project or may be in the form of a follow-on project. An example of this is the Niger Basic Health Delivery Services Project:

This was a 5-year project that took 2 years to get organized, advisors recruited, in-country and operating and then just had 3 years to generate benefits. It might make more sense to spend 3 to 5 years identifying problems, building agreement on objectives and then having a separate project (phase II) to carry out operations. In the case of Niger, a small pilot project would have been a cheaper way to identify the problem of mixed and conflicting objectives.

The second issue is one of scale. If a project that is eventually to be national in scope is first tested in one region, valuable experience can be learned. Through this experience, implementation difficulties can be identified and corrected resulting in a great savings. The larger the final effort is, the more important a pilot approach becomes.

*Strategic plan
or concept plan*

In both the case of phasing and a pilot, the donor maintains some leverage. Funding can be dispersed in tranches and made contingent on successes of the preceding stage. Certainly when a pilot effort fails, serious questions must be asked and plans adjusted.

LESSONS LEARNED: Phased design can lead to continuity of implementation, and can help a project assure that the first stages are completed and firmly established before the project attempts to move into the second stage.

The organizational structure of a national program is more likely to be sustained if it is based on the prior experience of a pilot program.

3.2.4 Support Services

Without an adequate supply, maintenance and transportation system, projects in rural areas are unable to achieve physical output targets. In a number of evaluations, availability of drugs was noted as the single most important factor in the quality of village health worker's performance. Essential commodity resupplies to numerous and scattered health service points was a problem for both vertical and horizontal programs. It was clearly more of a problem for horizontal, primary health care projects. The study found that logistics support services were a problem in 75 percent of the horizontal programs and 33 percent of the vertical programs.

Projects had little difficulty completing such start-up activities as health post construction, training, purchasing initial vehicle fleets and ordering initial stocks of drugs and supplies. The problems developed once operations were going. Particularly in the case of primary health care projects, there were a substantial number of people, locations and supplies that had to be managed. Typical are the following observations made of a health sector project in Colombia:

The supply system was functioning poorly. At the conclusion of their training, the promotora is supposed to receive a medical kit with supplies, a uniform, a formal letter of introduction to her community, and teaching charts. Out of the 14 promotoras who received a kit, two said it arrived empty and only 1 said it had been completely stocked. The rest said they had received the kit with some of the supplies, but that the health system was slow in completing the kit. Many of the promotoras had received no new supplies in over 4 months. It is unclear how much of the problem is due to lack of funds and how

much to poor logistics management. Promotoras who were well-supplied had purchased medicines through local fund-raising schemes arranged by action committees or by the Federation of Coffee Growers.

Drugs are important to curative treatment, and thus to the credibility of the village health worker. The Sudan Primary Health Care Project offers an interesting analysis of the benefits of supplying a standard "kit" of drugs and supplies on a regular basis:

UNICEF supplies 1 "kit" of drugs for all Primary Health Care Units in the North and South. Each kit is to last 3 months. Except for the UNICEF supplies, there is no regular supply of drugs to either dispensaries or Primary Health Care Units. There is an allocation of funds at the provincial level to enable drugs to be purchased from central medical stores. What is issued to Primary Health Care Units from provincial supply is related to what is available, and that in turn is dependent on what has been sent from the capital city. It is almost certain that there will be shortages of essential drugs.

It was observed that, except when UNICEF made up "kits" of drugs, the Community Health Worker never had the items necessary to adequately carry out the curative side of his work, yet it is probably from this aspect that much of his credibility with the community is gained. The original concept of supplying standard "kits" at regular intervals was good, as standard issues can be varied in both content and quantity, relative to the availability of funds. It is thought to be more important to give a regular supply of a known quantity, rather than risk a "feast or famine" situation. A fixed number of kits also enables the Ministry of Health to make a budget forecast for recurrent costs. Finally, if the kit is to last 3 months, an inspection of the visitation register by supervisors can reasonably indicate if the drugs have been correctly used and if the amounts dispensed are out of line.

Some countries have tried Mobile Health Clinics that allow a high quality cadre of workers to go from village to village. An example of such a project that worked is Kitui Primary Health Care in Kenya. While a mobile clinic system is probably more expensive than a fixed clinic system, it does allow closer supervision, better training and a higher standard of service. The other alternative that often exists is a small isolated health hut, a lone demoralized undersupervised health worker, inadequate health supplies, and thus poor health service delivery. For areas with low population density, a mobile approach makes sense, as long as the logistics can be managed. That last assumption is critical and often not a reality in

not a reality
often

A.I.D. assisted countries. Mobile health systems require vehicles, fuel, per diem and thus, must face all of the worst logistics problems of operating in a developing country. In general, projects that rely heavily on gasoline and kerosene fail.

The serving and maintenance of project supplied equipment is often not given sufficient attention, and becomes a major stumbling block to implementation. Problems of equipment breakdowns, lack of spare-parts and lack of operating funds for gasoline and new tires were frequently cited as the reason drugs and other critical supplies were not delivered. This is even more important when mobility and delivery of services to remote areas is an essential part of the program.

Several projects presented innovative solutions to the transportation and maintenance problem. The following comments were made in an evaluation of the Malaria Control Program in Pakistan:

The government is to be congratulated with respect to its policy on the proprietorship of project motorcycles, which permits a tenured employee to buy, use and maintain the vehicle placed in his custody. The fact that very few of the aging motorcycles are currently unserviceable attests to the wisdom of the policy.

Another example is the Malaria Control Project in Thailand.

An innovation introduced by the project was the Revolving Motorcycle Fund. One of the major problems anticipated at the beginning of the project was poor supervision, especially in remote areas which are generally highly malarionogenic. Much of the reason can be traced to poor transportation. The project proposed to finance a motorcycle purchase fund at the start of the project, and then reimburse the fund for both the purchase price and administrative costs through monthly payments from their salaries. Since vehicles were available at the beginning of the project, it relieves major implementation constraints and substantially increases the operating budget during the project life. It was to demonstrate for future projects that vehicle purchases can be done at no cost to the government. Adequate funds have to be budgeted for per diem and gasoline during project life. For example, the final evaluation of the project noted that personnel using their own motorcycle on official business received a subsidy that represented less than one-third of the actual cost of motorcycle operation.

The projects reviewed varied greatly in the amount of attention given to the development of local support capability. One consistent pattern was the failure to recognize this as a management problem.

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LESSONS LEARNED: An adequate transportation, maintenance and commodity supply system is necessary for sustainability. In addition to establishing these systems, projects must develop host country capability to manage them once donor assistance ends.

3.2.5 Private Sector

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...*

In some developing countries there is an opportunity to use the private sector and local religious organizations to deliver health services. The two projects cited below reflect the difference indigenous associations can make.

Rural Community Health in Ecuador: In each of the four operational areas the project has worked through the provincial evangelical association. In each province they existed at least several years prior to project implementation. It seems that all of the original health worker volunteers came from communities where the association was the strongest. The project has demonstrated the feasibility of working through evangelical associations in initiating Primary Health Care programs. It can be reasonably argued that the associations have encouraged implementation of service programs with greater participation of the people who actually receive health services.

The Central African Republic, Oukam Province Rural Health Project: Conspicuous by its absence is any tie-in or role for the government's Service des Grandes Endemies and religious systems already providing services at the village level. The Grandes Endemies system is the only system which could absorb and support a project of this scope and nature. Not until the project began to falter did it turn to these sources for assistance.

7

Another role the private sector can play is to provide local productive capacity to supply inputs. This also can help to relieve import constraints. In the Honduras Mass Media and Health Practices Project:

Phase I, a demonstration phase, profited from a public sector component included in the project design. Plans to commercialize production of Litrosol (a packaged Oral

Rehydration Solution) might be the beginning of a trend which if broadened and accelerated, could improve the odds for retaining the use of mass media approaches. Likewise, inclusion of the private sector, particularly in the areas of marketing and advertising, would broaden the project's technical/professional base, improve cost effectiveness and increase the likelihood that mass media use in social programs is sustainable.

LESSONS LEARNED: Where indigenous associations exist, their experience and resources should be taken full advantage of. Opportunities to use local private sources for production of inputs can increase the likelihood the program will be sustained.

3.2.6 Use of Informal Workers

Midwives, traditional birth attendants, pharmacists and other drug sellers and herbalists all provide services that are rarely taken advantage of in developing countries' health programs. Indigenous practitioners usually operate outside the formal health system.

The Lampang District Health Project in Thailand discussed the role of drug sellers:

Drug sellers are the principal source of medical care in Thailand, and are highly accepted by consumers because they offer services that are easily accessible and affordable. The Lampang Project developed guidelines for 5 roles that private drugstores could play in the context of that project:

- (1) provision of curative services for simple illnesses;
- (2) referral of patients with difficult diagnostic or serious problems to government health facilities
- (3) family planning services with resupplies of pills and condoms
- (4) health education for communicable diseases and reporting and
- (5) advertisement and promotion of government drugs which are cheaper than imported commercial drugs.

Druggists who participated in the training program were asked to cooperate by sending in reports. This did not work well, primarily because the objectives of drugstores and the government are not the same, i.e. the druggist is in business to promote sale of drugs for profit, while the government's primary objective is maintaining an acceptable level of health care. The most important role that druggists have played in the Lampang system is the provision of drugs and other supplies to health post volunteers who experienced earlier supply problems with the government supply systems. Drugstores now sell drugs to volunteers at the government price, which has greatly relieved supply problems.

Perhaps the best system was found in one district where a pilot, private sector organization resupplies its volunteers by a coordinator on a cash basis. The use of cash prevented debts from accumulating and encouraged the collection of fees. In addition, some herbalists and other indigenous practitioners were selected and encouraged to participate in the project for skill improvement.

Bolivia - Rural Health Delivery Services: An innovation of the project was an attempt to incorporate rural teachers and students into the project's health education activities; and to incorporate traditional practitioners, particularly birth attendants, into the project system. Incorporation of traditional practitioners--in this case midwives--never occurred, apparently due both to the low priority accorded it by project personnel and resistance by the midwives themselves who are largely illiterate, suspicious older women. The women were unwilling and unable to bridge the cultural distance between their ways of doing things and those promoted by the project.

LESSONS LEARNED: Indigenous practitioners are already delivering health services to a population. The role they play should be understood by project designers, and if practicable, they should be included in the project.

3.2.7 Balance Between Curative and Preventive Care

In the long-run preventive and promotive public health interventions have more of an impact on life expectancy and disease rates than do improvements of the treatment capabilities. There are also financially compelling reasons to assure that promotive/preventive care is an integral part of health project design. First, it has been shown that it is

more cost-effective to prevent disease rather than trying to treat and control it. Secondly, curative activities tend to depend significantly on imported drugs, whereas a wide range of preventive activities use little or no imported supplies (latrine construction and health education). The balance of payments situation in many developing countries makes imported commodities difficult and expensive to obtain. Curative treatment eventually places additional demands on scarce resources. The problem becomes even more severe if the country has a free health care policy. Therefore, host government policies which emphasize curative health care can threaten long-run sustainability.

Evaluators of the JFK National Medical Center Project in Liberia felt an inappropriate policy caused avoidable child deaths and placed additional demands on scarce resources:

The medical center's high death rate partly stems from the government policy regarding the emphasis on curative services rather than preventive. The majority of those who die at JFK are poor children. They die of preventable illness - suggesting a higher priority should be placed on preventive measures. In the eyes of the Liberian officials, the hospital is serving the population as a whole, and is proportionately of greater benefit to the poor. However the opportunity cost of an urban hospital absorbing 40% of the country's medical budget is high.

While preventive care gets a great deal of lip service, the reality is that in most developing countries there is a clear bias in favor of curative care. In the typical developing country about 80 percent of the Ministry of Health budget goes to hospitals, which provide mainly curative care. In large part the emphasis on curative services comes from the natural desire of health workers to minimize immediate suffering. The clientele demands these services and gives credibility and respect to individuals who can meet those needs. The pressure is on project designers and host governments to demonstrate improvement and meet immediate health needs. Faced with these pressures, preventive measures such as immunization, prenatal care and promotive activities like environmental sanitation lose out, despite their long-run benefits. Public health interventions rely on education that results in behavioral changes, but the links between such activities as handwashing, latrines, clean water and disease are often difficult concepts to convey.

The ultimate balance that is reached between curative and preventive services can have implications for the sustainability of the project. While there is no magic percentage, any health care system must strive for an acceptable mix. As mentioned earlier, curative services are

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demanded and valued by beneficiaries. It usually takes time to build support and demand for preventative services and curative care can help give a project that time. Experience shows that a minimal level of curative care must be provided if preventive/promotive efforts are to succeed. It is almost impossible, for example, to interest parents in family planning if they are worried about the health or risk of death to their already born children.

As the table below shows, vertical health programs are less likely to emphasize curative care.

Number of projects with emphasis on curative care by type of project

	Horizontal		Vertical	
	<u>yes</u>	<u>no</u>	<u>yes</u>	<u>no</u>
Failed	5	1	0	0
Unsustainable	9	4	0	4
Partially Sustained	4	3	0	3
Fully Sustained	6	1	2	7
TOTALS	24	9	2	14

The two vertical programs that were curative in emphasis were a Leporasy Control Program in Guyana and Cancer Control in Tanzania. An evaluation of the Tanzania Cancer Control Project offers some insight into the benefits of preventive care:

By the end of the project, the Cancer Center was capable of conducting research on various forms of cancer. The research is enhanced by the availability of advanced diagnostic equipment but is retarded by the lack of trained research staff. Without the statistical analysis it is impossible to identify the easily preventable cancers occurring in Tanzanian citizens and to design preventive programs to control them. The Cancer Center has the know-how for detection of cancer of the cervix, but it has not been able to develop the logistic and other kinds of support needed to launch a cost-effective detection service. Because of the lack of gasoline, the cancer center has become an urban referral center and has had limited impact on rural health services.

The two goals deleted from the project were efforts at collecting cancer data and performing research. In the long-run public health intervention have more national health status implications than improvement of treatment capabilities. Yet the two goals deleted were preventive in nature. While treatment rather than prevention usually has

higher priority, A.I.D. health advisors should always insist on the continuation of the public health aspects of the project in order to enhance the impact of the project on the population. The information on cancer prevention developed by the project should be included in the health education courses presented to village health workers in Primary Health Care projects and to employees of the Ministry of Health.

Among the most successful promotive activities have been projects that emphasized potable water systems. They seemed to work because there was a strong community demand for clean household water. The water systems provided much more water than had been available and at the same time eliminated any need for water carrying. As a result the villagers valued the systems highly and were willing to pay and work for continuous operation and maintenance. This is in contrast to sewer systems that were attempted in some projects. The expense and technical sophistication coupled with the difficulty of the behavioral changes that were needed, led to disappointment.

Ideally, one would like to see promotive care be a part of horizontal projects as well. Following are some comments evaluators made of the Ecuador Rural Community Health Project, which was one of nine horizontal projects that managed to successfully incorporate preventive care:

Prior to the project, limited non-governmental health care had been provided to rural populations by expatriate missionary groups. These had been largely curative in nature. The A.I.D. project focused primarily on preventive care. Through effective mixing with curative service and effective training, the program was accepted by communities. It was observed that the expanded curative training and utilization of medicines did provide the promoter with the credibility needed to make changes to the health of the community. After receiving tangible benefits from the promoter, the community seemed more willing to listen and try the preventive measures.

Evaluators noted that acceptance by communities of the health worker idea has been universal. Families appear to have a high awareness of relationships between health and behavior, health and environment, and of means by which disease is transmitted. They also recognize the efficacy of immunization in prevention of disease. This awareness led to an increased interest in latrine construction, tendency to separate animals from living areas and high participation in preventive programs. Typically there was a tendency to wait until the benefits were observable before personally adopting the practice.

LESSONS LEARNED: Preventive/promotive health care is necessary for long-run improvement of health status. In most developing countries there is a clear bias to favor curative care, primarily because it is demanded by beneficiaries. There is a tendency to wait until benefits are observable before adopting promotive practices. A minimal level of curative care must be provided if preventive/promotive efforts are to succeed.

3.3 Organization and Management Factors

3.3.1 Immediate Outputs vs. Longer-Run Institutionalization

There is a trade-off between increased short-term costs and longer-term benefits. The development of financial and institutional systems is costly and takes many years before they generate returns, perhaps after donor funding ends. While A.I.D. has generally not placed strong emphasis on the economic rate of return as the prime measure of project feasibility, it has tended to look for early results. This can create a bias against sustainability by not encouraging investments that will yield results after A.I.D. funding ends.

In any project there are short-run output objectives and longer-run institutionalization objectives. Project implementors and technical advisors are under a great deal of pressure to produce results. Time is normally short and outputs have to be generated quickly. A successful demonstration of project benefits has to be made for both the host government and the donor as the following project example illustrates:

In the Swaziland Health Manpower Training Project evaluators concluded that it was important for projects to produce outputs as soon as possible in order to build support for a project. The project was able to start producing graduates quickly, which helped build support within the government and Ministry of Health for the project. If a project spends its early years getting organized and gearing-up, and not producing benefits, it may never have the chance to get going since it will not be able to build support.

Emphasis on producing outputs affects sustainability when activities that lead to building host government institutional capacity are not undertaken. An example of a situation where this occurred was the Mass Media and Health Practices Project in The Gambia.

The project was a three-year effort, designed to test methods for using mass media to promote Oral Rehydration Therapy. During the first two years, the advisors concentrated project resources on an intense effort to generate immediate and measurable benefits. They designed and ran the surveys, media messages, training programs and field evaluations.

The project did not adequately train counterparts to take over the job of the technical assistance advisors. For example, the project provided only limited development of Gambian capabilities to design, implement and evaluate training programs, media campaigns, and sample surveys. When the advisors departed most of the more sophisticated skills departed with them. The small and dedicated counterpart staff that remains is being asked to assume responsibilities for which they are unprepared. Given the short timeframe for the project, the project had to emphasize research and an intense campaign. Institutional development was weak and thus sustainability suffered.

LESSONS LEARNED: Sustainability is related to the capacity of host government institutions to maintain the flow of benefits. A major part of sustainability is the institutionalization of skills, knowledge and capabilities. A trade-off between speed of implementation and institutionalization exists. To be sustained, pressures to produce outputs must be effectively balanced with a longer-run emphasis on training and skills development.

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training
capabilities
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3.3.2 Vertical Vs. Horizontal Health Delivery Programs

Most health projects can be classified as either horizontal (integrated) or vertical. 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 Oral Rehydration Therapy). Of the 62 projects reviewed in this study, 39 (63 percent) were more characteristic of the horizontal approach and 15 (24 percent) were more vertical. The remaining 8 projects focused on institutional strengthening of a health ministry or an educational institution.

Primary Health Care projects are examples of the horizontal approach. This strategy is based on the belief that rural health needs can best be met through a comprehensive and coordinated package of services. Primary Health Care projects have multiple objectives and can include such activities as

basic first-aid, immunizations, family planning, nutrition education, Oral Rehydration Therapy and environmental sanitation. Since 1985, A.I.D. has placed limited emphasis on this approach, aware that multiple objectives have often overburdened health systems.

Vertical projects offer an alternative to the comprehensive approach. Vertical programs usually rely on an intense, highly visible, campaign-like strategy. Proponents of such a strategy feel that changes in health status can be accomplished with more speed and certainty if efforts are focused on a specific health problem. This is particularly important when a clear and immediate threat to health exists. An example is child deaths due to diarrhea or measles.

The more recent child-survival projects attempt to improve existing health care systems by strengthening one of the critical components. Once this has been accomplished, the strengthened part of the health system can serve as a prototype for developing other components within the system. This differentiates recent efforts from the 1960's vertical A.I.D. health programs, which were typically conducted as disease control campaigns.

Of the vertical programs reviewed for this study, 73 percent were rated either fully or partially sustainable, compared to only 41 percent of horizontal projects. Many factors discussed throughout this paper contributed to the ratings for each project, therefore conclusions based on approach alone should not be made. What is clear is that the more limited and precise a project's objectives are, the more likely it is that they will be achieved. Success, demonstrated through the attainment and value of project benefits, is an important prerequisite to sustainability.

Buzzard (1987) notes "In developing countries, where ministries of health may be underfunded, poorly organized, highly politicized, or held in low esteem, vertical programs are easier to manage than integrated programs, and their effectiveness is easier to assess. However, if too many vertical programs are established, efforts are duplicated and resources are wasted." The nature of vertical programs is such that they operate in an autonomous fashion, generally managed by a separate budget, personnel and logistical services. While separation from bureaucratic constraints can be a strong factor of success, autonomy can lead to isolation from mainstream Ministry of Health activities and limit ability to command adequate funds to sustain activities.

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3.3.3 Integration Issues

Many of the vertical projects reviewed for this study attempted to handle the issue of sustainability by assuming that once project activities ended, activities would be integrated into horizontal, Primary Health Care activities after the project ended. The reasoning was that after the goals of the intensive control effort were accomplished, the program could go into a maintenance phase. The maintenance efforts, which would be less demanding than the initial program, could be handled as part of the comprehensive, health delivery system. Based on the experience of the 62 projects reviewed, this assumption is invalid.

Of the 15 vertical projects, 7 made reference to integration plans. Only 1 project showed evidence of integration being achieved. This project was the Endemic and Disease Control Project in Zaire. Of the 94 employed by the malaria component of the project at its peak, 31 remain (9 months after completion date). Of these, 21 are career Department of Public Health employees who address malaria as a discrete concern.

Far more common are the unsuccessful attempts. Integration is normally resisted and often results in confusion regarding authority, supervision and logistical support. Previous lines of communications and control are severed or disrupted with integration, and instead of exclusive attention the program must now compete with other elements within the larger structure. Another significant factor is whether or not the larger institution itself has an administrative and support system capable of absorbing this additional program. Workers with vertical activities generally have skills specific to that program. When these workers are integrated, there is immense pressure to use them and their equipment in line activities of Primary Health Care. The surveillance efforts which were to be continued often lose their priority status.

An example of a program that was sustainable as a vertical, but had difficulties with integration was the Malaria Control Program in Nepal:

This is an example of a vertical program that was to be phased into an integrated program. In those regions where the transfer was accomplished, difficulties arose and early progress was threatened. An Audit Report noted that "While the Integrated Community Health Project's 5 single purpose programs have made marked achievements, . . . integration of these programs has led to an overall decrease in their effectiveness."

Pakistan Malaria Control Project: Evaluators found that many organizational problems were brought about in the Punjab Region by the sudden and premature administrative and functional integration of the Malaria Control Program into the Basic Health Services system. In that region Communicable Disease Control workers from other disciplines were not carrying out malaria assignments, in part because of lack of transportation. They noted that integration of the vertical, autonomous disease program is necessitated in the long run, but it must be recognized that such a step cannot be taken without developing the Malaria Control Program's experience, talent and training, to serve as a framework for other communicable diseases. Many of the difficulties were attributed to the differences that have hindered cooperation between practitioners of preventive and therapeutic medicine almost everywhere. The Malaria Control Program was accused of giving too little attention to curative treatment of active cases of malaria revealed in detection surveillance. Conversely, the Basic Health Services system gave too limited attention to preventive activities.

LESSONS LEARNED: Careful and gradual phased integration of a vertical program offers the best prospects for sustainability. The basic organization needs to be established, staffed, and adequately budgeted before the program begins to be phased in. If this is not done, economic gains already achieved may be lost.

3.3.4 Administrative System

The project evaluations reviewed for this study confirm the central and essential role that effective institutions play in achieving sustainability. The administrative system under which a project will have to operate must be understood and the project design developed accordingly. When project expectations are well matched with institutional capability--existing or expanding over time--sustainability is enhanced.

While donors may attempt the use of leverage to change an administrative system, or the project may establish new administrative procedures, change may be resisted and slow. The following observations were made in evaluations of the Bolivia Rural Health Delivery Services Project:

Difficulties in the highly centralized Bolivian administrative system were a major cause of the project's problems and delays. A serious problem has been a high attrition rate among promoters and auxiliaries, mainly

because of salary delays that were sometimes for months, and the inability of the personnel system to approve personnel transfers to other towns where their spouses lived. Funds for vehicle maintenance and other supplies and equipment were often unavailable when needed.

In contrast, the Panama Rural Community Health Project shows how effective administration can help:

The Department of Environmental Health created a special Water Task Force which provided excellent administration of the program. Monthly progress reports were made and provinces that lagged behind in their schedules risked losing their resource allocations. Proper training was emphasized and the department continued to provide technical support and other assistance after the piped water systems were constructed. Without this assistance, many communities might have been unable to sustain their initial investment.

LESSONS LEARNED: The administrative system under which a project operates is important to health projects, and assessment of the system's capacity must be realistic.

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3.3.5 Management and Staff Capabilities

Management skills and good leadership are among the scarcest of human resources required for development. This is evident not only in the need for policy-makers, decision-makers and entrepreneurial skills but even in the scarcity of people able and willing to undertake the analytical responsibilities of framing the issues for policy makers. During the life of a project, management is usually handled by expatriate advisors. All too often, when the advisors leave the capacity to administer the program goes with them.

The evaluations reviewed indicated a strong correlation between management capacity and overall sustainability whether positive or negative. Observations on management capabilities were made for 41 of the 62 projects. The following table shows the distribution:

Adequate Management and Staff Capability

	No	Yes
Failed	11	0
Unsustainable	11	3
Partially Sustainable	4	2
Sustainable	2	8
Total	28	13

There is clear correlation between management capacity and sustainability. Of the projects that reported inadequate management capacity, 79 percent were rated as failed or unsustainable. In contrast, 77 percent of the projects reported as having adequate management capacity were fully or partially sustainable. Sustained infrastructure development depends upon the existence of a strong and dedicated professional counterpart staff. One evaluator noted "There is no substitute for good timing and good people."

Often management capacity is assumed to be sufficient by project designers. One such project was the Dominican Republic Child and Maternal Health Project:

With the advantage of hindsight, A.I.D. now knows that greater attention, and therefore, greater resource allocation should have been given to the management and administrative capability of the Secretariat. This would have insured more timely and efficient project implementation and it also would have assured the more effective administration and use of project facilities. The fact that facilities that are completed are not offering the proposed family planning services, reflects on the administrative capacity of the Secretariat of Public Health. Unless the Secretariat demonstrates more management capacity, these facilities will continue to be under-utilized.

LESSONS LEARNED: Management skills and good leadership are among the scarcest of human resources required for development. Care has to be taken to not overburden the management capabilities of developing country institutions and to identify goals and objectives that are realistic. This may mean the project may have to move at either a slower or scaled-down pace until this capacity is built.

3.3.6. Staff Slots Created

Another organizational issue is the creation of adequate staff slots. Projects usually create some new staff positions. With external resources, funding these new positions is not problematic during the project's life. Resources, visibility and donor presence all help assure this. What happens when the donor leaves is critical to sustainability.

The Health System Development Project in Zaire illustrates the ideal handling of this situation.

The project trained an acceptable cadre of Department of Public Health professionals, capable of health planning. The project is established within a permanent government institution. All personnel who are working for, or with the project, either are paid by the government or they will be integrated into the government payroll. Project supported salaries are consistent with local salaries.

In the Lesotho Rural Health Services project the government formally recognized Nurse Clinicians through legislation. As project trainees were graduated staff slots were created, with the government funding the positions. A 2-year rotation system was followed, with more senior Nurses having priority selection of assignments. This all led to a feeling of security and stability within the health system in general. Sustainability was thereby enhanced.

LESSONS LEARNED: Critical staff slots that will be needed after the formal project ends, should be created within the institution during the life of the project. The earlier funding of these slots is assumed by the host government, the greater the prospects for sustainability.

3.3.7 Spread Effects and Spin-Offs

One of the most impressive indicators of sustainability is the adoption of a project's technology into different areas. Whether spontaneous or planned, dissemination and acceptance of technologies and techniques is a strong indicator of demand.

The most dramatic illustration of spread effects and spin-offs was The Gambia Mass Media and Health Practices Project.

The project used mass media to encourage behavioral changes in the prevention and treatment of infant diarrhea. Based on the technical achievements of the project, the staff of the Unit became recognized as the mass media experts within The Gambian government. The Department of Health and Medical Services approached the Health Education Unit to help implement similar programs in family planning and nutrition. The Health Education Unit has also been working with other government ministries, most recently with the Department of Agriculture on a locust control campaign.

While all of these developments are good, there is a problem of too much of a good thing. The Health Education Unit consists of a five person staff with one secretary.

The absorptive capacity of the Unit has already been reached. Not only are these people being stretched too thin, but based on a field visit, the authors of this study concluded that there was a need for long-term participant training to increase the staff's technical skills.

The other spread effect noted in The Gambia Mass Media and Health Practices Project was the increased capacity of the Book Production and Material Resources Unit. The Mass Media Project demanded high quality products that taxed the ability of the Book Production Unit. The Unit met the challenge and was able to produce quality work on a timely basis. The posters and flyers developed for the project had wide distribution and were recognized as being of superior quality, which has earned new business for the Book Production Unit. Since all organizations, both governmental and private, must pay for materials produced at the Unit, the new business generated by the project has led to an increase in revenue for the Book Production Unit. This has led the Gambian government to invest in the Unit to upgrade and expand its facilities and staff to the point where now the Unit is in the forefront of printing in The Gambia.

LESSONS LEARNED: Spread effects and spin-offs are tangible evidence of sustainability. Care has to be taken that the demand for the technology does not out-pace the host government capacity. An important role for donor assistance can be to increase the capacity and quality of host staff responsible for disseminating the technology. In addition, investment of project resources in local enterprises can provide a base for growth after the project ends. These steps will lead to a reduction in the level of external technical and financial assistance in the long-run.

3.3.8 Information Feedback

Feedback from a management information system can be important in guiding project development and assessing impact. This is particularly true with a new technology or approach. When a project is to be replicated elsewhere, the evaluation component of a pilot effort has been proven to be a consistently valuable exercise.

By far the largest information feedback effort of the projects reviewed for this study was the Mass Media and Health Practices Project in Honduras and The Gambia. The project included a major evaluation component, which emerged as one of the most innovative and valuable aspects of the project

design. The Mass Media project was a pilot effort in an A.I.D. priority health area, and was to be replicated elsewhere. The project provided for a full-time, in-country evaluation contractor. While fundings and operations were separate from the implementation, there was effective cooperation. Frequent feedback from evaluation data enabled the project implementors to gauge exposure to messages and behavioral changes among end-users, and further improve message content and expression. These efforts accounted for a large part of the success of the campaign.

While information feedback was important in the project, it does not usually play such a crucial role. One problem cited in some project documentation was the reporting system being beyond staff capabilities, either in terms of sophistication or time requirements:

Hanang District Village Health Project in Thailand: The data system was impractical; its imposition by A.I.D. at the start of the project was unwise. "The project is awash at sea as far as effective data utilization. The data system cannot be institutionalized without simplification."

What seems to be the most useful, is a relatively simple reporting requirement that captures the most critical of information in a consistent format. This means making sure forms are standardized and replacement forms are available to the reporters. Information must be timely and accurate to be of use, therefore, its value has to be understood by the data collectors. Probably the best place to reinforce the attitude toward reporting requirements is during training and reinforced by supervisory visits. Finally, there must be an analytical capability within the Ministry of Health to interpret and use the information.

LESSONS LEARNED: A management information system helps managers determine how well their project is performing and which methods work most effectively. Sustainability can be encouraged by having a reporting requirement that is relatively simple, but captures the most critical of information in a consistent format.

3.3.9 Training

Most assistance projects have a good record of meeting physical training targets. Yet, training and organizational development achievements which are essential to sustainability are easily lost due to poor management or failure of policy makers to provide an opportunity for specially trained

personnel to use their newly acquired skills. Thus, a project must not only train its personnel, but also provide the opportunity to use new skills if it is to have the capacity to deliver benefits into the future.

Training is a common component of A.I.D. health projects. Of the 62 project evaluations reviewed for this study, 51 discussed training. Effective training appears to play an important role in sustainability and early start-up of training or pre-project training can pay high dividends in terms of institutionalizing the project. Problems with training were noted in 22 projects, of which 18 were rated as failed or unsustainable. In the 29 projects where the training component appeared strong, 21 were rated partially or fully sustainable.

For many of the projects reviewed, training was in-service. In-service training is cost effective and helps assure that the training is relevant. While this fact is recognized, there are cases where a long-term participant training program is also called for. The more a project depends on advanced, technical skills, the more a commitment must be made to long-term participant training. Participant training is critical in developing sustainable institutions, because institution building requires the development of local human capital that can manage and operate their own institutions.

For most projects, physical training targets were achieved. The actual training of health workers is something that appears to be done well during the life-of-project. One of the implementation problems that was noted in several cases was the lack of qualified candidates.

Experience shows the sustainability of these efforts is not as easy, even when training has been effective. Several things can threaten accomplishments of a training program after the project ends:

Attrition: As trainees leave the health system that invested in them, human capital is lost. Therefore, attrition rates must be kept at a manageable level. When it begins the factors causing it must be addressed. Replacement training plans are important if coverage is to be maintained.

Market Demand for Trainees: As trainees graduate, a system must be in place to absorb and make effective use of them. Failure to provide an opportunity for specially trained personnel to perform at a level which calls for the exercise of their skills can result in the dissipation of the newly acquired capability. The demand for trainees is most directly related to appropriateness of training. The

Swaziland Health Manpower Training Project offers a good example of a training program that produced an overly qualified cadre:

The project itself was successful in creating a well functioning training institution that is graduating competent Registered Nurses. However the evaluators questioned whether the project is producing too many, over trained Registered Nurses. A large number of Registered Nurses are not appropriate to Swaziland's needs. Swaziland needs more paraprofessionals who will work on preventive and promotive services in rural areas.

This in contrast to the Rural Health Services Project in Lesotho which used the competency based Physician-Extender approach. The health system into which trainees moved after graduation was well established. Salary, placement, rotation, supervision and other important issues were understood by the participants. More importantly, the training received was directly related to the services they would be expected to provide. A systematic supervision and re-training schedule reinforced the initial training.

In a Child and Maternal Health Project in the Dominican Republic there was a major shift in the type of training which moved away from high level, academic training abroad for doctors and dentists to non-academic training of middle level personnel, such as nurses and paramedics, to operate the regional, less sophisticated family planning facilities.

Re-training: Refresher or follow-up training is as important to sustainability as the initial training. The newer the concept, the greater is the need for reinforcement through retraining. Even when this is planned, it is not always successful. The costs of these efforts depend on host government funding. Participants are expected to pay for their own lodging, food and transportation. This can represent a significant expense for those who have to travel long distances and will add to already infrequent attendance.

Poor Policies: Training, because it is usually successful, tends to be a popular component of health projects. It is encouraging for host governments and donors to see a graduating class of nurses for example. This is a tangible accomplishment. Evaluator's comments of a Rural Health project in Nigeria point to the need for balance:

Training objectives have been met or exceeded. An analysis of the budget shows training plans will continue to shift government resources to salaries at the expense of budget for materials, transport and medicine. It is now generally realized that excessive attention was given to training of Village Health Workers to the detriment of supervision and program maintenance. The rate of training is now slowing down to reinforce those areas in most need.

LESSONS LEARNED: The more a project depends on advanced, technical skills, the more a commitment must be made to long-term participant training. Retraining is as important for sustainability as the initial training. The newer the concept, the more there is a need for reinforcement through retraining. Sustainability of training benefits can be threatened by attrition and lack of demand for graduating trainees.

3.3.10 Supervision

In rural health delivery systems, supervision is usually the weakest link and is important to sustainability. Supervision is believed to contribute markedly to improved worker performance. Regardless of the effectiveness of initial training, workers must receive systematic support and guidance if they are to remain effective. Early gains are easily lost when such contact is missing.

The following comment was made of the Lampang District Health Project in Thailand:

Attrition of health post volunteers has been modest. In areas where district level workers (supervisors) have taken an active interest and have provided regular guidance and support, attrition has been minimal. The evaluation team noted that supervisory visits had been frequent in this project

The following abstract from the evaluation on the Dominican Republic Health Sector Loan probably is more typical.

Overall the promoters seemed to know fairly well what they were supposed to be doing, but there was (1) little evidence that they were actually doing the work (other than immunizations and a little family planning) and (2) no evidence that their supervisors were in any way seeing to it that the work was done, other than occasionally delivering vaccines. The supervisor of the promoters is the person "we heard about the most but saw the least ...

and is the weakest link in the system." It was the evaluator's impression that the supervisors visit the promoters much less often than they should and that they, in fact do little (if any) supervision even when they make a visit. But it is concluded that the supervisors are a part of the existing infrastructure which is in place and could (theoretically) be used to much better advantage.

Supervision is an expensive component in terms of professional time and high transportation costs. Because benefits are less tangible, it is an easy target for elimination or cut-back during budget stringencies after external assistance ends. The most common reason cited that supervision was not done was transportation costs. Several projects noted that they used visits by the workers to health centers for supplies or salaries for supervision opportunities.

In Tanzania, Hanang District Village Health Project, the government recognized the importance of supervision and had plans to take over supervision of new training groups and extend its coverage in coming years. The project relies on a regular visitation program to check progress and provide support for the newly trained Village Health Workers. This activity was identified as one of the most critical issues to the continued functioning of the Village Health Workers after the formal project ends. Without this support and provision, the activities would probably slowly cease over time. Because of increased gasoline and vehicle maintenance costs this activity is being threatened.

LESSONS LEARNED: Supervision is believed to contribute markedly to improved worker performance and is important to sustaining initial training benefits. Supervision is an expensive component in terms of professional time and high transportation costs. Because benefits are less tangible, it is an easy target for elimination or cut-back during budget stringencies after external assistance ends.

3.3.11 Ministry and Donor Coordination

Coordination of efforts leads to more effective use of resources. Cooperative international financing is particularly indicated at early stages of regional disease control efforts. In these cases reliance on local or national government financing would result in insufficient resource allocations and ineffective control efforts. An excellent example of donor coordination is the Onchocerciasis Control Program in West Africa where control is sponsored by four multilateral agencies and covers portions of 7 countries. An Impact Evaluation of that project made the following observations:

It is not likely that the Onchocerciasis Control Program would have achieved its current degree of success without the long-term financial commitment of donors at the outset. Without the collective, long-term commitment, it seems unlikely that individual donor country support could have been sustained over the 10 year period.

The report also attributed much of the program's success to the fact that it was implemented through an established international structure, the World Health Organization. By locating itself within that organization, the project was able to benefit from the support of established procedures.

Coordination is also important at the ministerial level. When more than one host government agency is involved in a project, inter-agency discord between ministries can delay implementation. The development process often generates institutional changes which upset the status quo and creates inter-agency conflicts. For example a project may be implemented by the Ministry of Health, have its budget allocation decisions made by the Ministry of Finance and vehicles maintained by the Ministry of Works. Project planners should take into consideration the disruptive impact that bureaucratic conflicts and dependencies can have on development projects. Of course, clarifying responsibilities and accountability before the project begins is beneficial.

Another important lesson on inter-sectoral cooperation is illustrated by the Pakistan Malaria Control Project:

Inter-sectoral cooperations is needed between the malaria program and other offices of the government, e.g., irrigation, public works, road and agriculture. Such coordination lessens the risk of creating conditions through development activities which lead to malarigenous conditions.

LESSONS LEARNED: Donor coordination can lead to more effective use of limited resources. When ministerial coordination will be required, project designers should take into consideration the disruptive impact that bureaucratic conflicts and dependencies can have on development projects.

3.4 Policy, Bureaucratic and Social-Cultural Context

Development projects operate within an existing policy, bureaucratic and social-cultural context. The following sections look at some of the external factors that can

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influence the sustainability of health projects. These are factors that, while beyond the control of a particular project, should be reflected in the way the project is designed and implemented.

3.4.1 Economic Environment

A project requires a stable economic environment. An economic crisis presents special problems to a development project. What we are discussing here are shocks to an economic system that is most likely already fragile.

For example, if during the project life a country experiences abnormally high inflation rates, there will be operating cost overruns. In a Rural Health Services Project in Guatemala these overruns resulted in more than a 100 percent increase over originally planned local currency contributions for the project. Rampant inflation can also absorb any increases in host country budget allocations as the additional funds are used to meet the rising cost of health care delivery (e.g. drugs, food supplies, salaries to personnel).

A balance of payments crisis can make a project unsustainable. When foreign exchange shortages become critical and chronic - programs that depend on imported supplies of gasoline and medicines are threatened. Currency devaluations can also contribute to overruns by increasing the price of imported goods required by the project.

Another economic dislocation or shock can come in the form of drought. A severe drought can completely dwarf all other influences on a project. Drought and the resulting famine can make any community-based component difficult to promote as food and water supplies become the primary concern of people. Of the 62 projects in this study, 5 experienced a drought during the project's life. The persistence of drought conditions leads to economic hardships that threaten the viability of community support as the local economy weakens and reduces the ability of villagers to pay health workers and renew medical supplies.

LESSONS LEARNED: Economic crisis create special problems for health programs, and can preclude sustainability. While external to the project, the likelihood of an unstable economic environment should be reflected in the way a project is designed and implemented.

time for

3.4.2 Host Government Policy

Development projects operate within the context of a national government policy environment. Government commitment and policies that support project objectives are critical to project sustainability. Even a "good" project will not be sustainable if the policy environment is hostile. One evaluator went as far as to say: "Policy changes rather than the bricks and mortar approach have greater potential impact on improving the rural health system of developing countries."

The idea that a health project is something that a national government should do is strongly ingrained in developing nations. As a result, many of the countries have a policy of providing free health care for their people. This is based on the judgment that health care is a political right and that, at least in some respects, an individual's good health benefits the entire community (health is a public good). Since it is financially impossible to cover the entire country with free health care, most people are waiting until the services and medicines reach them. When a health facility is to be built in their community they see it as a long overdue right. It is difficult to convince them that they must participate in the organization, implementation and financing of something that the government should be doing for them.

The following comments from evaluations of the Primary Health Care Project in Sudan illustrate some of the financing problems that result from this inappropriate policy.

It is the policy of the government to render free health services to all people in the Sudan. This is a socio-political commitment. In the southern region, financial resources can only meet the cost for minimum health care at the peripheral level to a limited extent. This situation calls for complementary sources such as self-help, if the rural population is to have satisfactory coverage.

For some projects, national policies regarding financial procedures created difficulties.

In the Pakistan Malaria Control Project the national government insisted that the Ministry of Health pay customs duties and taxes on imported DDT. For that same project, a national policy required transportation charges be paid out of local government budgets resulted in lack of interest in short-term training.

Good policies can have as much impact as poor ones. In the Thailand Mobile Medical Technical Project, a government policy decision regarding medical school graduates was viewed as critical for reaching the project goal. The problem faced by the project was that Thai physicians were reluctant to work in rural areas. The physician ordered away from home frequently gives up a lucrative private practice. The government made two policy decisions that lead to a permanent capability to staff rural health facilities. The first was to sponsor a 1-year internship, followed by 2-years compulsory government service for medical students. This policy change resulted in 250 new doctors being made available in the following year. New classes would replace those rotating out. In response to the monetary losses of rural service, the Thai government approved extra pay for doctors assigned to remote areas.

Another example of an effective policy change was in the Dominican Republic Child and Maternal Health Project.
Evaluators noted:

The Government of the Dominican Republic has taken a most important step in implementing its family planning program by authorizing graduate nurses to insert IUDs and by authorizing auxiliary nurses to prescribe the pill. This step has greatly increased the number of health personnel providing family planning services without increasing the cost of the program.

LESSONS LEARNED: Policies that support project objectives are critical to project relevancy and sustainability. To the extent practicable, donors should encourage host governments in constructive dialogue to influence necessary changes. Projects should not include elements where known policy conflicts are going to preclude success.

3.4.3 Government Commitment

The sustainability of a project often depends on the commitment of the host government. Commitment in this context means evidence of government capacity in terms of financial and administrative capability and intent to continue the program when donor assistance ends. The influence the host government can have on a project is reflected by comments made in the evaluation of the Niger Rural Health Project.

The aspects of the project which were strongly supported by the Government of Niger, such as the village health teams, largely achieved their objectives. Those aspects which did

not receive the enthusiastic support of the government, such as public sanitation, did not achieve much. Projects, in Niger at least, should be designed with this consideration firmly in mind.

Syria Technical Health Institute Project: The response of the Ministry of Health to the project has been more favorable than could ever have been foreseen. The Ministry has been generous in budget allocations for general support and expansion of the Institute. Improvements have been made in physical facilities in excess of requirements set by A.I.D. Staff have been seconded by the Ministry of Health to teach and the Syrian government has underwritten the full cost of printing and distribution of teaching materials and curricula developed under the project.

When support is missing the experiences of the Tanzania Manpower Training Project is more likely to occur:

While verbal support for the project was given by Ministry of Health senior staff, when it was necessary to put some words into action, it was difficult and sometimes impossible to have a senior official take the action which the technical staff and A.I.D. considered necessary. Although senior Ministry staff recognized that problems existed concerning logistics and distribution, the actions taken to improve the system were not satisfactory.

The most prudent course for donors is to clearly spell out the type of actions expected of host governments before the project is started. Looking ahead to the type of recurrent costs involved and comparing them to past budget allocations should give a fair indication of capability. Intent is harder to guarantee in advance, but again if physical requirements the host government is responsible for are made known, there may be an opportunity to tranche funds, conditional on the requirements being met. This can also be useful for the host government. Based on the requirements being imposed, they can make a more rational decision about the desirability of the project. It also brings to the front the resource requirement the activity implies. Suppressing or ignoring this information is certainly not beneficial to either party.

LESSONS LEARNED: When the sustainability of a project depends on certain host government actions, these actions should be clearly identified before the project is started. In addition, a specific and realistic plan for accomplishing the tasks must be in place.

3.4.4 Political Instability

Another external factor that can have disastrous effects on a project is an environment of political instability. Political factors figure prominently in the survivability of infrastructure. The uncertainty and economic dislocations caused by abrupt or violent political change can preclude a project from reaching its objectives. Some of the health projects reviewed in countries like El Salvador, Pakistan, Sudan and the Central African Republic experienced either open hostilities or changes in government that precluded them from meeting their financial obligations to the project. In Pakistan and Guyana, violations of the nuclear non-proliferation act caused an abrupt termination of all A.I.D. program assistance.

LESSONS LEARNED: Political factors figure prominently in the survivability of infrastructure. Projects operating in such environments should have realistic expectations about national support.

3.4.5 Special Interest Groups

Where special interest or opposition groups are strong, they must be recognized as a potential obstacle to project activities. For example, family planning projects may run into opposition from religious groups. One of the most prevalent groups to oppose donor health programs is the medical community themselves. Physicians in many developing countries are reluctant to accept the idea of sub-professional persons rendering basic medical services and receiving auxiliary medical training. While the use of paraprofessionals is contrary to traditional thinking, donors see it as a mandatory response to critical doctor shortages. Projects that have introduced this new cadre of health worker have had to deal with this problem. How well they addressed it in large part determined the sustainability of the project.

Resistance by physicians is understandably more likely in countries where the medical profession is more developed. Strong physician opposition was noted in projects in Thailand, Korea and Guatemala. In Thailand strong government support for a new cadre gradually eroded resistance. A Rural Health Delivery Services Project in Bolivia found:

Serious conflicts arose from a failure to fully orient Bolivian health professionals, particularly nurses, about the project, and there was resistance to the incursion of paraprofessional and promoters on their "turf". Relatively

high salary levels for project personnel caused strong resentment (with per diem, some auxiliaries earned as much or more than a professional nurse).

One of the projects visited for field verification, Lesotho Rural Health Development, illustrates a project that was successful in disarming the initial resistance and developing good relationship between doctors and the new cadre (nurse clinician). Nurse Clinicians are now accepted in Lesotho as an important deliverer of primary health. What circumstances lead to this outcome?

1. Lesotho was extremely short of doctors, with no immediate relief in sight.
2. The nursing profession in Lesotho was held in high esteem. Many of the nurses were already carrying out substantial clinical responsibilities before the project started.
3. A concerted effort was made to explain the Nurse Clinician's role in the health care system to the doctors. This helped allay fears they had of possible competition or a decline in the quality of patient care. All Nurse Clinicians reported to a physician located at the hospital in the district to which she was assigned.
4. Finally, the Government of Lesotho prepared administrative and legislative acts that recognized the role of the Nurse Clinician.

LESSONS LEARNED: Where special interest or opposition groups are strong, they must be recognized as potential obstacles to project activities. The first step in addressing the problem is a concerted effort to explain the project and the role of project workers to the affected parties. Many times this will allay fears of quality of care or competition.

3.4.6 Community Participation

As Buzzard (1987) points out, most development models place a strong emphasis on community participation. In the classic community development model, all projects begin in the community with a realization of some pressing need, an inventory of resources available to resolve the problem, and then some possible solutions are discussed and worked out by the community until a solution is agreed upon. This model of development assumes that a committee is some natural form of

social organization and that it has some inherent quality of representativeness. In fact, the committee is a very Western (democratic) mechanism of decision making and one which is alien in many autocratic or lineal societies. Forming a committee with individuals who actually represent the diverse interests of the community may be a major sociological task in itself. In those cultures where committees are an alien form of social organization, it may take years for the committee members to learn the give and take required for committee effectiveness.

The evaluations reviewed for this study show that the process of community participation is one that moved from the top down. The Ministry of Health and A.I.D. decided to start a health project in a community. The overall framework of the project was designed by the health planners and handed down to the local community. A local committee was then organized to implement the project. In most developing countries people do not voluntarily participate in government projects. The national government is an outsider that makes demands (taxes and controls on activities) and at times provides benefits. A development project is usually viewed as something that the government is doing for the people. The very concept of participation is new and alien to many traditional societies who are accustomed to the government making most decisions for them.

An American Public Health Association study (Parlato and Favin, 1982) concluded that, it often seems as if project planners expect participation to develop spontaneously. Generally, insufficient attention is given to the significant effort and deliberately slow pace required to gain a community's trust and support. Few communities were even asked whether they wanted the projects and they rarely had any role in defining the major features of the program. In many projects, general objectives of popular participation have not been translated into clearly defined activities on which project staff could focus and which could be verified and evaluated. For the most part, community support of specific and concrete functions and activities (e.g., health hut construction or provision of labor for water projects) has been successful, but other kinds of activities have not.

The Kibwezi Primary Health Care Project in Kenya
illustrates that community participation cannot be rushed:

The implementor trained the Community Health Workers as a part of project activities. An unintended result was the perception by communities that the project should also be responsible for supporting them. The Community Health Workers then found themselves in something of a vacuum: the communities not actively supporting them and the project

reluctant to do so for fear of increasing dependency, and thereby reducing the possibility of the efforts being replicated and sustained. What emerges is a trade-off between true community involvement and speed of implementation. The implementor had to work with a timetable that did not allow communities sufficient time to develop their own programs. The lesson evaluators of this project offered was that it may not be possible to start a new, community-initiated project in an area where there is no demonstration effect from neighboring schemes. A much longer period of community sensitization has to be set up. Strict timetabling is not appropriate for community-initiated projects. Communities must be allowed to take their own time and clarify their own goals and ways of achieving these.

The importance of participation depends on the type of program being implemented. For vertical, focused programs like immunization, vector control and oral rehydration, planning and organization can be done at the national level. Project sustainability would be helped by having active local participation in program implementation. In horizontal, primary health care programs, community participation is essential in both planning and implementation. The most common form of community participation in projects reviewed for this study was self-help in initial construction of facilities. Efforts at managing and financing on-going activities were far less successful.

Liberia, Lofa County Rural Health: The performance of village health committees was very uneven. Some worked well, but most did not despite the early success in self-help for initial construction of the village health posts. There was a failure to have local political groups and chiefs participate in project design and implementation. Thus, there was a lack of local commitment and lack of local support.

A.I.D.'s experience indicates that it is easier to establish and operate health services than it is to organize community development activities. Rural communities recognize modern medical services as beneficial. The need is always there, and the participation of the target population is usually ensured. Community development, on the other hand, requires that the highly individualist community member recognize community goals and be convinced of the benefits of working in common with other members of the community to achieve them. Further, it is required that these benefits be seen as substantial enough to warrant diverting scarce time and resources from activities with a known return to those with unproven potential.

LESSONS LEARNED: A.I.D.'s experience indicates that it is easier to establish and operate health services than it is to organize community development activities. Community participation cannot be mandated and takes time. It requires that the highly individualist community member recognize community goals and be convinced of the benefits of working in common with other members of the community to achieve them. Further, it is required that these benefits be seen as substantial enough to warrant diverting scarce time and resources from activities with a known return to those with unproven potential.

Don't we need some
sort of summary of that
attempt to present those
factors in some
framework of importance.
In all issues of course
concerns

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APPENDIX A

List of Health Projects Reviewed

<u>Country</u>	<u>Project Number</u>	<u>Project Title</u>	<u>Beginning Year</u>	<u>Ending Year</u>	<u>A.I.D. Fundin (mill\$)</u>
AFRICA REGIONAL	6980399	ONCHOCERCIASIS CONTROL	1974	1985	23.0
BOLIVIA	5110453	RURAL HEALTH DELIVERY	1975	1981	0.9
BURMA	4820002	PHC I	1980	1983	5.0
CAMERON	6310201	RURAL HEALTH SERVICE	1975	1982	0.5
CENTRAL AFR. REP.	6760002	OUHAM PROV. RURAL HEALTH	1977	1980	1.5
COLOMBIA	5170173	HEALTH SECTOR (multiple)	1973	1978	32.7
CONGO	6790005	CARE PROJECT	1980	1983	0.3
DOMINICAN REPUBLIC	5170107	HEALTH SECTOR I	1974	1981	4.8
DOMINICAN REPUBLIC	5170100	MATERNAL & CHILD HEALTH	1969	1976	7.1
ECUADOR	5180002	RURAL COMMUNITY HEALTH	1978	1983	0.2
EGYPT	2630137	DIARRHEAL CONTROL	1981	1987	26.0
EL SALVADOR	5190253	HEALTH POPULATION & NUT.	1980	1984	1.3
GAMBIA	9311919	MASS MEDIA & HEALTH PRAC.	1981	1984	0.4
GHANA	6410055	DANFA PHC	1970	1981	6.1
GUATEMALA	5200218	RURAL HEALTH SERVICES	1973	1980	5.9
GUYANA	5040067	LEPROSY CONTROL	1978	1982	0.3
GUYANA	5040066	RURAL HEALTH SYSTEMS	1979	1984	4.7
HAITI	5210061	HACHO: RURAL HEALTH	1966	1979	5.1
HAITI	5210081	GROSS MONROE RURAL HEALTH	1977	1980	0.1
HAITI	5210086	STRENGTH. HEALTH SERVICES	1977	1982	7.3
HONDURAS	9311919	MASS MEDIA & HEALTH PRAC.	1980	1983	0.5
INDONESIA	4970239	MALARIA CONTROL	1974	1979	25.0
INDONESIA	4970230	HEALTH RESEARCH & DEVEL.	1974	1980	0.9
JAMAICA	5320040	HLTH. IMPROV. FOR YOUNG	1977	1981	0.4
KENYA	6150185	KITUI PHC	1979	1983	0.4
KENYA	6150173	BLINDNESS PREVENTION	1976	1980	1.2
KENYA	6150203	BLINDNESS PREVENTION	1980	1983	1.9
KENYA	6150179	KIBWEZI PHC	1979	1983	0.8
KOREA	4890710	HEALTH DEMONSTRATION	1975	1981	5.0
KOREA	4890708	HEALTH PLANNING	1974	1980	0.7
LESOTHO	6320058	RURAL HEALTH DEVELOPMENT	1977	1984	3.2
LIBERIA	6690054	NATIONAL MEDICAL CENTER	1960	1978	16.0
LIBERIA	6690125	LOFA COUNTY RURAL HEALTH	1975	1978	2.7
LIBERIA	6690126	HEALTH PLANNING MANAG.	1976	1985	2.6
MALI	6880208	RURAL HEALTH SERVICE	1976	1982	3.9
MAURITANIA	6820202	RURAL MEDICAL ASSISTANT	1979	1984	1.7
NEPAL	3670115	MALARIA CONTROL	1975	1980	3.8
NEPAL	3670126	INTEGRATED HEALTH SERVICE	1976	1981	2.0
NICARAGUA	5240143	EAST COAST HEALTH	1977	1982	0.5
NIGER	6380208	IMPROVING RURAL HEALTH	1978	1986	13.5
NIGER	6830214	BASIC HEALTH SERVICES	1977	1981	2.8
PAKISTAN	3910424	MALARIA CONTROL	1975	1981	42.8
PAKISTAN	3910415	BASIC HEALTH SERVICES	1977	1981	8.5

List of Health Projects Reviewed (Cont.)

<u>Country</u>	<u>Project Number</u>	<u>Project Title</u>	<u>Beginning Year</u>	<u>Ending Year</u>	<u>A.I.D. Fundin (mill\$)</u>
PANAMA	5250181	RURAL HEALTH DELIVERY	1976	1982	13.3
PARAGUAY	5260303	HEALTH EDUCATION	1976	1977	0.1
PERU	5210177	RURAL/WATER HEALTH	1977	1981	0.5
PHILIPPINES	4920319	BICOL- PHC DELIVERY	1979	1984	2.5
SENEGAL	6850210	SINE SALOUM PHC	1977	1980	3.4
SOMOLIA	6490102	RURAL HEALTH DELIVERY	1979	1985	15.2
SUDAN	6500011	NORTH SUDAN PHC	1978	1983	3.7
SUDAN	6500019	SOUTH SUDAN PHC	1978	1983	3.7
SWAZILAND	6450062	HEALTH MANAGEMENT PLANG.	1977	1984	6.2
SYRIA	2760019	TECHNICAL HEALTH INSTIT.	1979	1983	5.6
SYRIA	2760006	DEVELOPMENT OF HLTH. SERV	1978	1982	1.1
TANZANIA	6210147	CANCER CONTROL	1978	1983	0.6
TANZANIA	6210121	MANPOWER TRAINING	1973	1982	12.4
TANZANIA	6210138	HANANG VILLAGE HEALTH	1977	1982	0.5
THAILAND	4930179	RURAL HEALTH MANAGEMENT	1966	1972	2.5
THAILAND	4930305	MALARIA CONTROL	1979	1984	4.5
THAILAND	9310971	LAMPANG PHC	1974	1981	4.7
ZAIRE	6660058	ENDEMIC & DISEASE CONTROL	1976	1980	1.9
ZAIRE	6600057	HEALTH SERVICES DEVELOP.	1978	1982	1.3

Appendix B

Table 1

Economic and Financial Factors

(Number of Projects)

How were recurrent costs covered?

	Govt. Budget	User Fees	Commun- ities	Foreign Donors	NOT COVERED	Recurrent Costs over 40 %
Failed					3	1
Unsustainable					8	4
Partially Sustainable	2	1	2	1	2	2
Sustainable	3	1	2	1	0	
Totals	5	2	4	3	13	7

Distribution
by
Income Category

Substantial
Foreign
Exchange
Requirements

	LIC	LMI	MIC	UMI ¹	
Failed	4	6	1	1	1
Unsustainable	13	5	1	3	5
Partially Sustainable	3	7	2	0	3
Sustainable	6	6	1	2	3
Totals	26	24	5	6	12

¹ Low Income Country (LIC), Low Middle-Income Country (LMI), and Middle Income Country (MIC), and Upper Middle Income Country (UMI).

Appendix B

Table 2

Design and Implementation Factors

(Number of Projects)

	Follow-on Project	Phasing within	Both	Unrealistic Time-frame	Goals Unclear, too ambitious, not shared
Failed	1	4		7	7
Unsustainable	9	3		6	3
Partially Sustainable	3	2	1	3	1
Sustainable	4	4	2	3	1
Totals	17	13	3	19	12

	Services and Maintenance Satisfactory		Commodity Resupply Problems		Use of Private Sector	Use of Informal Workers	Volun- teers
	No	Yes	No	Yes			
Failed	4	1	3	3	0	0	2
Unsustainable	9	1	7	10	3	3	5
Partially Sustainable	1	2	3	7	3	2	7
Sustainable	5	7	13	2	4	2	4
Totals	19	11	26	32	10	7	13

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Appendix B

Table 3

Organization and Management Factors

(Number of Projects)

	Integration of Vertical Planned		Integration Successful	Adequate Management Capacity	
	no	yes		no	yes
Failed	0		0	11	0
Unsustainable	4		0	11	3
Partially Sustainable	1		0	4	2
Sustainable	2		1	2	8
Totals	7		1	28	13

	Was Training Appropriate		Supervision Problems	Seperate Management Unit Created	
	no	yes		no	yes
Failed	5	3	2	8	4
Unsustainable	13	5	5	11	9
Partially Sustainable	4	5	7	7	3
Sustainable	0	16	3	10	6
Totals	22	29	17	36	22

Appendix B

Table 4

Policy, Bureaucratic and Socio-Cultural Context

(Number of Projects)

External Factors:

	Bad Policy	General Economic Problems	Drought	Political Opposition Instability	Government Committment No	Yes
Failed	3	2		3	10	1
Unsustainable	10	6	3	6	15	1
Partially Sustainable	5	3			4	5
Sustainable	2	2	2	2	1	16
Totals	20	13	5	11	30	23

	Lack of Social or Cultural Fit	Lack of Felt Need, Beneficiary Value	Community Participation Planned	Active
Failed	4	4	4	1
Unsustainable	3	2	12	5
Partially Sustainable	1		9	5
Sustainable			6	5
Totals	8	6	31	16

APPENDIX C

Health Sustainability Project Evaluation Questionnaire

1. Project and National Vital Statistics

- 1.1 Per capita GNP.
- 1.2 Per Capita GNP Growth Rate
- 1.3 Inflation Rate
- 1.4 National life expectancy.
- 1.5 Infant Mortality.
- 1.6 Life of Project Funding.
- 1.7 Length of Project (yrs.).
- 1.8 Functional Sub-catagories.
- 1.9 Implementing Agency.

2. Economic and Financial

2.1 Macro Economic

- 2.1.1 Did project have substantial foreign exchange requirements?
- 2.1.2 Were capital costs over 40 percent foreign exchange?
- 2.1.3 Were recurrent costs over 20 percent foreign exchange?
- 2.1.4 Did country have severe foreign exchange/balance of payments problems (Paris Club rescheduling, IMF EFF, Etc.)?
- 2.1.5 Was inflation cited as serious problem?

2.2 Government Budget

- 2.2.1 Was there a national fiscal imbalance (gov. budget deficit over 5 percent of GDP)?
- 2.2.2 Was there a national recurrent budget problem?
- 2.2.3 Did the national health budget face a recurrent budget problem?
- 2.2.4 Did the project face severe budget reductions?

- 2.2.5 Is national health budget increasing faster than other budget categories?
- 2.2.6 Does gov. charge user fees for health or other services?
Drugs?
Curative Services?
Other

3. Project Costs/Benefits

- 3.1 Did project evaluators note unrealistic project budget projections?
- 3.2 Did actual project costs exceed Project Paper estimates by 20 percent or more? Why?
- 3.3 Was an effective procedure set up to finance project subsidies, operating or recurrent costs?
- 3.4 Was depreciation/replacement of capital investment adequately covered?
- 3.5 Were critical commodity resupplies problematic?
 - 3.5.1 Due to foreign exchange shortages
 - 3.5.2 Inadequate funds from user fees
 - 3.5.3 Inadequate government funds
 - 3.5.4 Other
- 3.6 Project \$ cost per beneficiary.
- 3.7 Project internal rate of return.
- 3.8 Was there evidence of consumer demand? What?

4. Technical and Project Design Factors (Was technology Appropriate/Sustainable).

- 4.1. Was it a vertical program?
 - 4.1.1 Were there plans to integrate into a comprehensive program?
 - 4.1.2 Were these plans successful?
- 4.2 Was it a horizontal program?
- 4.3 Did project offer mainly curative services?

- 4.4 Did project make use of private sector? How?
- 4.5 Did project use informal practitioners?
- 4.6 Was project designed as a replicable, pilot effort?
- 4.7 Was project actually (potentially) replicable?
- 4.8 Did project use phased design or phased expansion?
- 4.9 Did project require adoption of technical innovations?
 - 4.9.1 Was timeframe for adoption of new technologies realistic?
- 4.10 Were appropriate technologies applied?
- 4.11 Was maintenance/servicing critical to project success?
 - 4.11.1 Was maintenance/servicing satisfactory?

5. Institutional and Management Factors

- 5.1 Was a new institution or separate project management unit created?
 - 5.1.1 On balance, did autonomy have a positive influence?
- 5.2 Was local organization/management adequately developed?
- 5.3 Were permanent government staff slots created?
 - 5.3.1 Were salaries appropriate and paid in a timely manner?
- 5.4 Did project depend on outside supporting institutional services from other government ministries?
 - 5.4.1 Were such services essential to project success?
 - 5.4.2 Were services delivered as anticipated?
- 5.5 Was training appropriate, timely?
 - 5.5.1 Were high attrition rates reported?
 - 5.5.2 Were there plans for retraining?
 - 5.5.3 Were new skills being used by trainees?
- 5.6 Was a supervision system established?
 - 5.6.1 Was it cited as being important to project operations?

6. Policy and Political Setting

- 6.1 Did national/local government policies or political/economic difficulties threaten project success?
 - 6.1.1 Were poor policies corrected?

- 6.2 Was there evidence that national/local governments had financial capacity or taken other specific measures to continue project after external support ended? What were they?
- 6.3 Was there an early and visible benefit flow?
- 6.4 Was coordination with other donors essential to project success?

7. Socio-Cultural

- 7.1 Did project require major socio/cultural/behavior changes?
- 7.2 Was local participation and involvement required for:
 - 7.2.1 Start-up or construction of project?
 - 7.2.2 Operation and maintenance of project?
 - 7.2.3 Financial and in-kind resources?
- 7.3 Was actual community participation significant?
- 7.4 Did community support/participation decrease over life of project?
- 7.5 Was project perceived as important by beneficiaries?
- 7.3. Were "volunteer" workers used?
 - 7.3.1 Was the anticipated outcome of their used realized?

APPENDIX D

HEALTH SUSTAINABILITY
FIELDWORK LOG

Completed by: _____

1. Project Name: _____

2. Country: _____

3. Dates in Country: _____

4. Organizations/Institutions Visited

5. Interviews With the AID Mission:

<u>Date</u>	<u>Person</u>	<u>Position</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. Interviews With Host Government Officials

<u>Date</u>	<u>Person</u>	<u>Position/Organization</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

7. Field/Site Visits

<u>Date</u>	<u>Person</u>	<u>Position/Organization</u>	<u>Location</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

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Questionnaire
For Interviews With LDC Government Officials

A. Opening--Who we are, why we are here, opening question.

1. Introduction. Introduce team members and describe their background and experience.

2. Purpose of Interview. AID is interested in supporting health projects that will have a major impact on health conditions in developing countries. We are particularly interested in supporting projects that will be successful and continue operating effectively after AID funding ends. We are interested in learning why some projects are sustainable. We want to learn from those successful projects so that we can design better projects in the future.

We have looked at all of the African projects AID funded over the last 15 years. All too many were not sustainable. The (project title) was one of those that worked well. We were impressed with how well the (LDC) government managed and operated the project. We are interested in talking with you so that we can learn from your success.

3. Opening "fishing" Question. (Describe in 2 or 3 minutes what we know of the project and its success.) What we would like to know is what you think the reasons were for the project's success. Have project benefits been sustained. What was unique or different that helped make this project sustainable. Has the project been integrated with Ministry of Health programs. If so, how?

B. Economic and Financial

1. Foreign Exchange. Import shortages have been a recurring problem in (name of country). Was project success critically dependent on imported commodities? Were there commodity resupply problems over the life of the project? Describe the problems. How were they handled?

Related, follow-up questions.

What percent of recurrent costs were foreign exchange related?

What capital costs were foreign exchange related?

Were efforts made to shift away from imported goods?

2. Inflation. During the last 10 years, (name of country) has experience periods of rapid inflation. Was inflation a problem for this project? Could you explain how the project dealt with the problem.

Related, follow-up questions.

What was the inflation rate during the various phases of the project (pre-project, start-up, operations, end of project)? Were there different effects at the different phases?

Did the (LDC) government or AID adjust the project budget to reflect inflation. Does the (LDC) government have a policy on inflation adjustments? Could this be a problem in the future?

3. Government Budget. The (LDC) government has had difficult periods when strong budget actions had to be taken. When budgets are cut, even good projects may suffer. Did the project suffer during such periods? How did the project fare in comparison to other health programs; other ministry programs. How has the Gov. coped with its recurrent budget problems.

Related, follow-up questions.

How were budget cuts handled? Which items were cut? What parts of the program were stretched out? What about health education, petrol, vehicle repair, salaries, training of new and retraining existing workers.

In the future, how could the program deal with budget cuts? Will user fees be charged (or increased)? What types of program changes might be considered.

Relative to other ministry programs, how will the MOH budget fare in the next five years? How will this project do?

C. Project Costs and Benefits.

1. Costs. While it is hard to place a value on health services, one of the summary measures is cost per person served. Are data available on how much it costs per year, per person treated. Alternatively, what is the total annual budget and how many people live in the service area? How many are served each year?

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Related, follow-up questions.

Have health attitudes and knowledge changed. How well have these changes been sustained.

Has service coverage changed over the life of the project (i.e., are more/less people being treated.) Why?

Have the types of services changed? Why?

Does the project charge user fees? How well have user fees worked?

What plans have been made to replace longer-life capital equipment--vehicles, buildings, equipment, etc. (i.e., is there a financial system in place to replace depreciating assets.)

2. Benefits. On the benefits side, what has been the effect of the project on disease and death? What has been the impact on specific diseases? What about the impact on children's diseases? Did the services offered by the project seem to be those demanded by the people served? What examples can you give to illustrate how the services were valued.

Related, follow-up questions.

Are studies available on changes in morbidity/mortality rates in the project area; for the country as a whole?

Are any data available on cost/benefits and internal rates of return?

Has there been any change in project emphasis on childhood diseases?

D. Project Design and Technical Issues.

1. Timeframe. It often takes much time and effort to organize and implement a health program. Did the original project design allow enough time to adequately establish the program? Was AID assistance adequate (\$ amount and number of years of support)?

Related, follow-up questions.

Was the project a follow-on to an existing program?

Did the project use a pilot or phased approach?

Was the project designed to be replicable? Was it replicated?
Was it there a follow-on project?

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2. Private sector and health demand. People use informal health practitioners, mid-wives and pharmacists-chemists. What do you know about the demand for such private health services? How did the project affect the use of private sources? Did the project try to include them in the program? What about volunteer workers. How has demand changed as a result of this project?

3. Project support activities. Maintenance, servicing and logistics problems often arise in health programs. What difficulties did the project face? How were they dealt with? What about commodity resupply?

E. Institutional and Management Factors.

1. Training. Staff training is critical to long-run stability. What types of training were most successful? Why? How were training needs determined? How were trainees selected? How are skills taught being used? What is the estimate of attrition. What are the plans for retraining.

2. Supervision. A system that provides support to community health workers through regular visitations is important. How did the project develop its supervision program. Is it working? How and Why?

3. Management. Development of management and leadership capacity is a difficult and long-term process. Did the project develop management capacity? How? Ask for examples.

4. Separate Project Management Units. Donor's often want to create new project management units. Based on the experience of this project, would it make more sense to use existing organizations or should a new unit be created?

5. Integration. Categorical programs (like malaria, ORT, immunizations) are often integrated into comprehensive or primary health care programs. What was the experience with this project?

6. Coordination. Health programs often depended on ministries other than the MOH for support and services. Health programs often receive assistance from a number of donors. Was coordination among ministries and with donors a problem?

F. Political, Policy and Socio-Cultural Context.

If relevant, the following topics might be explored:

Were there problems that were external to the project which threatened its success:

- national/local policies
- drought, floods or other natural disasters
- political instability

What was the nature of local participation? Compare activity during the project to the present.

- construction
- operation/maintenance
- financial or in-kind resources
- full responsibility or very active participation

How did the project fit into the social and political power structure? Did certain groups feel threatened? Were services and practitioners accepted?

Was this project wanted by or important to the host government? Did the project fit into the health strategy the host government has been pursuing?

Get a sense of what the agendas were for each actor - i.e. What did A.I.D., the government and the beneficiaries want? Were the agendas compatible?