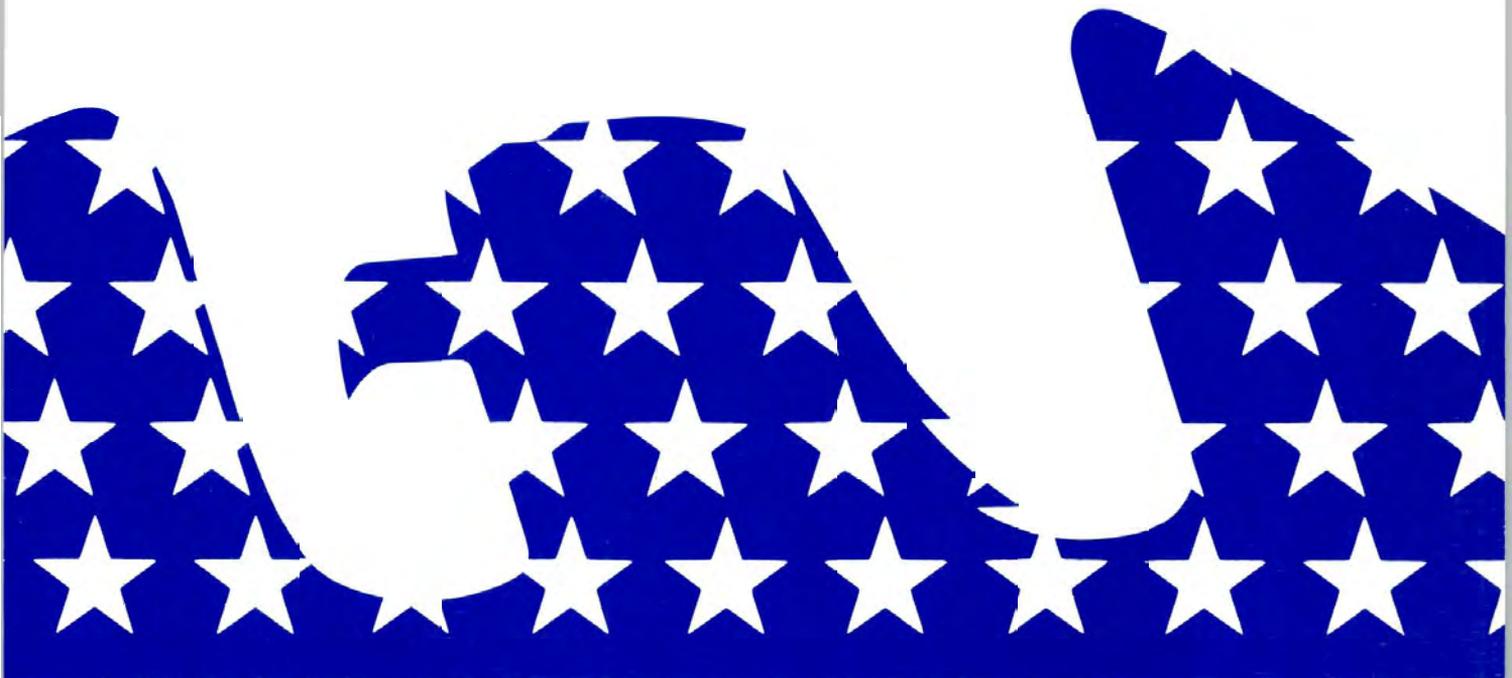


A.I.D. Policy Paper

**BASIC EDUCATION AND
TECHNICAL TRAINING**



**U.S. Agency for International Development
Washington, D.C. 20523
December 1982**

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**Basic Education and Technical
Training**

**Bureau for Program and Policy Coordination
U.S. Agency for International Development
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EXECUTIVE SUMMARY

The development of human resources (or "human capital") is vital to the growth of overall productivity and the efficient use of physical capital. While the accumulation of physical capital resources is essential to economic growth, it is the people who shape and energize a nation's development.

There is broad agreement among development agencies—multilateral, bilateral, and private—that assisting countries to establish more efficient systems of education, to moderate their recurrent cost and administrative burdens, and to relate them more effectively to employment opportunities and trained manpower needs are essential components of an effective development strategy. Efforts to raise the levels of basic education and to relate technical training systems more effectively to productive employment are essential to the Agency's development strategies focused on: the fuller application of science and technology in development programs; reliance on market mechanisms and the private sector to stimulate economic development; strengthening of institutions which are key to the development process; and reinforcement of the efforts of local leaders to address their own development problems and to improve the administration and management of local resources.

Accordingly, increasing the efficiency and improving the distribution of basic education and skills training—that is, schooling for children 6-14, vocational education and functional skills training for adolescents and self-employed adults, and technical skills training for wage employment—are among the priorities of A.I.D.'s assistance programs.

While A.I.D. policy is to focus first on problems of resource utilization and internal efficiency, this focus is expected to lead over time to improved access and more broadly based distribution of educational opportunities. Most of the children who do not enroll, or whose education experience is truncated by grade repetition, examination failure and dropout, are poor, rural or female. Those who are poor, rural and female have the least opportunity in essentially all cases. Thus, access is closely related to system efficiency and relevance, requiring measures to increase the numbers and percentages of children who, once enrolled, successfully complete at least the first cycle of basic schooling.

In assisting LDC efforts to improve education and training systems, A.I.D. will focus its at-

tention on increasing (1) the efficiency with which education resources are used, (2) the quantitative and qualitative outputs of education and training investments, and (3) the effectiveness of the education and training systems in supporting economic and social development objectives. To the maximum extent possible, A.I.D. will seek to ensure that communities are directly involved in the establishment and maintenance of schools and that employers are directly involved in the implementation of technical training programs.

I. Introduction

The development of human resources (or "human capital") is vital to the growth of overall productivity and the efficient use of physical capital. While the accumulation of physical capital resources is essential to economic growth, it is the people who shape and energize a nation's development. Nations which have failed to understand this fact, or have ignored it, have seen even the most ambitious economic development efforts frustrated by inefficient public and private administration, low utilization of physical productive capacities, high rates of population growth, internal and external migration, and other social and economic problems.

Human resources development* is a long-term process and is integral to all aspects of national development. While improvements are required at all levels of national education and training systems, the most basic task for all developing countries is the establishment of schooling systems for children and skills training opportunities for adolescents and adults. Sustained economic and social development requires a concerted effort to:

- increase the numbers and percentages of children successfully completing the first levels of schooling;
- ensure that most adolescents and adults have skills to participate fully in modernizing institutions and productive activities; and

*Narrowly defined, the education sector tends to be equated with the formal school system for children. The broader definition used in this paper includes both formal schooling and basic vocational and technical skills training for adolescents and adults. Higher education and manpower development represent a further broadening of human resources development activities, and a separate policy paper devoted to this topic is scheduled for 1983. Initial guidance on the Agency's policies in the area of participant training (one, but not the only, means of assisting high level manpower development) was provided in 82 State 24382 and will be further elaborated in the forthcoming policy paper.

- establish instructional systems which are both effective and cost-efficient.

There is broad agreement** among development agencies—multilateral, bilateral and private—that assisting countries to establish more efficient systems of education, to moderate their recurrent cost and administrative burdens, and to relate them more effectively to employment opportunities and trained manpower needs are essential components to an effective development strategy.

Accordingly, increasing the efficiency and improving the distribution of basic education and skills training—that is, schooling for children 6-14, vocational education and functional skills training for adolescents and self-employed adults, and technical skills training for wage employment—are among the priorities of A.I.D.'s assistance programs.

II. Education and Economic Development

Basic education and related skills training are strongly correlated with agricultural productivity, rural and urban development, lower fertility, and increased health and nutritional status. Education expands awareness, informs decision-making in all aspects of peoples' lives, and facilitates the transmission of new knowledge, attitudes, and behavior.

Basic education and skills training programs increase peoples' chances for more remunerative *employment* as well as their productivity, whether wage-employed or self-employed. In those settings where most adolescents and young adults do not have a basic education, the employer pays the price through reduced efficiency, increased supervision or increased on-the-job training costs. Alternatively, the employer must pay a premium to compete for the few educated workers who are available. In short, a skilled workforce is essential for the development of the private sector in developing countries.

Agricultural productivity improves as farmers acquire basic education and become both willing and able to adapt their traditional methods of farming to new technologies, to obtain and use information from extension systems, to use inputs efficiently, and to supplement farm income with other employment.

With education, particularly for females, *health, sanitation and nutrition* practices im-

prove, infant mortality declines and adults are less susceptible to debilitating disease. Parents and children learn modern methods of hygiene and food preparation, people learn to use health services effectively, and family incomes rise.

Birth rates tend to fall as education levels rise: marriage is deferred, women have increased opportunity for employment, couples are better able to make effective use of family planning, people gain confidence in their ability to control their lives, and, with improved health practices, the need for additional births in anticipation of a certain number of child deaths is obviated.

III. LDC Education Problems in the 1980s

In the last twenty years, primary school enrollment in developing countries has tripled, from less than 100 million in 1960 to 236 million in 1975 and over 300 million today. While a number of the LDCs have made substantial progress toward full enrollment, most developing countries continue to fall well short of achieving their basic education objectives.

- Approximately 600 million adults in LDCs cannot read or do simple calculations;
- Education opportunities are poorly distributed, with children in the rural areas, the urban poor, and females having the least opportunities to learn;
- Due to high rates of dropout and grade repetition, less than half the children complete the four years necessary to obtain and retain basic skills;
- The quality of education is poor, with schools typically lacking essential equipment, materials, and trained teachers;
- Because the school-age population is growing, some countries may have more children not enrolled in school in 1985 than they had a decade earlier, even though enrollment *ratios* may be higher.

In addition, the education and training systems of most countries, including those with relatively high enrollments, continue to have a number of general problems: lack of fit between skills required by employers (and in adult life in general) and those being taught in schools; substantial recurrent costs, combined with inefficient use of scarce financial, physical, and human resources for education and training; and social, economic and political factors which impede efforts to ex-

**See for example, the *World Development Report, 1980* and the associated World Bank staff working papers as well as the report on *Accelerated Development in Sub-Saharan Africa*, IBRD, 1981.

pand access in rural areas and for girls. Resolution of these problems is often complicated by adherence to relatively standardized institutional models and pedagogic approaches and highly centralized administrative and funding arrangements.

It is becoming increasingly difficult for developing countries to keep up—financially, logistically, and otherwise—with the growing demands on their education and training systems. Unless considerable progress can be made in improving the efficiency of primary and secondary schooling, vocational education and technical training, the goals of enabling most people to obtain at least a basic education and of meeting labor market demands for trained manpower will remain unattainable for many LDCs. Thus, a priority task is to ensure that available resources are fully mobilized and efficiently employed.

There is mounting evidence, both econometric analysis and case studies, that it is possible to overcome the technical and financial obstacles to enrollment of most children in the basic education grades within the next decade or so for most of the countries currently being assisted by A.I.D.

Available evidence suggests that full enrollment (i.e., sufficient capacity to provide 6 years of education for all children) can be achieved with an investment of 3 percent of GNP or less, with the percentage of GNP declining over time as the initial capital costs are amortized and as per capita income increases. Most countries currently invest in the range of 2.0 to 2.5 percent of GNP on education for the 6-14 age group. A number of the poorest countries cannot achieve anything approaching full enrollment within the next decade without a major investment of political, administrative and financial resources. Even so, most countries already commit sufficient resources to enable *most* children to obtain a basic education, were the resources optimally allocated and efficiently utilized. Thus, whether countries can significantly expand the number of children receiving a basic education lies less in any absolute resource constraint than in the ability (and willingness) of countries to experiment with diverse approaches and to make the changes in education policy necessary to use available resources more efficiently and effectively.

A related priority task for most LDCs is to improve the relevance of the education and training systems, both to the personal characteristics of the learners and to the needs

of the local economies. Quantitative expansion of education and training opportunities is not sufficient to ensure effective learning or skill acquisition. The appropriateness and effectiveness of education and training approaches, the availability of instructional materials and qualified teachers, and the relevance of the curriculum to the personal background and motivation of learners, have an important impact on how much learning actually occurs. Thus, efficiency and relevance are two sides of the same coin—if little learning occurs or if the learning is not effectively related to employment and other desired functions, it is largely irrelevant how many individuals have the opportunity; and if the system is inefficient or ineffective in reaching potential students, it is of little relevance that the curriculum and pedagogy are appropriate.

While a number of countries face a substantial problem of inadequate opportunities for initial enrollment, particularly for girls and in rural areas, most countries have increasingly serious problems of differential patterns of success for those who do enroll. Most of the children who do not enroll, or whose education experience is truncated by grade repetition, examination failure and dropout, are poor, rural or female. Those who are poor, rural *and* female have the least opportunity in essentially all cases. Thus, access is closely related to system efficiency and relevance, requiring measures to increase the numbers and percentages of children who, once enrolled, successfully complete at least the first cycle of basic schooling. While A.I.D. policy is to focus first on problems of resource utilization and internal efficiency, this focus is expected to lead over time to improved access and more broadly based distribution of educational opportunities.

For the basic schooling systems, cost-effectiveness, efficiency, and relevance depend on factors such as:

- participation of parents and community leaders in the establishment, maintenance, and governance of local schools;
- diversification of educational approaches, enabling adaptation to local needs (particularly, innovative use of community resources, competitive supply of education inputs, policies encouraging non-government schools, and appropriate choices of instructional technologies);
- administrative and financing practices which encourage decentralized decision-making, community participation, and local management of resources;

- the adequacy of technical and logistic support services for schools of all kinds and in all areas (particularly measures to improve the distribution of qualified teachers and instructional materials); and

- the coverage of the systems (generally, as the systems expand to reach those not previously enrolled, the marginal costs tend to increase unless innovations are introduced to fit the schooling to the characteristics of the new groups of learners).

For vocational education and technical training programs, cost-effectiveness, efficiency, and relevance depend on factors such as:

- the level of basic education which trainees bring to subsequent vocational and technical training programs;

- the job-specificity of the training programs;

- the consistency of training programs with labor market demands;

- economic incentives in the labor market which reflect the real economic value of the training;

- cooperation among training institutions, employers and public agencies supporting training;

- the degree to which employers retain responsibility for in-service and on-the-job training which is specific to the job, firm or technology (and, the degree to which employers can obtain pedagogic and other technical support for their training programs from supporting institutions); and

- the flexibility of training programs to respond to changing needs and to the specialized skills training required for specific employment sectors.

IV. A.I.D. Policy

In assisting LDC efforts to improve education and training systems, A.I.D. will focus its attention on increasing (1) the efficiency with which education resources are used, (2) the quantitative and qualitative outputs of education and training investments, and (3) the effectiveness of the education and training systems in supporting economic and social development objectives. To the maximum extent possible, A.I.D. will seek to ensure that communities are directly involved in the establishment and maintenance of schools and that employers are directly involved in the implementation of technical training programs. The general considerations that affect all

A.I.D. supported education and training activities are discussed below, after which specific guidance on A.I.D.'s basic education, vocational education, and technical training policies is provided.

1. *Internal efficiency of basic education systems.* Increasing the output of *current* education investments should receive highest priority in A.I.D.'s program strategies directed at improvements in the basic education and vocational training systems. It is becoming increasingly clear that current levels of education investment could go much further toward achieving education objectives were it not for built-in inefficiencies. A major part of LDC investment in education is wasted as a result of academic failure, grade repetition, and student dropout. Hence, in efforts to expand basic education, A.I.D. will give first priority to improvements in retention, promotion, and other efficiency measures at each level rather than to increasing initial enrollment figures.

In many cases the poor quality and capacity of the schools themselves (lack of sanitation; crowding; poor acoustics and ventilation; lack of basic materials, equipment, and furniture) make effective instruction impossible. Some students withdraw (or do not enroll), and some parents make similar decisions for their young children, judging (often correctly) that the available schooling is not worth the cost and may even be harmful. The involvement of parents and community organizations in activities supporting local schools is one of the most effective means of ensuring that the schools are relevant and acceptable to the community.

Many children enter school with stunted growth (physical and cognitive) due to poor nutrition and other conditions in the home. Thus, many of the factors associated with poor school performance must be addressed by programs external to the schooling system—programs which improve family income, the availability of food and basic health services, and the physical environment in the home. In addition, two education-related activities may be key to the preparation of children for success in school:

First, the children of mothers with at least primary education are generally better nurtured (both physically and cognitively) and are much more likely to enroll and complete primary school. Thus, among the many reasons for emphasizing education for girls is that this contributes to better health and nurturing for their children and stronger parental support for education.

Second, there has been some success (mainly in the more developed countries) with early childhood interventions designed to enrich the learning environment for children from relatively disadvantaged homes. The more expensive and managerially complex programs are not feasible in most developing countries, particularly those which have inadequate resources for basic schooling. However, there is promising experimentation in a number of LDCs with programs of relatively short duration, concentrating on mothers and others responsible for child care within the home and, typically, combined with adult nonformal education, MCH and other primary health care, and community development activities involving women. While direct support for preschool education programs will be limited (see p. 8), it may be appropriate in certain country settings to support LDC research on preschool cognitive development and experimentation with cost-effective ways to improve the home learning environment.

Support for national efforts to increase initial enrollment should be contingent on an assessment of the adequacy of the extant system (quality, relevance, instructional effectiveness, etc.). The first priority for technical assistance should be resolution of the factors which limit the possibility of children, once enrolled, successfully completing the primary cycle. While the first priority for increasing enrollment rates is ensuring that available resources are used effectively, in many cases it may not be possible to improve completion rates without mobilizing additional resources. Expansion that results in the replication of an inadequate, ineffective, or inefficient education system is not, in fact, likely to result in expanded output—that is, more children successfully completing 4-6 years of schooling.

2. External efficiency of vocational education and technical training programs. It is important to develop realistic estimates of the demand for skilled labor and to avoid overestimating the level of skills required for entry into various fields of employment or for the performance of specific jobs.

Family circumstances and the aspirations which parents have for their children must be taken into account in the provision of basic schooling. In providing training for adolescents and adults, greater attention must be paid to the personal backgrounds and motivations of individual trainees. Training programs must take into account such factors as migration patterns (internal and external), labor market incentives and disincentives, distortions in the labor market (e.g. low par-

ticipation rates of women), and the complementarities between skills training programs and other education programs—particularly basic education programs designed to improve literacy and numeracy levels.

Particular attention must be paid to the roles of employers in providing in-service and on-the-job training. Such training is the essential means of relating the vocational skills developed in pre-service training to the more specific skills requirements of individual jobs. **The critical problem facing vocational education and technical training programs is how to relate these programs effectively and efficiently to the rapidly changing skill needs of the LDC labor market.**

3. Local initiative and diversification of education and training opportunities. A diversity of education and training approaches enhances choice and provides the flexibility to respond to parental preferences and local circumstances. Policies encouraging local administration and the participation of parents and community leaders in education decisions facilitate the fuller mobilization and more effective use of a wider variety of education and training resources.

The administrative and financial responsibility for establishing and maintaining schools and technical skills training programs may be accepted by almost any institution, organization, or level of government—or combination thereof. There are practical examples of an extraordinarily wide range of educational approaches, forms of sponsorship, and systems of administration and finance. Directly or indirectly, most countries provide public support to education at least through the elementary level, though schools may be administered by local governments, community organizations or private sponsors. In some cases individuals run schools for profit; in other cases, private trusts, endowments and other not-for-profit entities offer schooling; in still others, employers or cooperatives may support local schools; and finally, private voluntary and religious organizations provide education for up to 20-30 percent of all children. The range of alternatives, and the potential for private initiative and sponsorship, increases at the higher levels of education and for most types of skills training. In a number of countries, most of the secondary and post-secondary education and skills training is private.

In general, the willingness of communities and of parents to provide at least partial support for the establishment and maintenance of schools is quite high. The commitment of

community resources provides an important market test of the relevance of the education and training to the perceived needs of the community and helps to establish the community organization and institutions which are necessary to sustain education or technical training systems. Further, the community organization and resource mobilization needed to establish and maintain the educational systems are often a stimulus to and institutional base for community initiatives to meet other local needs.

Typically, communities contribute to the costs of building the school—often through self-help efforts and donations in kind, such as materials and land. Less frequently, communities provide partial payment for the teachers. Direct expenditures by parents for books, school uniforms, meals and school fees are often substantial, even where the schools are publicly funded and nominally free.

Typically, central ministries contribute to the costs of schooling through capital grants or partial reimbursement of school building costs; subsidized provision of key instructional inputs such as teacher salaries or instructional materials; partial or full reimbursement of per capita instruction costs (in effect, various forms of voucher systems); and provision of technical and administrative services such as examinations administration, student data collection, curriculum and materials development, research, and pre-service and in-service teacher training. In those cases where governmental support is provided to private or quasi-private schools, it is critical that government regulation and oversight not impair the creativity or limit the expansion of such schools. At the same time, merely subsidizing education for the children of economic elites serves no educational purpose. Support for private schools must serve the objectives of mobilizing additional resources, encouraging diversity and expanding enrollment capacity.

The private sector can be involved in the provision of education inputs even where most of the schools are public. Stimulating additional sources for key inputs can contribute both to the objectives of diversification and qualitative improvement, and to cost reductions. For example, a wide range of basic classroom materials is needed—from furniture to writing paper to laboratory equipment. These inputs, essential for effective instruction, are often unavailable in rural schools or exceptionally expensive. Encouragement of private producers and distributors for text materials and other instructional inputs may contribute both to qualitative improvements in the rural

schools and to cost savings in all schools. Similarly, for technical education and skills training, it is in the interest of the employer to ensure that the equipment used for training purposes is representative of that used in the workplace. There are many examples of cooperative training programs with employers providing equipment and other support for training in publicly administered institutions.

A major bottleneck, even in countries with capital resources, is the lack of public sector capacity for the physical construction of schools—either due to problems in the way public funds are budgeted and dispersed or to the lack of the technical and administrative capacity to implement the construction. In a number of countries, most schools are built by private contractors and in some countries a significant number of schools are privately built and owned, but leased for public education. Many other examples exist of public-private partnership. A.I.D. policy is to encourage exploration of such alternative arrangements through technical assistance and policy dialogue with both public and private education organizations.

There are both advantages and disadvantages to any of these means of supporting basic education and technical training. On the one hand, there is a substantial public interest in ensuring that basic education opportunities are available to most children, that scarce resources are allocated and used efficiently, and that the systems succeed in providing education and skills training relevant to development goals. On the other hand, in most developing countries there is little possibility of fully funding the education and training systems from general public revenues and there are many persuasive arguments for encouraging a diversity of approaches and sponsors.

A.I.D. will seek opportunities to work with key public and private sector educators, education institutions, and administrative systems required to improve education policy, provide technical support to local schools, and ensure efficient implementation of large-scale programs of basic and vocational education and technical training.

A.I.D. will encourage those systems which facilitate local governmental or private administration of schools, vocational and technical training programs and which mobilize at least part of the resources at the community level. A.I.D. will also support experimental efforts to assess the strengths and limitations of different modes of education sponsorship in particular LDC settings.

A. A.I.D.'s Policy for Basic Education for Children 6-14

Literacy and numeracy are almost universally regarded as prerequisites for the acquisition of additional technical skills and information and for productive employment either in the wage economy or in self-employment. In many parts of the developing world, adult literacy is the exception; this is almost universally the case for female literacy. *For literacy to become the norm rather than the exception is a slow process, and one that cannot be achieved without increases in the number of children successfully completing basic schooling.*

Where less than half the school-age population is able to complete 4-6 years of schooling (the minimum experts estimate is required to gain and retain literacy), little improvement in adult literacy rates is possible. Indeed, where the school-age population is growing rapidly, continued inadequacy of the basic education system may result in a rise in the number of adult illiterates. While the goal of A.I.D.'s education policy is increasing the availability of basic formal education and educational training opportunities in LDCs, A.I.D.'s education assistance must necessarily be directed first at improving the efficiency of existing education systems—both formal and nonformal—as a whole. An essential element of A.I.D.'s education program is strengthening the capacities of LDCs to:

- identify inadequacies in existing education systems;
- test technical and strategic options for overcoming inadequacies; and
- implement cost-efficient new programs.

The central questions for both A.I.D. and the host country include the following:

- what enrollment targets are financially, physically, and administratively feasible within a reasonable period of time (say, the next decade)? With what assumptions? If full enrollment is not considered feasible in the foreseeable future, what targets are realistic?
- Under what assumptions would faster progress or more complete coverage be feasible? What changes in educational policy or administrative practices appear necessary to permit more efficient use of education resources and to encourage greater diversification, localization and use of alternative pedagogies or instructional technologies? What is necessary to test these assumptions and projections?

A.I.D. must be extremely sensitive to the inherent political problems involved in

establishing curriculum goals and objectives. However, A.I.D. assistance for education should be considered only where such questions are being raised and tested. Support for system expansion should be contingent on an assessment of the adequacy of the extant system and should be accompanied by measures to resolve problems of the extant system. A.I.D. must be concerned that:

- a) expansion does not result simply in the replication of qualitatively inadequate, pedagogically ineffective or inefficient education;
- b) the expansion does not result in a qualitative decline or a decrease in internal efficiency—spreading already inadequate resources more thinly, reducing output standards, and overextending the administrative and support systems;
- c) the innovations or reforms be verified as politically acceptable, as well as technically and administratively feasible for existing schools, before being experimentally applied to new areas.

Basic guidelines for assistance to basic education programs are:

- *A.I.D. will concentrate educational assistance in countries which encourage private as well as public schools.* Such mixed systems are more efficient in the use of resources and more effective in encouraging parental and community participation in all aspects of schooling.
- *Localized schooling systems are an essential part of local institutional development strategies. A.I.D. will encourage decentralized management, local participation, and diversified sponsorship of schools wherever possible.*
- *The highest marginal returns on education investments, at least in the short term, are likely to result from improvements in the quality and efficiency of the existing system rather than from system expansion at the existing level of efficiency. Hence, in efforts to expand basic education, A.I.D. will give priority to improvements in the retention, promotion, and efficiency measures at each stage of schooling rather than to increasing initial enrollment figures.*
- *A.I.D. will encourage the expansion of basic education systems. However, efforts to improve access and reduce wastage of education resources are needed to obtain a proportionate increase in the numbers successfully completing basic formal schooling. A.I.D. will not support programs which promise only marginal improvements or which contribute mainly to maintenance of a qualitatively inadequate, inefficient, or ineffective education system. A.I.D. will*

not support programs which do not increase opportunities for girls, poor and rural children. A.I.D. assistance will be directed at:

- major improvements in education administration and management of resources;
- significant increase in the number of students completing the existing system;
- substantial improvement in access for girls, the rural poor, and children of urban and peri-urban slums; and
- significant improvements in technical and material support for local education initiatives.

• Inefficiencies at the secondary and higher levels waste education resources, reduce the motivation of children to complete the primary cycle, and hence limit the potential for improving the efficiency of the basic education system. Therefore, A.I.D. will provide technical assistance to help LDCs examine the efficiency of the education system as a whole where such assistance is important for the improvement of the basic education system.

• Similarly, in those countries which have established sufficient primary school capacity to enroll most children, A.I.D. may consider technical support for preschool programs where these are necessary to reduce cognitive, affective and physical deficiencies which contribute to poor school performance, grade repetition and dropout. However, A.I.D. will not support development of preschool education in those countries which have not established such basic schooling capacity.

• Because of the proportion of national budgets committed to the education sector and the importance of education for a wide range of development objectives, A.I.D. will encourage the policy discussions and reform initiatives of other donors prepared to assist the basic education system, even in those countries where A.I.D. itself has not assigned a high priority to funding education programs.

B. A.I.D.'s Policy for Vocational Education and Technical Training

Though most countries have made substantial improvements over the past two decades in their training capacities, they continue to face major difficulties in relating the supply of skilled workers to employment and productivity objectives. This task is central to sustained economic development. In several countries, the number of trained people is substantially in excess of effective demand (i.e., the capacity of the economy to employ) leading either to very high rates of out-migration or to inefficient employment practices and high rates of underemployment. All countries, in-

cluding those with a surplus in absolute numbers, have three general problems:

- shortages in specific skill areas or imbalance in the mix of skills available;
- a need to supplement the pre-service training with training for specific jobs; and
- a need to plan for the future supply of skilled workers, taking account of changing technologies.

In addition, the majority of workers in most countries are self-employed, employed mainly in household and farm production, or otherwise outside the modern wage economy. Effective development strategies must encourage the expansion and diversification of opportunities for out-of-school adolescents and self-employed adults to develop basic functional skills and to obtain access to the technologies and information they need to be economically productive and to participate fully in the choices affecting their family and their personal welfare. This group is strategically important in LDC efforts to improve production practices, encourage the adaptation and use of new technologies, foster participation in new organizations and institutions, and encourage modification in a number of attitudes (e.g., risk-taking) and behavior (e.g., health practices).

For the modern sector wage economy, shortages of mid-level technicians and skilled workers constrain new investments, full utilization of available capital, and effective delivery of services. Expanded opportunities and effective wage incentives are needed to retain trained workers and to induce new workers to enter training.

Over the years, A.I.D. has supported a diverse set of projects in the area of vocational education and training. A.I.D.'s experience suggests that effective training projects related to wage employment must be developed in response to specific needs in specific contexts and must involve prospective employers as directly as possible. Similarly, training related to community needs, local project staffing, and informal sector self-employment should be organized as locally as possible and should involve representative community organizations as directly as possible.

Among the goals of A.I.D.-sponsored vocational and technical training projects are:

- To increase the productivity of the individual leading to increased income.
- To increase the productivity of the enterprises using the trained employee.

- To increase employment opportunities resulting from more diversified productive capacity based on a broader skill base.
- To improve the productive performance of public sector agencies.
- To strengthen technical and administrative capacities of local development organizations through training of local staff and extension workers.

Each of these training purposes suggests somewhat different approaches to training and has different budgetary and management implications for A.I.D.

The nature of demand for skilled labor varies substantially by enterprise size, among other factors. For example, there is substantial evidence suggesting that shortages of skilled labor for *large-scale modern sector industries* is often due to ineffective incentives for employment and other factors affecting the efficient utilization of available skilled workers (e.g., appropriate choices of technology). Generally, those large employers who are willing to pay the price are able to meet their demand for skilled labor, though they may need to provide on-the-job and other training for specific positions and technical roles. *For these industries, A.I.D. will emphasize in-service training, with a strong and direct role for employers in implementing their own training programs.*

Efforts to stimulate indigenous *small and medium scale enterprise development* (SMEs) will necessarily stimulate demand for skilled labor. This, in turn, will require technical training for new labor market entrants as well as a substantial amount of retraining and skill-upgrading for the existing labor force. Most of those needing retraining or skills upgrading will be drawn from the self-employed and under-employed rather than from those employed in the larger enterprises. Management training for the SMEs, including training aimed at helping managers utilize the existing supply of skilled labor more efficiently, will also be required. *For the SMEs, A.I.D. will encourage both in-service training for the existing workforce and pre-service training for new workers and workers needing retraining for new occupational areas.*

The *informal sector* appears to face a very different training problem—namely, an oversupply of unskilled and semi-skilled labor who have acquired their skills informally (e.g., through apprenticeships and on-the-job training). In these markets, the skills which are most needed include basic functional skills such as literacy and numeracy, and basic business and entrepreneurial skills such as

simple bookkeeping, management of small credit loans, and merchandising. *For the informal sector, nonformal approaches will be encouraged, with as direct a role as possible for community organizations, local PVOs, and producers associations.* In this regard, a number of PVOs have developed useful approaches to vocational and non-formal training for small scale enterprise, for the informal sector, and for women. These organizations may be able to play a helpful collaborative role in addressing various training needs in these areas.

Further development of vocational education and technical training capacities in LDCs will require explicit attention to three critical issues:

- how best to support training for employment in the informal sector and in small and medium scale enterprises;
- how best to strengthen local (i.e. in-country) technical training capacities; and
- how to involve employers in implementation of vocational and technical training programs.

A key policy concern is the cost of long-term technical training. Specialized training in formal training facilities is extremely expensive and difficult to relate effectively and efficiently to rapidly changing skill needs in the labor market. To moderate costs and to improve the fit between training and employment, it is desirable to limit specialized technical training to the skills required for specific jobs; to leave the development of more generalized vocational skills to pre-service vocational education systems; and to defer specialization to a relatively late stage of the training cycle (generally, the stage at which probable employment has been determined).

The direct involvement of employers in the planning and implementation of training programs is essential both to ensure that the costs of training are shared proportionately by the employers who will benefit and to ensure that the judgment of employers concerning future needs for trained workers are taken into account in planning the training programs.

Employers (including local development institutions) may be assisted to become more directly involved in meeting their own technical training needs through attention to the following factors:

- *The amount of influence over curriculum content and training priorities which any employer can expect to have will depend directly on the willingness and ability of the employer to contribute to the costs of training and to make other com-*

mitments to the trainees. Where the employer contributes directly and substantially to the costs, either financially or in kind (e.g. provision of facilities or experienced technicians as instructors), or where the employer is able to make an employment commitment to the trainees, the employer should influence the curriculum content and training approach directly. Because of the costs involved and the need to ensure that their own employees benefit, such direct contributions or commitments to trainees are in most cases only possible for the larger firms.

- *A substantial amount of training is in generic skills which are not firm-specific.* This is true of the skills needed in most labor-intensive industries (e.g., construction, agriculture), most fabricating and processing industries (e.g., textiles, metal-working), some service industries (e.g., transportation, printing), and for large segments of commercial enterprises (e.g., bookkeeping, secretarial). While the design and implementation of effective training programs in these skills areas require a realistic training setting, practical hands-on experience, and the cooperation of at least some employers, the sponsorship and advisory functions are normally provided either by some body representing the industry as a whole or by a quasi-public training organization which is mandated to work closely with employers rather than by individual employers acting on their own. Where training is not provided directly by employers, A.I.D. should ensure that such intermediate organizations as industry associations, Chambers of Commerce, trade associations or other employee membership-type organizations are involved as fully as possible both in advisory and sponsorship functions.

- Even when the employer is in a financial position to sponsor training, and when the training is short-term and directly related to specific jobs or employment-related skills, most employers do not have the technical capacities to develop and implement their own training programs. For this reason, A.I.D. is encouraging the "service agency" approach to technical training. This approach enables an intermediate institution to provide technical support and training expertise to sponsors of training programs, but the "service agency" institution does not itself initiate training or determine the priorities for training. In this way, A.I.D. can help local public institutions, PVOs, and employers themselves to establish the capacity for training while letting the demand for training be controlled by the marketplace.

In short, A.I.D. encourages the maximum possible involvement of employers in the identification of training needs, the specification of training objectives, and the support (financial, material, technical) of the actual training initiatives. While public institutions will continue to have an important role in supporting employment-oriented training, it is clear that training programs cannot be effectively related to employment and productivity objectives or efficiently implemented without a strong role for employers, groups representing sectors of productive employment, community organizations, or local PVOs familiar with the realities of the local labor market.

Basic guidelines for support to vocational and technical training programs are:

- *For adolescents and adults, A.I.D. will concentrate on vocational education and skills training related to employment (including self-employment) and improving economic productivity in key development sectors.*

- *The skills and information provided in vocational education and technical training projects should be directly related to specific social or economic program objectives. To the maximum extent possible, participants themselves and potential employers should be involved in the identification of training needs and specification of training objectives.*

- *Vocational training programs should be responsive to the skill needs of specific groups of learners. To the maximum extent possible, the content, implementing organization, instructional technology, and pedagogic presentation of the training material should be fitted to the needs and personal characteristics (e.g. time, location, educational background) of the learners. To maintain flexibility, it is important to avoid relying exclusively on any one medium or organization as the main vehicle for supporting or implementing skills training programs.*

- *In all vocational and technical skills training programs, there should be particular attention to the inclusion of adolescent and adult women. Training programs which do not provide opportunities for women to participate will not be encouraged.*

- *In assistance to LDC vocational and technical training programs, preference will be given to supporting initiatives of community organizations (including groups of employers) themselves for specific vocational and technical training.*

V. Implementation Issues and Constraints

Four types of constraints inhibit the strengthening of the education and technical training systems of LDCs: policy constraints, organization and management constraints, technology constraints, and resource constraints.

A. Policy Constraints

A.I.D. will give priority to strengthening the local capacity to make and implement policy decisions.

A.I.D.'s education policy focuses on the need for systemic reform, that is, strategies which address the problems of the education system as a whole. For that reason, A.I.D. assistance should be part of a larger reform effort involving a combination of initiatives by other donors and by the country itself. An important element of U.S. policy dialogue with the host government will be encouragement of the full range of educational approaches, forms of sponsorship, and systems of administration and finance [see pp. 5-6]. If appropriate, the dialogue should also include the question of the return to private sponsorship of schools which have been nationalized.

A.I.D. is prepared to assist countries which request help in strengthening their capacities to undertake policy-relevant education assessment, analysis, and research. Toward that end, A.I.D. will give priority to education researchers, policy analysts, administrators, and key technicians in general participant training programs.

B. Organization and Management Constraints

Management and logistic constraints affect all levels of LDC education and technical training systems, and constitute one of the most critical impediments to strengthening the capacity and quality of these systems. A.I.D. will encourage efforts to diversify the means of financing and administering local education and training systems. There are many examples of countries which are successfully combining a strong public commitment to education and skills training with an equally strong preference for private and local administration of the actual schools and training programs. To cite just one example, Chile provides full public funding for most students through the secondary level. However, it relies upon an education voucher system to encourage private schools (subvencionados) to accommodate most of the additional enrollment and is planning to hand over administration of the public schools to the municipalities by 1983. While the Ministry of Education will

retain the power to make and enforce policy, the actual administration of funds and operation of schools will be handled locally.

The U.S. has a great deal to offer LDCs in technical assistance to overcome some of the major management problems facing administrators of LDC education and technical training programs. Among the areas where the U.S. experience may be particularly relevant are: decentralized administration and financing of local school systems; production and distribution systems for educational materials, with extensive use of private sector suppliers; and extensive participation by employers in the sponsorship and implementation of skills training programs. A.I.D. will therefore give attention to supporting such programs as:

- experimental ("operations") research programs to improve management at all levels, but particularly at the local level;
- technical assistance to improve logistic and personnel management; and
- policy dialogue and technical assistance to help resolve questions of the appropriate level of decentralization and sponsorship of education and technical training programs.

C. Technology Constraints

A.I.D. will continue to support R&D efforts, particularly in the use of radio and other media (e.g., rural satellites, video- and audio-recorders) which contribute to cost-effective extension of education and training services. While the upgrading of education and technical training technology is often seen as an end in itself, A.I.D. will concentrate its efforts on fitting the most cost-effective technology to particular learning objectives and the needs of particular sub-populations. The technology must be feasible for application in the typical school or training setting. Local education institutions must be able to afford, must have access to, and must have the technical and administrative capacity to make effective use of the technologies.

The technology needs of LDC education and training systems include logistic systems for the production and distribution of essential pedagogic materials as well as media technology and other means of providing supplementary instructional materials. In many rural schools, the most critical technological improvement may well be the supply of blackboards, basic text materials and writing paper to village classrooms. As for vocational education and technical training, there is a need both for more cost-effective instructional

technologies and for more practical experience with the production technologies actually used in the workplace. The technologies used in the training programs must be realistic in terms of the conditions likely to exist in the prospective employment sector. Additional means of providing technical support for employer-sponsored in-service and on-the-job training and of providing technical information and skills upgrading for individuals self-employed or employed in small enterprises must be encouraged.

A.I.D. support for efforts to improve basic education and technical training technology must reflect specific learning objectives and the needs of specific target populations, and therefore must be highly country-specific in development and field application.

D. Resource constraints

Resource constraints include issues of resource mobilization, the efficient use of available resources, and the availability and reliability of external resources. Among the most critical, albeit intangible, resources are local leadership and administrative structures which facilitate full participation in local decision-making and resource mobilization.

Education reform and improvements in the effectiveness and efficiency of training systems involve a long-term process. For most countries, the financial resources likely to be available from A.I.D. will not be sufficient to overcome the financial constraint to expansion of education and technical training capacities. Indeed, most education assistance programs are expected to be relatively small. Only a few developing countries, in which there is both a major need for education expansion or improvements in technical training and a policy context in which substantial education resources can be used effectively, will have education sector assistance programs as large as \$5 million annually. [Reference is only to assistance directed at improvements in basic education and technical training capacities; most countries will continue to have substantial additional Education and Human Resources programs for participant training, labor and PVO activities, as well as project-related manpower training in other sectors.]

For most countries, A.I.D. will seek to assist countries to make more effective use of their own education and technical training resources through technical assistance directed at policy choices, organization and management, logistic capacities, and training technology. A.I.D. will also stress close cooperation with other donors and will look to the international lending institutions to

assist with any large-scale capital finance that may be required.

In selected cases it may be desirable to include a limited amount of capital assistance to resolve physical capacity bottlenecks to basic education and vocational training system reforms. In all cases, A.I.D.'s capital assistance for education and technical training programs must be carefully related to the goal of more efficient resource utilization, strengthened capacities for policy reform, and qualitative improvements in the schooling system.

Conclusion

There is growing recognition that education and technical training are not ends in themselves, but rather important means of achieving social and economic goals; they shape both national policies and individual, personal aspirations. There is consensus among donors and development assistance recipients alike that in a world of rapid change, a combination of basic education and specific, job-related skills training is a prerequisite to enable men and women both to adapt to change and to contribute to it.

A.I.D. support for LDC efforts to raise the levels of basic education and to relate technical training systems more effectively to productive employment is an essential part of the Agency's development strategies. These strategies are focused on: the fuller application of science and technology in development programs; reliance on market mechanisms and the private sector to stimulate economic development; strengthening of institutions which are key to the development process; and reinforcement of the efforts of local leaders to address their own development problems and to improve the administration and management of local resources.

A.I.D.'s policies for agriculture and rural development programs stress the importance of institutional strengthening and the development of basic infrastructure. Local schools and training systems are among the most important local institutions: in addition to the education which they provide, they can also have a powerful effect on community organization and local administrative systems. Generally, parents are willing to make substantial sacrifices to establish schooling opportunities in their community; the ability of local administrative systems to assist private efforts to establish and maintain schools is among the most important and tangible evidence of effective community organization for local development efforts.

The ability of people to participate effectively in development is substantially increased as they acquire basic skills, ranging from basic literacy and numeracy through vocational and technical skills required for employment. Until a substantial majority of children have the opportunity for basic schooling, the labor force (which they eventually become as adolescents and adults) will not have the skills and resources to take its part in national development programs. Employers will be forced to cope with a largely unskilled and inadequately productive workforce, and individuals will tend to rely more on traditional leaders and government officials than on themselves for most important decisions. Neither market mechanisms, nor democratic processes, nor informed personal choice can flourish in such a context.

Finally, among the most pragmatic reasons for U.S. support for efforts to improve education

and training systems in LDCs is the dominance of these systems in local administration and financial allocations. Education and training systems are one of the largest sectors of public investment; indeed, in many countries, they are *the* largest sector. The organization of financing, administrative, data collection and logistic distribution systems, and the locus of decision-making on education and training matters play a powerful role in shaping the relationships between central and local governments, and between the private and public sectors. In short, A.I.D. views opportunities to support efforts to reorient and restructure LDC education and training systems as an essential component of efforts to strengthen the role of local institutions, relieve the budgetary burden on central governments, and improve the public policy climate in which new development initiatives of all kinds can be considered.