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**EDUCATIONAL DEVELOPMENT IN AFRICA:
THE ROLE OF UNITED STATES ASSISTANCE**

by

John W. Masland

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William W. Marvel
President
Education and World Affairs

**EDUCATIONAL DEVELOPMENT IN AFRICA:
THE ROLE OF UNITED STATES ASSISTANCE**

by

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John W. Masland, the Provost of Dartmouth College since 1959, is currently on leave from Dartmouth to serve as advisor to the Ford Foundation on education in India. Mr. Masland taught political science at Stanford University before going to Dartmouth in 1946 as professor of government. He was chairman of that department from 1955 until 1959 when he was appointed Provost. Mr. Masland's numerous activities include assignments with the Department of State, the International Secretariat for the United Nations Conference in San Francisco, the Supreme Commander of the Allied Powers in Tokyo, and the National War College.

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PREFACE

In all parts of the developing world, education stands high on the priority list of national needs and aspirations. But the new African states seem to have been allocating higher proportions of their resources and giving more concentrated attention to educational growth than have the less developed countries of other continents. So in the history of rapid educational expansion, an important and exciting chapter has been written in Africa over the last decade.

With only limited resources available to meet tremendous demands, it is natural that African leaders and the outside donor agencies should be concerned about priorities, allocations and relative emphases. Since 1960, the U.S. Agency for International Development (AID) has been one of the important external donors to African education and has therefore been properly interested in the educational objectives and plans of those nations. One of the central questions that has concerned all observers of education on that continent, and one that has naturally preoccupied AID in recent years, is the three-way relationship among (1) the high-level manpower requirements of those countries, (2) the capacity of African institutions of higher learning to educate students at home, and (3) the range of opportunities through scholarships and other means of support for educating Africans in the universities of the more advanced countries.

Convinced that this relationship should receive careful and systematic review, AID in 1964—following discussions with the African Liaison Committee (now called the Overseas Liaison Committee) of the American Council on Education (ACE)—requested Education and World Affairs (EWA) to undertake a study of the question.

The resulting contract between AID and EWA called for the carrying out of studies of manpower needs and educational institutional capabilities in the following African countries: Nigeria, Liberia and Guinea, in West Africa; Tanzania, Kenya, Uganda, Ethiopia and Sudan, in East Africa; and Tunisia

in North Africa. Because of limitations of time and funds, the work was done almost entirely on the basis of existing manpower and census data. It was not contemplated that new research or fresh statistical studies could be undertaken within the framework of this nine-country survey.

The study was planned and carried out by a committee of specialists on African education and with John W. Masland, then Provost of Dartmouth College and now Education Advisor for the Ford Foundation in India, serving as Study Director. The detailed studies, which were not intended for publication, were completed and submitted to AID in August 1965. The EWA Board of Trustees, however, has a standing policy of reporting publicly on all studies undertaken by the organization, with only rare exceptions where there are compelling reasons to the contrary. In light of this policy, and with the prior understanding of AID, Mr. Masland agreed to prepare this public report on the study he had directed.

Both Mr. Masland and EWA realize that students of African problems—and especially of educational development in that part of the world—will be familiar with many of the observations and findings here presented. This report is therefore intended for a wider audience, those in the U.S. academic community, foundations, private organizations, and government agencies who are concerned with these matters but who do not have the depth of experience in African educational affairs which is enjoyed by the specialist.

As mentioned above, it was recognized from the outset that a comprehensive and intensive survey of this problem in nine countries could not be made within the limitations of available time and resources. In the case of what is perhaps the most important single country, however, the study enjoyed a significant advantage. There was being conducted simultaneously, by EWA's Committee on Education and Human Resource Development, a series of systematic assessments of education and employment problems in Nigeria. Mr. Masland, as well as several members of the study committee, participated in this work on Nigeria, and the interaction between the two projects clearly produced benefits for the work here being reported.

The present document, issued as one of EWA's Occasional Report series, was drafted by Mr. Masland, with the able assistance of Mrs. Sally V. Allen, research associate on the EWA staff. Education and World Affairs expresses its gratitude to

Mr. Masland for his willingness to undertake this special report, particularly inasmuch as the work had to be done after he had resumed his duties as Provost of Dartmouth. And we wish to join with Mr. Masland in thanking a number of individuals for their contributions of work, counsel, and assistance at various stages of the project.

Serving on the original study committee were: James S. Coleman, professor of political science at the University of California, Los Angeles; C. W. de Kiewiet, chairman of the Overseas Liaison Committee of the ACE; Frederick Harbison, director of the Industrial Relations Section, Princeton University; Eldon Johnson, now vice president of the University of Illinois, then president of the Great Lakes Colleges Association; John J. McKelvey, Jr. of the Rockefeller Foundation; Schuyler C. Wallace, director of the Foreign Area Fellowship Program; and the three liaison officers for the study: Wilton S. Dillon of the National Academy of Sciences; C. H. Walter Howe of the Overseas Liaison Committee of the ACE; and Maurice Harari of Education and World Affairs. Their work on the original study for AID provided the indispensable background for the preparation of the present report by Mr. Masland.

In addition to Mrs. Allen, who also analyzed data collected in the field and edited the preliminary reports submitted to AID, James Sheffield, Allan A. Michie and Sheldon Pollack of Education and World Affairs, and Thomas Ford of Overseas Educational Service, participated in the project through field work in Africa and staff support in New York. Professor Guy Hunter of the Institute of Race Relations in London, and Eugene Burgess, assistant dean of the Graduate School of Business Administration, University of California at Berkeley played important roles as consultants. Dr. Burgess served for extended periods during the actual conduct of the study in Africa. Professor Ernest Stabler, chairman of the Master of Arts in Teaching Program at Wesleyan University, and former advisor to the Ministry of Education of Kenya, read and commented on the report in draft. Although final responsibility for this document rests with Mr. Masland, it is indeed the collective product of many individuals. Both Mr. Masland and EWA wish to acknowledge with sincere thanks the contributions which all of them have made.

Beyond those who participated in this work directly—by serving on the study committee, as consultants and as sup-

porting staff—there are many others whose help was important. Mr. Masland and his associates consulted with many educators and government officials in the nine African countries, with a number of AID officials in Washington and in the missions overseas, and with a range of other scholars, educators, foundation executives and public officials in Europe, Africa and the United States. All these persons, named and unnamed, have earned our warm appreciation for having made possible this contribution to a wider and more intelligent understanding of African educational problems.

William W. Marvel
President
Education and World Affairs

INTRODUCTION

Assistance to educational development overseas is not a new experience for the United States. In recent years, however, the aid effort has greatly expanded and now engages a significant proportion of the American academic community. Indeed, educational assistance is of such variety and magnitude that it is now proper to examine the experience and to question assumptions and practices in order to determine whether such assistance is proving fully effective.

The nature of the situation is suggested in the declaration of Frank Bowles, an executive of the Ford Foundation, that we need "a foreign policy for American education." Mr. Bowles, in remarks at the White House Conference on International Cooperation in November 1965, explained that educational cooperation with developing countries is "far more than the offering and the acceptance of professional assistance followed by some interchange of personnel, followed by progress and good-will. *It is, in fact, a sensitive matter of determining needs, capabilities, and methods.*" (Italics supplied.)

Educational aid by the United States to the developing nations of Africa within the last decade provides a case history in the complex assistance relationship. The paucity of experienced leadership and of trained indigenous personnel in these recently independent countries inevitably led to the identification of education as a high priority area both by African governments and by those institutions in the United States and elsewhere which hastened to extend aid.

While the record is still fresh, it is not too soon to ask whether the U.S. approach has been sufficiently sensitive to "determining needs, capabilities, and methods." We should ourselves understand, and we should assist the African authorities to understand, the importance of thorough conceptualization and articulation of a strategy of educational development, relating educational programs to a more comprehensive strategy of human resource development and in turn to overall national development. Since all resources are

severely limited, every educational program must be designed to make a maximum contribution to national needs with minimum likelihood of producing imbalances, costly continuing expenses and contradictory purposes.

A truly comprehensive review of educational accomplishments in Africa should give consideration to a wide variety of factors, including social and political conditions, the pattern of career incentives, the wage structure, and so on. Such a broad approach is not undertaken here. Rather, this study is cast in the narrowed frame of manpower development. Underlying the terms of EWA's contract with AID and the pages of this report is the assumption that manpower needs are a necessary rationale for educational planning. This assumption has been questioned by some educators who are understandably concerned with the freedom of the individual to choose his career and to prepare himself accordingly, and with the freedom of universities to plan their own destinies. These considerations must be recognized as proper and important, but it must also be recognized that the African nations possess very limited resources, that they may be allocating a disproportionately large share of these resources to educational development, and that they are in desperate need of critical manpower to serve their national aspirations.

Educational programs undertaken without reference to a conceptualization of strategic requirements are likely to produce distortions in the flow of students from one level to the next or directly to the employment market, imbalances in the preparation of students for areas of specialized or advanced programs, wasteful duplication or misuse of scarce human and material resources, and the eventual stimulation of serious social and political dislocations.

Uncritical acceptance of foreign assistance can also lead to unforeseen problems. It is the responsibility of the foreign aid representative to assess each scheme in terms of human resource development and overall national development, a responsibility which sometimes includes the sensitive task of steering African authorities away from status-raising but impractical goals, while at the same time stimulating African initiative and control. Each proposal for American assistance to educational development should be tested by such a standard.

This, of course, is not an easy exercise. As yet too little is known of the exact relationship of education to national de-

velopment. Manpower calculations, moreover, are based upon incomplete or inaccurate population, national income and employment data, and on uncertain assumptions of such factors as levels of investment, growth rate and so forth. Political ambiguities and contradictions also contribute to the indecisiveness. Yet, because of the magnitude of African manpower needs and the limitations of resources—including foreign assistance—priorities must be identified. In spite of obvious difficulties, sufficient experience and information are available to identify general orders of magnitude and to establish guidelines for educational development.

EDUCATIONAL DEVELOPMENT IN AFRICA

The Roots of African Education

By the late 1950s, when the United States first undertook significant assistance to Africa: education, educational systems of one type or another had been established in the British and French territories. The independent countries of Ethiopia and Liberia had less to show in this regard, but even in the colonial areas no more than three or four out of ten children of primary age were enrolled, and relatively few children had the opportunity to attend secondary school. In all of sub-Saharan Africa, there was only a handful of universities, and most Africans fortunate enough to continue their education at the post-secondary level did so abroad—principally in Great Britain and France.

The educational pattern inherited from the colonial regimes, moreover, was very uneven in its distribution. For a number of reasons, including financial and personnel limitations, the authorities had established educational facilities in areas where population was greatest and where missionary schools were already in existence. As a consequence, the interior Moslem areas, which had been relatively untouched by missionaries, lagged far behind the coastal regions in educational achievement. This imbalance in the availability of educational opportunity eventually raised serious problems for countries such as Nigeria, where the northern Moslems resented the rapid economic progress of the south. In East Africa, somewhat similar resentment had been generated

against the indigenous Asian population, which has been able to achieve a much higher level of education than the more numerous Africans.

In other respects, the colonial-patterned educational systems have presented problems since independence. For the most part, they were derived closely from British or French models. The high standards, generally acknowledged quality of the schools, and reliance upon expatriate teachers could be maintained only at high cost to the African governments. The curricula, moreover, were geared to the narrow requirements of colonial society, and not to the needs of emergent nations. Echoing the values of the dominant society, academically oriented education commanded high prestige, but technical training lacked respect. Consequently, all efforts to strengthen African education have been undermined by the problem of adapting the variety of European structures and programs to the particular requirements of the continent. Notwithstanding these disadvantages, African authorities have, almost without exception, been reluctant to change the pattern in any way which might, in their opinion, threaten already proven standards.

Educational Goals

As African societies began to assume responsibility for their own futures, it became evident that they lacked the trained manpower to meet their needs. Not unexpectedly, ambitious plans for educational development were formulated by the newly independent states. African aspirations in this critical area of nation-building have been articulated at several conferences of African states. The Addis Ababa conference, held in 1961 under the auspices of Unesco and the United Nations Economic Commission for Africa (ECA), outlined the magnitude of the problem and proclaimed common goals. At that time, taking Africa as a whole, only 16 percent of primary and secondary school-age children combined were enrolled in school, ranging from a low of 2 percent in several countries to nearly 60 percent in parts of others. The conference set the ambitious goal of universal, compulsory, and free primary education by 1980 and a secondary system to accommodate 10 percent of primary-leavers in general academic schools and 20 percent in vocational, technical or teacher training schools. Twenty percent of the pupils completing secondary schooling were to go on to higher education, and

nine-tenths of these were to study in Africa. The conference agreed that planning and manpower boards should be established to evaluate needs and to coordinate local educational efforts with external assistance.

The 1962 Tananarive conference, also sponsored by Unesco and ECA, focused on planning for higher education. As provisional targets during the next two decades, the conferees concluded that the combined total of students enrolled in higher education at home and abroad should be not less than 1.5 percent of the relevant age group in Middle Africa and not less than 5.9 percent in North Africa. At least 40 percent of all students enrolled in African institutions should be in degree courses, and not less than 60 percent should be enrolled in scientific and technological fields, including medicine and agriculture. The conference declared that special efforts should be devoted to education in agriculture and related fields.

The Addis Ababa and Tananarive conferences identified educational goals by which African countries might measure their own ambitions. In most of these countries separate and more specific plans for educational development have been prepared. Among these plans the report of the Commission on Post-School Certificate and Higher Education in Nigeria (the so-called Ashby report) has made perhaps the greatest impact. Comparable but less thorough plans of varying quality have since been drawn up by other African countries, and a few of these plans are closely related to more comprehensive national development plans.

Education and Manpower Development

In general, the African countries have made extraordinary efforts to achieve their ambitious educational goals, and in some instances the results have been spectacular. Hundreds of primary and secondary schools have been opened and numerous new universities have been established. The physical plants of some of these institutions are impressive by any standards, and Africans are assuming positions of leadership in most of them. In most countries, investment in education has, in contrast to other sectors of national development, outstripped planned inputs.

Recognizing that a principal factor behind the remarkable educational development in Africa has been the need for well-qualified leadership and the human resources to serve

growing societies, it is appropriate to assess the adequacy of efforts, in terms of the supply of manpower to meet existing and anticipated needs.

The scarcity of manpower data, and its uneven quality, must be acknowledged as limiting factors in this assessment. Responsible authorities in almost all African countries are aware of the value of manpower analysis and planning, but their capabilities for engaging in these processes are strictly limited. While Nigeria, Tanzania, Tunisia and, to a lesser degree, Sudan, have included manpower assessments in their most recent development plans, only Nigeria, Tanzania, and Kenya have produced reasonably satisfactory manpower analyses. For the most part, existing manpower data is out of date and incomplete; but, despite this, there is sufficient information to provide useful generalizations and conclusions.

Analysis of the manpower situation in these African countries, as in developing countries generally, reveals a troublesome paradox. When measured in absolute terms, there are acute shortages of skilled individuals in almost all high-level fields. When measured in terms of the capacity to provide employment opportunities for the society at a given level of development, the picture may be quite different. The mass of the people remain engaged in subsistence agriculture and the developing sector of the economy is not labor-intensive. Certain job categories, while qualitatively of critical importance, offer only limited employment opportunities quantitatively. It is for these reasons that it is so important to relate educational plans to overall national development.

What, then, is the manpower picture as it looks at this time? Despite the disparity of achievement levels, there is a fairly common pattern of human resource development throughout Africa, in which several general characteristics can be seen. In the first place, while all countries continue to experience shortages of high-level personnel in almost all categories, the fact that a few areas, such as southern Nigeria, are beginning to bring supply up to demand, suggests that other countries may reach this condition in another decade or less. Secondly, the most critical shortage in numbers, and perhaps also in terms of the balanced operations of the economy, generally occurs at the middle or intermediate level—the office managers, foremen, technicians, teachers. Thirdly, despite efforts to Africanize both commercial and industrial organizations and government agencies, the rapid growth of

certain sectors, and of the educational systems, has created a need for skilled expatriate personnel in specific categories, among them teaching.

Another area of critical shortage is the agricultural sector of the economy, which generally employs three-quarters or more of the labor force. Successful national development requires greatly increased agricultural productivity, but if any significant progress is to be achieved, a virtual agrarian revolution is required to break existing patterns. This in its turn requires a relatively small number of highly skilled individuals to guide the research and extension work; to staff government agencies and development corporations; and to work directly with the people on the land in order to introduce new and improved methods. This small supply of high-level personnel is almost impossible to maintain at the present time.

In contrast to these continuing shortages, there are indications that imbalances in the educational systems are likely to produce an oversupply of personnel in certain other areas. In Nigeria, university graduates in nonscientific areas have difficulty securing employment. It is estimated, moreover, that by 1968 Nigeria will have a surplus of lawyers and will surpass her minimum requirements for senior-level accountants and auditors and intermediate-level statisticians. At the other end of the scale, the primary schools are turning out students, many of them poorly trained, greatly in excess of the number that could be either gainfully employed or absorbed into the secondary school system. These are the factors which emphasize the need for each African country and for all external donors to pay increasing attention to the educational planning in the context of an overall strategy of human resource development.

The Dimensions of Foreign Aid

This brief summary of the manpower situation illustrates some of the problems encountered in educational development. Some of these problems have been generated by legacies from the past, others derive from inadequately defined or contradictory programs, others from mounting costs or shortages of experienced personnel. Basically, of course, these are problems which African authorities must solve. But progress to date could not have been achieved without very substantial contributions from Britain, France and the United States.

and from other countries in lesser degree. Assistance has taken many forms—principally capital grants and loans for plant and equipment, support for planning activities and special projects, provision of teaching and administrative personnel, and scholarship opportunities for study abroad. Thus, inasmuch as U.S. and other foreign assistance is closely related to the direction and character of educational progress in Africa, those involved in designing and administering programs of educational assistance must continuously perceive the impact of their activities upon the main lines of educational development in each recipient country.

In the process of transferring authority to the newly independent states, educational assistance was stressed in the national development schemes provided both by Britain and by France. This was partly due to a natural interest in preserving and extending the British and French character of educational development, and in strengthening the use of English and French as languages of instruction. Initially Britain encouraged overall educational planning by supporting new capital projects. In the recent past, however, the supply of teaching and administrative personnel has accounted for about two-thirds of British educational assistance. British aid is provided through the Overseas Development Ministry, the British Council and various private sources. Britain also has continued to welcome students from former African territories for study in the United Kingdom, particularly at the postgraduate level.

France also has stressed education in its technical assistance programs in its former African territories. It has contributed capital investment in education and has emphasized provision of teaching and administrative personnel. These programs are directed and coordinated by the Ministry of Cooperation in Paris. Like Britain, France continues to accept African students in French universities, in spite of overcrowding and shortages of staff.

Other European countries have provided some technical assistance to Africa, largely in the form of teaching personnel, and have encouraged Africans to study in their technical schools and universities. Soviet efforts in the educational area have been directed largely to study by Africans in the Soviet Union. Communist China has been relatively inactive in educational assistance. African education has also been the recipient of contributions from multilateral agencies, notably

development loans from the World Bank and its affiliate, the International Development Agency, and planning and technical assistance from Unesco and the United Nations Development Program.

United States government policy, except in the special cases of Liberia and Ethiopia, was originally planned to supplement, rather than displace, assistance from the former colonial powers of Western Europe. Thus, total U. S. aid to Africa was, for many years, well below that of the former colonial nations, and constituted a small percentage of total U.S. foreign aid. In recent years, however, aid from U.S. sources, public as well as private, has increased significantly, and education in Africa has received proportionately more aid than other parts of the world. The basic American approach has emphasized "institution-building," the stimulation of the capability of sustaining an indigenous educational structure.

The largest overall U.S. program of assistance to educational development in Africa is that conducted through the Agency for International Development. During the 1966 fiscal year AID committed \$21.3 million to African education, which represented 15 percent of the Agency's total African program for that year and almost 29 percent of its worldwide educational program. The AID assistance program has concentrated on countries with the most favorable developmental potentials and increasingly on encouragement of indigenous educational capabilities. A considerable proportion of AID support of education in Africa is implemented through contracts with U.S. universities, which in turn are responsible for the actual operation of the projects.

The United States government provides additional assistance to African education through the Peace Corps and the educational and cultural exchange program of the Department of State. Private foundations, notably the Ford Foundation, the Rockefeller Foundation and the Carnegie Corporation of New York, have also made substantial commitments and have played a major role in defining the American approach to educational assistance. Smaller foundations, religious bodies, and other private sources also participate in the extension of support to African education.

There are promising indications that U.S. donors are relating assistance programs to recognized African needs. But, as suggested in the following analysis of the principal dimen-

sions of recent educational development, aid programs must be carefully assessed at every stage and kept under continuous review.

Primary Education

The almost overwhelming aspirations of the African nations for educational opportunities have been most dramatically reflected in the quantitative expansion of primary enrollments. In most areas, universal primary education is a national policy and a popular political slogan. In a very few areas this goal is approaching realization. Unfortunately, statistics accurate enough to gauge the actual degree of progress are not available.

Struggling to spread their meager resources over an expanding area, African authorities have been unable to match quantitative progress at the primary level with qualitative improvement. Lack of adequately qualified teachers, and the constant demand for greater educational opportunities, have led to the recruitment of untrained teachers with little or no more than a primary education themselves. The result has been not only that the primary experience, in itself, has been less than profitable to students, but that large proportions of those who are able to make their way on to secondary schools are poorly prepared. Step by step, the whole educational structure has suffered. Much needs to be done, not only with respect to teacher training, but also to improve curricula, teaching methods and materials, and administrative supervision and procedures.

Thus, the ambition to offer primary education for all, while entirely justifiable in theory, presents serious problems for African society at the present time. One of the most critical problems is the growing unemployment and discontent of primary school leavers, whose few years of education alienate them from the land but do not equip them for urban employment, which they seek in ever-growing numbers.

The goal of universal primary education also imposes heavy financial burdens on limited government resources. In purely economic terms, at least a portion of these expenditures might be more productively utilized in other sectors of development. However, only in a few instances have lesser goals been accepted for the present. In Northern Nigeria and Tanzania a target of 50 percent of school age enrollment has been set. In Tanzania, this decision was based upon financial considera-

tions, estimates of the supply required to achieve the 1980 target of self-sufficiency in manpower, and recognition that the nation did not have enough teachers to serve any more students. Elsewhere, governments recognize the risks of rapid primary expansion but are reluctant to impose restrictive measures.

Foreign donors, with a few exceptions, have been understandably reluctant to support the bottomless pit of primary education. In Northern Nigeria, where even primary facilities have been severely limited, AID and the Ford Foundation are supporting a substantial teacher training program. In Liberia, the Peace Corps is supplying primary teachers. But for the most part, U.S. public and private donors have reached the justifiable conclusion that their limited resources can be more effectively applied at higher levels in the educational structure.

It would be well to bear in mind, nevertheless, that far-reaching strategic results might yet be achieved by the application of assistance to a few carefully selected aspects of primary education. Primary education will, for a long time to come, be a terminal experience for most African children. If mass unemployment of primary school leavers is to be avoided, the very character of primary education must be reexamined and revised. It must become less a preparation for more advanced instruction and more an experience suitable to the tasks to be performed in transforming subsistence agriculture into a rewarding venture. Much more needs to be understood about primary education as a terminal experience, so that, instead of exacerbating social and political unrest in the cities, it can contribute to a rising level of living in the traditional, rural sectors of the economy. The formulation of a primary curriculum that will remain terminal for most students, while simultaneously providing an adequate base for continuing education, will not be a simple task. It is the kind of problem for which valuable assistance could be provided, in the form of support for study conferences, specialized consultation and advanced planning. Ultimately, if significant alterations of primary education appear to be possible, assistance for teacher training would be appropriate.

It must be for the African authorities themselves to determine what proportion of their resources will be directed to further expansion of primary enrollments. But this is another dimension of the problem in which assistance for

planning, cost analysis, and comparative investigation of experience elsewhere might prove of critical value.

Secondary Education

The imbalance in African educational development is reflected clearly in the serious inadequacies at the secondary level. Secondary enrollments are proportionately much lower than primary enrollments, although they have been expanding at a faster pace, and have doubled over the last few years in such countries as Nigeria, Guinea and Tanzania. Only Liberia and Tunisia, however, achieved the target of 9 percent enrollment for 1965 set at Addis Ababa. Although 10 percent of the age group is enrolled in Lagos, Nigeria, enrollment in the Eastern* and Western Regions is only slightly more than 2 percent and only 0.3 percent in the North. In Ethiopia, less than 0.5 percent of the age group is enrolled in grades nine through twelve. Numerically, the supply of secondary graduates in Africa will be sufficient to fill the growing number of university places, but the pipeline will not be adequate to meet the overall needs of the economy for intermediate level manpower.

The limited openings for primary school leavers at the secondary level have naturally created pressures to accelerate the expansion of secondary facilities. But, as at the primary level, unless this process is well managed there are risks of deteriorating quality, dissipation of scant resources, and a shifting of the employment problem from the post-primary to the post-secondary level.

Secondary education presents numerous qualitative problems. Expansion has stretched available personnel and other resources thin. A fundamental weakness is lack of qualified teachers and facilities. Traditionally, secondary schools in Africa have depended upon expatriate teachers, a dependence that has increased as enrollments have expanded, (except in a few areas such as the southern regions of Nigeria). Reliance upon expatriate teachers, however, means a high rate of turnover, with all the attendant disadvantages.

Perhaps the most serious group of problems besetting secondary education stem from patterns established before independence. In the former British territories, for example, most

* At the end of May 1967, as this brochure was being printed, the Eastern Region of Nigeria proclaimed its independence as the Republic of Biafra.

secondary schools were modeled on the grammar schools in the United Kingdom, which place heavy emphasis on academic subjects, passage of the school certificate examination, and ultimate admission to a university. Science programs lagged behind, partly because of the traditional "literary" bias, and partly because of the higher costs of providing them. Thus, African secondary schools generally failed to provide a broad-based curriculum designed to prepare students for anything other than clerical and junior administrative careers.

In sum, the secondary education system in Africa not only remains weak, but fails to accomplish effectively its three principal functions. Firstly, despite the academic bias, there is inadequate preparation for university enrollment. There is overproduction of preuniversity students in the arts and underproduction in the sciences. Overall, the traditional emphasis upon university entrance, coupled with a decline in quality, has led to an outflow of inadequately prepared secondary school students with which the universities are not prepared to cope. Secondly, the needs of secondary school leavers going directly into employment have been neglected—as have those of students entering post-secondary educational and training programs below the university level—despite the increasingly evident demand for intermediate level manpower.

African authorities recognize the weaknesses of this situation and are eager to accelerate reforms at the secondary level, both by increasing to as much as 50 percent the proportion of students prepared to continue in the universities in the sciences, and by developing a broader-based program that will prepare the majority of secondary leavers for employment. Attempts to alleviate conditions move slowly, however. Teachers of mathematics, scientific and technical subjects—both African and expatriate—remain in short supply, and laboratory facilities are limited. Hopes of preparing the majority of secondary students in scientific fields are unlikely to be realized for many years. In Tanzania, for example, although secondary output has been increasing, in 1964 only 70 out of 290 students passing the Higher School Certificate examinations were in the sciences.

U.S. assistance to African secondary education has been significant. It has focused primarily on the problem of teacher supply, and has encouraged curricular development projects to make secondary training more relevant to African needs. Without the very extensive supply of teachers from the United

States as well as from Britain and France—financed by both private and public sources—secondary school expansion would have been impossible. The Peace Corps has contributed an important supply of teachers to 17 countries in Africa, where it has had its largest educational program. The Peace Corps, however, has not been involved in training African teachers and consequently has not helped to alleviate the long-range problem of the provision of African personnel and the development of indigenous teaching capabilities.

One of the most appropriate U.S. aid projects seems to be the newly developed Teacher Education in East Africa program (TEEA), through which Columbia University's Teachers College, under an AID contract, provides for the development and expansion in East Africa of training programs for African teachers. TEEA, an outgrowth of the earlier Teachers for East Africa program (TEA), which was an AID-supported joint U.S.-U.K. effort to supply qualified teachers, has proven highly successful. Similar projects might be developed for other parts of Africa, shifting emphasis from the outright supply of teachers to the preparation of indigenous teacher trainees.

AID, in addition to supporting numerous teacher training institutions, has assisted in a variety of curricular projects, principally by means of university contracts. The quality of these projects has varied widely. Perhaps the most notable participation in the redirection of secondary education has been the support of two so-called comprehensive high schools in Aiyetoro and Port Harcourt in Nigeria, directed by Harvard University and the University of California at Los Angeles, respectively. These experiments have demonstrated broadened concepts of secondary education, incorporating instruction in vocational technical fields as well as academic. While the transferability of the comprehensive high school concept is doubtful, these schools are unquestionably influencing curricular developments elsewhere in the underdeveloped lands.

U.S. assistance at the secondary level seems to be particularly appropriate. If maximum value is to be extracted, however, even greater attention will have to be paid to the coordination of secondary programs and manpower needs at the intermediate level, and to the strengthening of science subjects for university and other post-secondary entrance. Inasmuch as a principal objective of American assistance should be the

strengthening of indigenous institutional capabilities, teacher preparation and programs devised to guide qualified Africans into the teaching profession should receive the highest priority. The sizable manpower pools of educated Africans now in the United States, the United Kingdom and France are, for the most part, still unexploited. Incentive and training programs to attract Africans into teaching positions at home should be encouraged.

Vocational and Technical Education

As emphasized throughout this report, the most critical manpower shortage in numerical terms occurs at the intermediate level. The development of intermediate manpower is in part the responsibility of secondary schools and more specifically of specialized post-secondary vocational and technical institutes. Vocational training is conducted in craft schools, which pupils enter directly from the primary grades or after a few years in a secondary school. Technical training for occupations requiring more skill is provided in separate institutions at the secondary and also at the post-secondary level.

Unfortunately, in spite of serious and often quite costly efforts, prevailing conditions and the attitudes of parents as well as students present serious obstacles to success in this area of manpower training. Students fortunate enough to gain places in secondary schools aspire to go on to the university; anything less is considered second-rate. They do not choose vocational or technical studies, and those who are well qualified avoid the post-secondary institutes, where enrollments generally are below capacity. Prevailing wage patterns reinforce this preference. Other factors also limit progress in this area. Vocational and technical programs are expensive, and qualified teachers are not readily available. Courses of study frequently are not sufficiently related to employment opportunities, and governments tend to favor the universities rather than intermediate level institutions. The development of appropriate vocational and technical education generally remains unsatisfactory and indeed perplexing both to Africans and those who wish to help them.

Historically, the former French areas have placed more emphasis than former British areas upon vocational and technical training at the secondary level. In Guinea and Tunisia, for example, technical education is offered either as an op-

tional section included in general courses, or in separate technical secondary schools. In Tunisia, it is hoped to raise the proportion of enrollments in the commercial and technical categories from the 1964 level of 27 percent to as much as 40 percent. In the former British countries, vocational education is less developed, although at the secondary level there are numerous trade schools, and general secondary schools do offer some vocational subjects as a special branch of the general curriculum.

For the most part, post-secondary polytechnic institutes wrestle with the same problems as the trade schools; they have relatively few qualified teachers; their curriculum is insufficiently geared to employment realities, and their equipment is frequently inappropriate or obsolete. There are exceptions, however—notably the Kenya Polytechnic Institute in Nairobi, which works closely with employers in planning its programs.

Throughout Africa, agricultural production is of critical importance, yet education and training in this area lag behind need, despite numerous attempts to add an agricultural dimension to the primary and secondary curricula. There are relatively few post-secondary agricultural schools and these are understaffed, underenrolled and often substandard in performance. It should be recognized, however, that the problem in agriculture is less one of training more people than of bringing more scientific knowledge, imaginative leadership, and administrative support to bear upon the technical, economic and social problems of these agricultural societies. Despite the unquestionable importance of formal education, the successful development of agriculture will, in the long run, probably depend more on effective technical assistance.

Because recent British and French aid programs have included vocational and technical assistance, relatively less U.S. aid has been extended in this direction. AID has, however, supported technical programs in a number of countries, such as the Ibadan Technical Institute in Nigeria and a new trade school in Khartoum, Sudan. At this stage, the African authorities would most benefit from assistance in rethinking their entire approach to technical training and to the preparation of intermediate manpower.

One of the most encouraging undercurrents now emerging in these countries is the awareness of the need to tie nonuniversity technical and vocational training closely to the needs of the university and the employment market. Wherever pos-

sible, the universities should be encouraged to develop mutually advantageous relationships with technical teacher training and other intermediate level institutions. The diploma-level institutions should profit from the leadership of the universities, and this partnership should enable the universities to relate more directly to the national needs. The new University of Zambia is considering a relationship of this type, in the hope that the status-link will attract more students to the diploma-level institutions. At the same time, however, it is important not to encourage the degree-granting aspirations of diploma-level institutions, which would lead to duplication of facilities and would fail to meet manpower needs.

University Development

The university stands at the apex of an educational system, and newly independent nations generally aspire to a university of their own. The emerging nations of Africa are no exception, and now all but a few already have established a university, or are about to do so.

University expansion has therefore been dramatic and rapid—perhaps too rapid. Most of these institutions now possess rather impressive physical plants. Enrollments have mounted steadily. Nigeria's five universities now enroll about 5,000. The student population of the University of Tunis has doubled in the last five years, and is expected to reach a peak of 12,000 by 1971. A few African countries are approaching the time when they will be able to produce sufficient university graduates to fill all available employment opportunities normally occupied by graduates, except in narrow fields of specialization.

British, French, American and other foreign assistance has played a major role in this progress, contributing grants and loans for buildings and equipment as well as furnishing teaching personnel. U.S. programs have emphasized higher education and have increasingly stressed the goals of university institutional growth and development. AID has undertaken substantial institutional programs through contracts with American universities. The largest of these has been an arrangement whereby Michigan State University actively participated in the founding of the University of Nigeria, in the country's Eastern Region, by providing administrative leadership and key faculty appointments. The relationship de-

liberately inspired the land-grant approach to higher education in Africa, a concept which has met with some resistance because it contrasts so radically with the traditional British and French patterns.

The large U.S. foundations have contributed generously to African university development. Both the Ford and Rockefeller Foundations have placed American educators in African universities, sometimes as teaching staff, but usually to serve in administrative or advisory posts. This enables them both to assist the universities in implementing plans and to recommend to the foundations areas of further assistance. These two private organizations, as well as the Carnegie Corporation, also make it possible for African educators to study abroad at leading U.S. and British universities.

The Ford Foundation, principally through its Overseas Development Program, has increased its commitments to higher education considerably in recent years. The University of Ibadan in Nigeria has been a principal participant in Ford Foundation assistance projects for general institutional support, including plant as well as programs. Other institutions have been aided largely on a project basis. The Rockefeller Foundation also selected the University of Ibadan and the University of East Africa for institutional support. The freedom of the Carnegie Corporation to make grants overseas is limited by its charter to the Commonwealth countries. Carnegie grants are therefore smaller than those of the two larger foundations, and have generally gone to assist African universities in two principal areas--institutional planning functions, including planning conferences, and the strengthening of university-based institutes of education and related teacher-preparation activities.

As has been previously indicated, however, the record of university development is not all favorable. Enrollments are disproportionately high in the arts and social sciences, reflecting both the shortage of qualified students and the limited ability to provide staff and facilities in science-oriented fields. In spite of emphasis upon Africanization, these universities characteristically remain heavily dependent upon expatriate faculty personnel, with a resulting high degree of turnover and instability. In many cases, the quality of university students in all fields is questionable. In English-speaking countries, inadequate preparation in English has necessitated the development of remedial courses at the universities; yet

English as a qualifying subject has been dropped from the entrance requirements. Undercapacity enrollments and underutilization of facilities are common problems related to the shortage of qualified students. Nor will the overall problem be solved if the universities enroll larger proportions of secondary school graduates, because this will merely drain students from the technical institutes and aggravate the shortage of intermediate-level manpower.

University costs also remain excessively high, particularly when measured on a per pupil basis, or in terms of the proportion of national revenue devoted to higher education. Student-to-faculty ratios are low and construction and operating costs are high because of the practice of providing staff housing and dormitory and dining facilities for almost all students. However, although governments generally continue to appropriate large sums for university development, there are increasing signs of financial strain. The Universities of Liberia, Khartoum and Haile Selassie I, for example, have faced recurring budgetary crises.

In 1962, the Tananarive conference set ambitious goals for higher education throughout the African continent, but at the same time recognized the perils of too rapid expansion and costly duplication of facilities. The conference proposed to increase student-to-faculty ratios, to engage in cooperative planning, and to provide for the joint use of specialized facilities. Despite these laudable announcements, however, university development has gone forward more rapidly than anticipated, and the restraints designed to minimize duplication and high costs have been ineffectual.

There have been several notable efforts to plan university development on a cooperative regional basis. The most significant has been that involving the University of East Africa, a federal institution consisting of Makerere University College in Uganda, University College Nairobi in Kenya (formerly the Royal Technical College), and the newly established University College, Dar es Salaam, in Tanzania. The University of East Africa was designed to serve the needs of the three countries without unnecessary duplication. Each of the colleges was to have faculties of arts, sciences and education; facilities for medicine and agriculture were to be centered at Makerere, engineering and veterinary science at Nairobi, and law at Dar es Salaam.

Recent events, however, have threatened the continuation

of this experiment. Uganda has been reluctant to accept a slow-down of expansion at Makerere, so that concentrated support for the other institutions would permit them to catch up. Kenya and Tanzania also have ambitions for national universities of their own, and the uncertain future of the East African Federation has weakened motivations for cooperative arrangements in higher education.

The situation in Nigeria also demonstrates the difficulties of managing university development. The Ashby Commission recommended the establishment of four universities, but the determination of the Western Region to have a university of its own resulted in plans for five institutions. Regional pressures and competition continue to mount. Nigeria's National Universities Commission has attempted to limit costly expansion and duplication, but its authority and effectiveness have been limited. The deterioration of the Nigerian federation resulting from the recent coups renders coordinated development of Nigerian universities even more difficult.

Foreign donors have done their best to encourage regional university development as a means of limiting cost duplication of specialized facilities. The agreement for the division of functions of the federal University of East Africa, for example, was reinforced by understandings among the U.S. and British governments and the major private foundations. AID has employed a regional scholarship scheme, promoting study by Africans at continental universities, for the same purpose. But these arrangements can be no more than suggestive and have been of limited effect. So far at least, French assistance policy has had some success in encouraging the development of five regional universities serving French-speaking countries.

The efforts of the African universities to develop their specialized capabilities reflect an increasing effort to counterbalance the emphasis on arts and social sciences, established as a regular pattern prior to independence. Thus they have striven to develop their capabilities in medicine, agriculture, veterinary medicine, engineering and education, and to provide research and extension services. Pressures to add faculties in these specialized areas are strong and often indiscriminate. Each of the five Nigerian universities, for example, eventually intends to establish faculties in all or most of the specialized fields. Meanwhile, however, the shortage of well-qualified Africans to staff these fields will continue for several years.

inasmuch as none of the indigenous faculties will be ready to turn out an appreciable number of graduates in the near future.

Unfortunately, foreign assistance efforts tend to stimulate the duplication of these costly specialized faculties. A donor country, committed to the support of a particular institution, tends to identify with the institution's aspirations. Private foundations and American universities operating under AID contracts both tend to lend encouragement to competing programs in spite of well-intentioned efforts to avoid such conflict and to reinforce each other's assistance programs. While specialized capabilities in agriculture, veterinary medicine, engineering, medicine and education deserve support, progress should be according to carefully measured plans. Many observers feel that there are always more programs than necessary in these areas, and that unnecessary duplication within a single country, or even within a region such as East Africa, should be avoided.

Another aspect of current university development is the conscious effort to relate university programs to national needs. There has been considerable criticism of the ivory tower orientation of African universities, and of their failure to adapt either curriculum or staff to African conditions. The "literary" tradition, imported from Europe, has tended to produce an elite which is divorced from the contemporary African environment.

This sort of criticism is less justified now than it was in the past. Curricula are being broadened to include more African studies and a greater proportion of scientific and technical subjects to meet Africa's manpower requirements. Efforts are being made to economize on staff and student housing. The Ethiopian University Service, which requires all students to serve the country by working in rural areas between the third and fourth years of study, is a promising effort to narrow the gap between the university elite and the rural populations, thus serving the national interest.

Adult education programs administered by universities are receiving increased attention, although in many instances they appear to be operated marginally. Under the mature age entry scheme in East Africa and various extension programs, extramural studies and continuing education courses, opportunities for adult education are expanding throughout the nine countries. These should be encouraged, because the up-

grading of those presently employed yields the most immediate economic return. The outstanding example is the Center for Continuing Education at the University of Nigeria at Nsukka, which provides a variety of special programs—for teachers, farmers, administrators and others—which bring the resources of the university to bear upon the practical problems of the Eastern Regions. This Center has been encouraged and substantially assisted by AID, and is modeled in part on Michigan State University experience.

A number of universities have established institutes or centers of economic and social research which have prepared creative and useful materials. Perhaps the most successful is the East African Institute of Social and Economic Research at Makerere University College. Here a group of 15 social scientists, approximately half of whom are Africans, are engaged in systematic study of problems of immediate concern to the governments of East Africa. Much of the effective research on manpower requirements and their relationship to educational development in East Africa has been done by this group. The staff of the Institute keeps in touch with government personnel through joint seminars and other devices. The staff members do some teaching as well, which provides opportunities for feedback from their research into the instructional program of Makerere College.

The Nigerian Institute of Social and Economic Research at the University of Ibadan and the Economic Research Institute at the University of Nigeria are other examples of effective institutes. The experiences of these research groups, which have been materially supported by U.S. foundation grants and personnel, suggest that such research centers can contribute to national planning in situations where government agencies are unable to do so effectively. Thus these institutes are an important additional means of strengthening the planning and development processes in Africa.

Some universities are ambitious to develop graduate programs, which are expensive and require sound financing of both faculty and students. To provide continuity and stability, graduate programs must secure the services of well-qualified teaching and research personnel for considerable periods of time. So far only a few African universities have ventured into this area, notably Ibadan which received a Ford Foundation grant of over \$1 million in 1964-65 for the development of a postgraduate program.

Furthermore, it is important for the African universities to abstain from developing graduate programs until they have achieved the necessary resources and stability; even then, they should limit themselves to selected fields which can provide a special contribution to national development, in the context of local needs. When graduate education materializes, as it inevitably will, care should be taken to encourage development on regional lines, so that universities will offer programs only in those fields in which they have special competence, and in a manner designed to serve neighboring countries as well as their own.

In the former British countries, there has been a great deal of discussion on the nature of education from approximately the 12th to the 14th years, and its relationship to manpower needs and to university entrance. Many of the African governments have favored the development of the so-called sixth form programs in the secondary schools, which prepare students by additional study, usually for two years, for entry to the university at the Higher School Certificate level. This approach is based partly on the belief that the U.S. practice of earlier entry inevitably leads to a lowering of standards. Some Africans contend that even the first degree of the U.S. college or university is inferior to that of the African (or British) university.

The situation is in a state of flux, however, because of dissatisfaction with the quality of sixth form leavers and increasing pressures for production of intermediate manpower. There is growing recognition of the possibility of developing alternative forms of terminal post-secondary education. Feasible solutions to the problem can come only after careful consideration of the implications of other approaches, including cost factors.

In Nigeria, in spite of declarations supporting sixth form expansion and the abolition of the provisional entry system (by which students who have not completed the sixth form are admitted to university) there is growing concern about the assumptions underlying the sixth form concept. Within the last year, the vice chancellors of the five Nigerian universities have undertaken a study of the sixth form and of levels of entry and related issues. Experiments with earlier form entry at the University of Nigeria at Nsukka and the University of Ibadan suggest that, in terms of economic and national needs, it may be desirable to replace the two-year

sixth forms associated with the secondary schools with a single preparatory year at the universities.

In Nigeria it has also been suggested that the present sixth forms be developed as more comprehensive programs, offering a variety of terminal courses of study. In Kenya, the 1965 report of the Kenya Education Commission proposed the establishment of "intermediate colleges."

Most U.S. educators and developers eager to aid African education see the sixth form as an alien importation which fails to fulfill African needs. So far, however, U.S. alternatives have been equally culture-bound, as may be seen in the study which simply recommended the establishment of U.S.-type junior colleges as a solution. What is needed is a detached approach, growing out of African experience. The planning grant which the Ford Foundation made to the committee of vice chancellors of the Nigerian universities is a step in the right direction.

With the expanding enrollment at African universities, financial support for student fees has become more of a problem. Even in those countries, such as Nigeria, where students pay fees, they are heavily subsidized by indirect support. African countries generally provide scholarships and other forms of assistance to university students, both at home and abroad. In East Africa, for example, most students receive bursaries covering all expenses.

This degree of financial assistance cannot be sustained indefinitely without drastically overstraining national budgets. In Nigeria, the National Universities Commission is considering a student loan program on the basis of a feasibility study made with Ford Foundation support. Experience at the University of Tunis, which has operated a student loan program, suggests that such a scheme can be successful. A successful loan program would permit significant expansion of enrollments and, by providing students with adequate time and better study conditions, should improve the quality of their work.

OVERSEAS STUDY

Until the establishment of universities in Africa, ambitious young men and a smaller number of women seeking higher education had little choice but to make their way overseas. Opportunities were made available to many of those who were fortunate enough to complete secondary school, more than a few of whom now occupy positions of responsibility in their governments, universities and schools. Although local institutions are now gaining in status, study abroad has retained its high prestige value, and the number of students abroad has continued to mount, supported by foreign scholarship offers and—to a degree—by the African governments themselves. Most study abroad is at the post-secondary level or higher, and consequently plays a significant part in the development of high-level African manpower.

As might be expected, the largest number of African students overseas are to be found in Britain and France. Both countries have encouraged overseas study through public and private programs, and have been reluctant to restrict enrollments in foreign universities despite rising pressure at home. Other European countries as well as the Soviet Union and China also provide scholarships for study in their institutions. The provision of scholarships is one of the easiest and quickest forms of assistance, but too often its value is reduced because the content is determined more by the donor's convenience than by the needs of the African nation.

Until the 1960s, relatively few Africans came to the United States for higher education. With the growth of independent African states, however, the U.S. government and private sources opened up very substantial opportunities for Africans to attend American colleges and universities.

Unfortunately, it is extremely difficult to measure the flow of students overseas and even harder to measure the flow back to the home country. Records from different sources are incomplete and not comparable. Of the sub-Saharan countries, Nigeria has had the largest number of university students abroad, about 2,500 in 1964, or half the total enrollment of the five Nigerian universities at that time. In the same year, Liberia had 800 abroad, the highest number calculated in relation to the population of the country and its school enrollments. More comprehensive and accurate data is needed on this subject.

In 1964, the largest African student group in the United States consisted of 1,140 Nigerians. The second largest was from Kenya, total of 800 at the university level and about 200 in high schools, a legacy of the Kennedy-assisted "airlifts" of the early sixties. The United Kingdom, however, accommodates almost four times as many post-secondary students as the United States, the vast majority from the Commonwealth countries of East Africa and Nigeria. For every one student attending university in the United Kingdom, there are four attending technical institutions.

Assistance programs supporting Africans for study in the United States have been numerous and varied. Quantitatively, the largest has been the AID participant training programs conducted in conjunction with AID-supported projects. These programs have been consciously manpower-oriented. Africans already associated with the project, as for example officials in a government agency or teachers in a school, are sent to an American university for training appropriate to the assignment. This is generally for periods of six months to a year, although in some cases it covers the entire 3-4 year degree course.

Of other American scholarship arrangements, perhaps the best known is the African Scholarship Program of American Universities (ASPAU), which brought 1,184 African undergraduates to U.S. colleges and universities from 1961 to 1965. Financial support for ASPAU students has come from a combination of sources: the African governments have provided the cost of transportation; the colleges and universities have provided tuition scholarships; AID has supplied maintenance grants for the student and has shared administrative costs with private foundations. A somewhat similar program has now been established at the graduate level. The African Graduate Fellowship Program (AFGRAD), in which 60 U.S. universities participate, has provided more than 150 scholarships.

It is not intended here to review the successes and problems of study by foreign students in U.S. universities; much has been said and written elsewhere on this perennial topic.* It

* See for example, *The Foreign Student: Whom Shall We Welcome?* New York: Education and World Affairs, 1964 and *The Overseas Selection of Foreign Students*, New York: Education and World Affairs, 1966.

is appropriate, however, to comment on the relationship of such study to educational development in Africa, which is a matter of some controversy. Generally speaking, the African authorities, while continuing to encourage study abroad, have in recent years made more and more attempts to restrict it to those vocational fields for which their own training facilities are either nonexistent or at least inadequate. African educators, moreover, are reluctant to allow good students to be attracted away from their own expanding institutions by generous overseas scholarship offers. Numerous Africans, moreover, have discounted the value of the U.S. bachelor's degree, particularly when U.S. colleges and universities admit foreign students at the school certificate rather than the higher school certificate level. U.S. educators, however, continue to be convinced of the value for Africans of study at an American institution, and—regardless of all reasoning to the contrary—convinced that fields of study must be freely selected by the student himself.

Although both African and American authorities are striving to relate undergraduate study more directly to manpower needs, there is still a marked lack of coordination. Many students continue to study in low priority fields, such as law and the humanities; and many students delay the return home, thus greatly reducing their value to their own countries. The nonreturnee problem has at least three dimensions: the prestige of an advanced degree, the availability of sponsorship for capable students, and the inadequacy of communications between the student abroad and the home authorities. Too frequently, African students try to stay on in the United States to take an additional degree because they believe that an American B.A. is not equivalent to the first degree of a British or African university. Some U.S. colleges and universities have aggravated the problem by taking it upon themselves to encourage capable students to stay on for further study, often in low priority fields.

If U.S. assistance to African educational development is to achieve maximum effectiveness, greater attention must be given to the scope and character of study by Africans in this country. Individual study, independently financed, is a private and separate matter. But where large programs involving foundation or public funds are concerned, support for undergraduate scholarship assistance in the United States should rank below both assistance to African universities for

the continued development of indigenous capabilities and graduate scholarship support for study abroad in specialized fields. Where study abroad is deemed appropriate, first consideration should be given to utilizing the capabilities of universities in other African countries.

Apart from these considerations, a continuing flow of Africans returning from undergraduate study in the United States is appropriate as a means of strengthening the leadership groups of these newly developing countries. It is to be hoped that the interests of the United States are served in this process, but it is even more important that the African countries benefit from new experiences and ideas, just as the United States benefited in the nineteenth century by sending students to Great Britain and the Continent for advanced study. African officials testify to the importance of this aspect of overseas study. Consequently a way should be found to sustain undergraduate study, including the ASPAU program, but there should be a continued shift of emphasis from such relatively developed countries as Nigeria to those countries whose universities are not yet able to cope with national needs. Study by Africans in the United States should not be of such proportions as to discourage growth of African universities.

Officially sponsored overseas scholarship programs should stress study at the graduate level and should be designed to relate preparation in the United States to specific assignments in Africa. AFGRAD, which provides graduate training in important fields, is a significant recognition in changing African needs.

Graduate programs for African students in the United States should include selective identification of individuals for study abroad, development of study programs related to conditions in Africa, and recovery procedures to ensure the return home. For instance, the University of East Africa, with help from the Rockefeller Foundation, is now identifying East Africans in the United States who can be encouraged to undertake graduate study and then return to teaching positions at the University. To help relate overseas study to the realities of the home situation, programs should be devised to enable those who stay on to take a further degree abroad to return home for appropriate summer work internships or even longer work experience before continuing their studies. In certain fields, a portion of the graduate or profes-

sional training—such as a year of clinical instruction in medicine or special field work in engineering—might be undertaken at home. Affiliations of African and American universities for such purposes should be encouraged.

It is of vital importance to make the experience of undergraduates already in the United States applicable to African needs without further study. The fear that U.S. degrees will not be thought equivalent to the first degree of African and British universities is significant and stems from prevailing attitudes in Africa and from the practice of relating government salaries to degrees. This pattern must be discouraged. U.S.-educated Africans should be given full opportunities to perform well and African government and university officials should be better informed by responsible American agencies, both public and private, about the character of the U.S. degree and about U.S. colleges and universities. Wherever possible and appropriate, scholarships should be combined with practical work experience, either in the country of study, or at home, in order to reestablish the student's ties and to facilitate repatriation.

In coming years, as the flow of undergraduates from abroad diminishes, scholarship sponsors could provide the opportunity for an African university student to come to the United States for a year of study in a high priority field, either as an interruption in his study at home or at its conclusion. This would reduce the strain of choosing between local and overseas study and would make it possible for the African student to have the benefits of an experience in the United States without compromising the growth of his home university.

CONCLUSIONS: THE STRATEGIC APPROACH

In the relatively few years since their independence, African nations have made substantial efforts to extend and maintain effective educational systems, in recognition of the fundamental relationship between educational and national development. The expansion of facilities and enrollment has been spectacular. Most countries are moving toward the Addis Ababa targets for primary enrollments, and although secondary school enrollments are proportionately much lower, they have been rising more rapidly. In many instances, there has been a commendable stress on a simultaneous improvement of quality.

This summary analysis does not attempt a qualitative evaluation of these accomplishments, or a critical analysis of individual projects or programs. Rather, as was suggested at the outset, this paper has concentrated on the relationship of education to the overall development of human resources. The following observations, therefore, are made within this context.

It has become increasingly clear that African countries cannot proceed with indiscriminate educational development. Growth produces problems as well as opportunities. U.S. sources, of considerable assistance to this development, must be increasingly aware of the consequences of their own choices and decisions. To develop an effective "foreign policy of educational assistance," U.S. efforts must facilitate educational progress and must serve to alleviate rather than aggravate Africa's developmental problems. In the face of limited resources, growing needs, and often unforeseen difficulties resulting from contradictions within educational systems, it is imperative that U.S. assistance be carefully planned, in conjunction with African authorities, to promote a rational strategy of development. U.S. assistance must help African governments and educational authorities avoid pitfalls generated by inherited habits, traditional ambitions, political pressures, prestige factors and inadequate planning.

Put positively, U.S. assistance must encourage balanced educational and national development.

To be fully effective in terms of the paragraph above, foreign assistance must be preceded by a refinement of assistance rationale within the donor agency. Too frequently individual projects which have merit in themselves appear to be conceived and developed *in vacuo*. Greater attention needs to be given to the broader implications, to the identification of strategic areas, and to the determination of critical priorities. Before a project is undertaken, its potential impact upon the full spectrum of educational development must be considered, i.e., to what extent will the project—if successful in its own right—divert resources and interest from other areas of need? What effect will it have upon the attitudes of students and their parents? Will the indigenous government be able to duplicate the project if it is designed as a model? Will the project stimulate innovation in educational development?

The areas of foreign assistance are so numerous and so extensive that there is always the danger that the assistance will be uncritically accepted by the African nations. U.S. aid sources thus have the important responsibility of determining fundamental needs and general strategies while remaining sensitive to African initiatives, aims and control. It should be added that, although African nations have benefited beyond measure from external aid, this very multiplicity of donors—both in the United States and elsewhere—each with different interests, has produced a piecemeal approach to educational development.

Assistance to African education cannot be fully effective unless it is undertaken on a coordinated basis. In spite of recent increases in U.S. aid to Africa, the total has remained well below that received by African countries from other Western donors and is a small percentage of the total U.S. aid program. This fact reflects a positive assumption that U.S. policy in Africa should supplement, rather than replace or displace, assistance from the former colonial powers of Western Europe and further highlights the importance of coordinating international efforts. Collaborative ventures, via Unesco, the United Nations Development Program, and the World Bank can be accomplished through multilateral assistance. This system is attractive to African nations as a means of avoiding too close an association with any single

donor. The multilateral approach poses significant procedural problems, but foreign donors should make it *their* business to learn how to work with and improve multilateral mechanisms of assistance.

Even the coordination of U.S. programs alone is difficult, but such coordination must be more vigorously pursued. Each U.S. source of assistance must assume responsibility for maintaining open communication and exchange of information within the U.S. community. Much is already accomplished on an informal basis, but it is not yet enough. Research cooperation, for example, should be an important aspect of external assistance efforts. The number of special study teams sent to Africa must be reduced, because the constant stream of visitors is a heavy additional burden both to African officials, most of whom have little time for their own responsibilities, and to American personnel in the field. Too frequently these studies are not well coordinated with other investigations, with on-going programs, or with the overall human resource strategy of the host country.

Assuming that U.S. donor agencies are to follow a strategic, coordinated approach to African education assistance, what might be the principal targets of their concern? By and large, as this brief summary has indicated, U.S. sources are active in the principal critical areas of African educational development. What is most needed now is better understanding of the implications of such action and shift of emphasis to those areas in which assistance is most likely to contribute to rational, long-range progress.

First of all, research and planning should have the highest priority. One of the most significant problems arising from recent educational progress in Africa is the imbalance between levels and categories. The primary schools are turning out more "leavers" than can be constructively employed or absorbed in the secondary system. The secondary schools are deficient with respect to nonuniversity preparation for intermediate-level occupations. Of equal concern is the fact that the rate of educational expansion has led to expenses beyond those originally anticipated. In general, investment in education has run ahead of plans. Furthermore, there are signs of an overinvestment in education as compared to other developing sectors, and this is responsible for mounting recurrent costs. In Nigeria, for example, the total recurrent cost in 1970 will be three times as much as recurrent costs in 1961

and will nearly equal the capital expenditure over the 1961-70 period. In Nigeria's Eastern and Western Regions, 40 percent of recurrent expenditures are now devoted to education. Under Tanzania's five-year plan (1964-69) education will absorb 24 percent of all recurrent costs and about 15 percent of total capital investment. In some African nations, per student costs are roughly equivalent to those of the United States; it should be remembered, however, that whereas in the United States this figure approximates per capita income, in Africa it is at least 30 times more than per capita income.

The imbalances and high costs of African education point to the need for more thorough understanding of the development process, particularly with respect to human resource development. Thus, a focal point for assistance should be the strengthening of research and planning capabilities, including manpower planning.

Responsible individuals in most African countries are aware of the value of manpower planning and state that they relate educational plans to overall development with particular reference to manpower needs. At present, however, it is clear that the manpower planning structure is inadequate to serve national needs in most of the countries studied. With the exception of Nigeria, Tanzania and Kenya, African countries lack current manpower data and an effective administrative machine with which to integrate manpower and educational plans. In Nigeria, a National Manpower Board exists within the National Economic Council and is affiliated with the federal Ministry of Economic Development, but even here working relationships with other agencies of the federal and regional governments are strained, and have certainly not been improved by recent political events. In Tanzania, the Manpower Planning Unit is located within the Directorate for Development Planning, which is affiliated with the office of the President. This link gives the manpower unit an authority in dealing with the Ministry of Education and other agencies enjoyed by manpower planners in no other country. In the other countries surveyed, with the possible exceptions of Kenya and Ethiopia, such machinery will not be provided for some time to come. Although many of these other countries do have national planning offices with coordinating functions, the apparatus is cumbersome and there are no manpower units *per se*.

In short, African countries need to engage in systematic

analysis of their manpower requirements as part of their overall development planning and to relate educational planning to identified manpower needs. In several African countries, the Ford Foundation has already made notable contributions in this area, with the provision of staff for manpower planning agencies. Other U.S. foundations have helped to improve the capabilities of university research centers. It is likely that even more can be accomplished in this regard.

U.S. assistance can be increasingly effective by taking into account the fact that African manpower planning is generally hampered by the shortage of experienced planning personnel, incomplete statistical information, poor liaison with educational and other administrative agencies, and the interjection of political considerations. African countries should be encouraged to strive toward an effective manpower program. This would include the creation, at a high governmental level, of an organizational entity, which would be responsible for the coordination of research, policy formulation, planning and operations in the manpower field, the provision of a staff of well-trained, specialized research personnel, and the establishment of a field organization for managing the labor market, i.e., bringing the man and the job together, adjusting labor supply to short-term demands or to special area requirements, and assuring the effective employment of scarce but essential skills.

The provision of adequate administrative support is the keystone of a complete manpower program. It is in this area that U.S. assistance would be most effective at the present time, inasmuch as there is little likelihood for some time to come that the African nations will have enough trained personnel for all the necessary supportive roles. These roles will include the gathering of information on costs, enrollments, staffing requirements, and the impact of wage and salary structures and employment attitudes.

Programs to raise both the quantity and the quality of African teaching and administrative personnel should be high on the list of priority targets for U.S. assistance in the immediate future. Furthermore, until this objective has been achieved, a second pivotal function of U.S. assistance should be the provision of personnel to fill the breach. Education is a consumer as well as a producer of manpower, and the expansion of the educational system for the purpose of pro-

ducing more qualified individuals requires large inputs of teachers and administrators. When experienced manpower is in short supply, as it is in Africa, authorities must balance these requirements and make hard choices.

As already suggested, African education suffers acutely from a lack of qualified teachers at all levels. Quantitatively, needs are being met at the primary level, but only by accepting poorly trained teachers. Secondary and post-secondary institutions, with but few exceptions, rely heavily upon expatriate personnel. The shortage of teachers, particularly in the sciences, is perhaps the most critical problem facing African educational development.

Teacher education is carried on at a variety of levels throughout Africa, and plans are going forward to restructure and strengthen teacher training institutions. Generally, primary teacher training colleges enroll students directly from the primary grades, or after only a few years of secondary education. Efforts are being made to consolidate and strengthen these colleges and to raise entrance levels. Secondary school teachers are prepared principally in postgraduate diploma institutions. None of these institutions, however, has sufficient well-trained faculty members to operate at the standard for which it was designed. Foreign sources of assistance, including AID, have contributed extensively to improvement of these teacher training programs.

The universities could and should play a more significant role in solving this problem. Almost all of the universities now have faculties of education, which are beginning to enroll more students. A new program at University College, Dar es Salaam—a first degree course with emphasis upon subject matter content as well as pedagogy—might serve as a flexible model for other universities to adapt to their own situations. Tanzania has used its bursary system to enroll in this program one-half of the arts students at Dar, few of whom would otherwise be attracted to teaching, which is not regarded as a promising career—partly because of a salary structure less favorable than that in the civil service. Opportunities in government service will, however, inevitably decrease, and students should be encouraged to enter the teaching profession. In addition to students at home, there are sizable and virtually untapped pools of educated Africans now in the United States and elsewhere abroad. With proper incentive and training programs, many returning graduates

should be attracted to teaching positions in both universities and secondary schools. Reference has already been made to the Rockefeller Foundation-supported scheme of the University of East Africa for this purpose.

Recognizing the positive role that can be played by universities, the Carnegie Corporation has concentrated much of its assistance in support of institutes of education at a number of African universities. These programs strengthen the capacity of the universities to work closely with secondary teachers and administrators in revising curricula, devising new methods of instruction, and introducing other innovations. This kind of program is appropriate for foreign assistance.

The rapid expansion of secondary schools, technical institutes, and universities has resulted in a pressing need for expatriate teaching personnel. In numerous African countries the Peace Corps has provided secondary teachers, but this has largely been a stop-gap, emergency response, which has met an immediate need with considerable success. Other U.S. agencies and foundations have been more concerned with the relationship of staff support to basic institutional development. Both approaches are important, but the latter should be stressed increasingly in the future. In fact, through this multiplier effect a carefully planned increase in the inflow of expatriate teachers should accelerate the process of Africanization which is sought by all of these countries. Increasingly, African leaders are recognizing this situation. The provision of staff for critical teaching, and especially for teacher training positions, from which Africans can be released for advanced training either at home or abroad, will measurably assist the development of indigenous capabilities. Arrangements for recruiting, selecting, and placing U.S. personnel in African educational positions should, therefore, be broadened and strengthened.

As a result of the serious shortage of individuals educationally prepared for leadership, both African and foreign sources have naturally placed initial emphasis upon the development of African universities and upon study by Africans overseas. The need for high-level manpower is still there, but it has been materially lessened and the critical manpower shortage now facing the developing nations in Africa is at the intermediate level. This analysis has suggested some of the principal problems besetting secondary education, both in

structure and in content. Universities still deserve the attention and assistance of foreign sources but the time has now come for a shift in emphasis to the development of a broader secondary education. This will include vocational and technical preparation, areas to which the most creative and imaginative thinking should be applied.

In the development of intermediate-level manpower, more effort should be devoted to the upgrading of employed manpower. Although this is an area to which manpower specialists repeatedly draw attention, relatively little has been accomplished in this regard in Africa. A few of the large employers, principally expatriate agricultural, extractive or commercial firms, have undertaken in-service training for their own people. A few of the technical institutes conduct extension courses for employed personnel. The Ford Foundation and AID have assisted in the development of institutes of public administration for preparatory and in-service training for government personnel. These efforts have shown favorable results and deserve further support.

Foreign assistance programs have contributed in this regard by linking the training of African counterparts with various programs. Ideally, every expatriate filling a position in an African agency or school should have an African counterpart, who, in many instances, would thus have an opportunity to receive formal training for the job, including experience abroad when appropriate. Unfortunately, partly as a result of the real shortage of manpower, African authorities frequently do not make counterparts available, or allow them to drift away to other assignments. This is an area in which foreign sources of assistance can afford to be more strict; indeed, efforts should be made to build some kind of training component into almost all assistance projects.

The record of U.S. assistance to African educational development has been impressive and has been influential in the significant expansion of educational systems all across the African continent. But now that this expansion has been achieved, African education stands at a crossroads; it can either develop according to carefully selected plans to meet the growing national needs, or it can become entangled in false starts and internal contradictions, providing inadequate

preparation to thousands of students and devouring more financial and human resources than these countries can afford at this critical stage of their development.

The role of U.S. donors is significant and will continue to be increasingly influential. If the greatest value is to be extracted from this input, however, more attention should be paid to the overall impact of aid programs, greater selectivity exercised, and every effort made to encourage African authorities to think in terms of long-range effects.

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