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## PROMISE AND PROGRESS

THE PRESIDENT'S REVIEW for 1962 commented on the completion of a half-century of service by The Rockefeller Foundation. During the year 1963 the officers and Trustees undertook a special study of the history of the Foundation program, its present status and its future implications. Although no review of the past is contemplated here, this examination of the first fifty years revealed clear-cut patterns of procedure and accomplishments fully in keeping with the Foundation's stated goal: the well-being of mankind throughout the world. During its earliest years The Rockefeller Foundation, believing ill health to be the major barrier to human well-being, concentrated its work in the field of public health. Considering the prevalence of endemic disease at that time, this was a logical decision. What has been accomplished since has demonstrated that organized long-term efforts can raise health levels throughout the world.

Because basic deficiencies other than ill health affect human welfare, new elements were added to the Foundation's evolving program, first in the field of the social sciences, then the humanities, and later in the sciences related to agriculture. As these successive programs were adopted, they were organized as divisions of the Foundation, each to work within the limits of its field.

In recent years the officers and Trustees have come to the conclusion that today's needs make it desirable, and past experience makes it possible, to emphasize integration among the several program interests of the Foundation. There is now, for example, an increasing association between nutrition and health — the sciences directed to the physical well-being of mankind — and greater emphasis on the application of the principles of economics to both.

A concerted approach is increasingly apparent in each of the problem areas with which the Foundation concerns itself. These continue to be the medical and natural sciences, the humanities and social sciences, and the agricultural sciences. The officers function as professionals and scholars within the total program, expressing individually the fields in which they are trained and in which their experience lies. They work closely with officers in other disciplines in preliminary discussions, planning, and ultimately in carrying out program — procedures calculated to provide maximum accomplishment through the association of effort and competence.

During the past year the Foundation has sought to unite wherever possible and practical some of its programs of long standing. In keeping with former practice it is in the process of disengaging itself from others which have gained the vitality and recognition to become self- supporting. Evidence that Foundation-assisted projects have reached a point at which they can proceed without external support is the best proof of sound judgment in the selection of programs and projects.

Following a careful review of past activities, The Rockefeller Foundation's Board of Trustees met in special session on September 20, 1963, and issued a statement on future program and policy entitled "Plans for the Future." This succinct, sharply focused document describes in five sections the principal areas in which The Rockefeller Foundation expects to develop its program during the foreseeable years ahead. It is not a radical departure from the patterns of the past, but rather the sublimated product of program evolution, set in the contemporary context and projected into the future. The five interrelated areas of concentration are: Toward the conquest of hunger; The population problem; Strengthening emerging centers of learning; Toward equal opportunity for all; Aiding our cultural development. It is to a description of these areas and to the Foundation's objectives in each that this Review is directed.

## I. TOWARD THE CONQUEST OF HUNGER

It has become increasingly clear that, even in 1963, all too many of the world's citizens are denied that most basic element of life, their daily bread. It seems paradoxical that in a world of such tremendous technological accomplishments, one in which space travel has become an actuality, millions upon millions of people are denied a diet adequate to support energy requirements for normal existence.

The fact that there are still millions of human beings in a precarious state of health and well-being is an international tragedy. And it is inevitable that during the years ahead disadvantaged people everywhere will insist on a larger share of the basic necessities of Me and on greater opportunities. The principal responsibility for meeting these demands falls squarely upon the leaders of the nations involved. It is they who have assumed the power and accepted the burdens, and they must make the judgments about what can and will be done to release their people from the fetters of ignorance and lack of opportunity.

Assistance which arises from the understanding and good will of the more fortunate nations and from consortia of nations banded together for good purposes can do much to be helpful in regions shadowed by ill health, hunger, and ignorance. There is not, of course, enough money or manpower to permit the solution of all problems by external agencies. Those who want to help can do so most effectively by generating, in a variety of ways, new efforts and activities which may take root and grow through the national resources of the countries concerned.

Private philanthropy can play only a modest role in the conquest of hunger around the world. Its resources are infinitesimal in comparison to the total need and they must be used with wisdom if they are to be helpful. The Rockefeller Foundation has chosen to assist in this effort through cooperative efforts in the interrelated fields of education and the medical, agricultural, and social sciences. Recognizing that good nutrition is the basis of health and energy, the Foundation attempts to develop knowledge and practices, useful in themselves, which others can apply and extend so that the gap between food production and national requirements may gradually be closed.

Because increasing numbers of qualified scientists are necessary to serve these societies, the Foundation is devoting itself to strengthening education in the social, medical, agricultural, and basic sciences simultaneously. And hand in hand with these efforts it participates in rural health programs so that advanced agricultural technologies wich accompany better health protection to enable people to lead fuller lives. Necessarily, such practical measures must be backed up by research in nutrition, animal health, food processing, and sanitary engineering, to generate a continuing flow of new knowledge which can be readily applied for public benefit. Always the Foundation's cooperative efforts must be adapted to the local culture and environment and must be based on mutual understanding and the desire to work together toward humanitarian goals.

Over the years much has been learned about how to improve the food supplies and diets of rural and urban people, and much has been accomplished. A major problem which still remains is that of assuring that new information, methods, and materials are extended throughout a given country so that they may be put to use promptly and effectively.

The techniques of extension for producer and consumer education are most highly developed in the western world. Information moves rapidly through a variety of channels with the result that there is quick response in the improvement of production and in public demand for new goods and services. In many countries of the world effective extension has not been achieved because of a combination of circumstances: geographic limitations, inadequate transportation systems, insufficient numbers of trained personnel, lack of incentive, low educational levels, and less than full understanding of the advantages which extension may bring.

The Rockefeller Foundation within its own program in the agricultural and health sciences has attempted to encourage the development of extension methods and organizations, but it is clear that vastly greater efforts are needed to ensure over-all progress. It is not difficult to extend new ideas and new methods to educated groups which have sufficient economic resources to take advantage of them. It is far less easy to extend and adapt progressive developments in areas where individual producers do not possess these advantages and do not readily understand or accept innovations. The social, agricultural, and health sciences must come into close union if there is to be ultimate success in solving this problem.

The Foundation hopes to further reinforce, integrate, and internationalize its current pattern of operation in Latin America, Africa, and Asia in the expectation that as new knowledge and materials become available, they can quickly be extended to serve the greatest possible usefulness wherever they can be applied.

Thus from a number of approaches to the solution of the problem of hunger, the Foundation has selected the reinforcement of education, research, and extension activities, together with the training of young scientists through fellowships and scholarships. The Foundation operates in part through its own scientific staff assigned to various areas of the world, and through assistance to scientists, institutions, and organizations which serve the basic needs of their nations.

The Foundation's work in the agricultural sciences began as a single center in Mexico directed toward the improvement in the quantity and quality of the country's basic foods. It expanded to include similar centers, manned by resident staff, in Colombia, Chile, and India. A recent addition to the program is the development of international institutes strategically located and designed to carry on basic and applied research on food problems of major import over a wide region. Two such centers have already been established and others are in prospect.

The International Rice Research Institute is a cooperative venture of the government of the Philippines and the Ford and Rockefeller Foundations. The International Center for Corn and Wheat Improvement at the National School of Agriculture at Chapingo, Mexico, is operated cooperatively by the government of Mexico and The Rockefeller Foundation. Both these institutions are broadly regional in character, are designed to work on problems of international significance, and are organized so as to be able to disseminate advances in scientific agriculture as rapidly as possible wherever they may be most useful.

## II. THE POPULATION PROBLEM

An increasing number of thoughtful persons agree that no greater challenge faces mankind than the stabilization of population. The rate at which new individuals are coming into the world each day is stark evidence that sheer numbers may one day so overburden resources that social progress will grind to a halt.

It is sometimes claimed that current efforts to improve the health, food supplies, and well-being of the world's citizens run counter to the primary need to stabilize population. Morally, however, each individual as the same right as any other to hope for a better life. Though millions must hope without any realistic expectation of fulfillment, the conclusion cannot be escaped that every possible effort must be made to provide adequate diets and health for all people.

But it is equally clear that a steadily continuing increase in the world's population adds an immense burden to the alleviation of distress, to the production of sufficient food supplies, and to the provision of essential services. Heretofore population has been kept in control by such great catastrophes as war, epidemics, famine, and floods.

Modern societies, however, with their humanitarian and ethical values, must make every effort to prevent such cruel disasters. It is therefore necessary for the world to put its collective wisdom to work on ways in which population increases and technological advances can be brought into a reasonable balance so that, little by little, men can begin to hope for a better ratio between numbers and the available goods and services essential to human well-being.

In the last analysis the decision on population stabilization must be made by society. It cannot be imposed by force of law but must come from understanding, individual conviction, and public action. During the years ahead, the Foundation will support varied efforts in the field broadly described as population in the hope that these will make some contribution to understanding of the total problem and that they, along with others, will lead to wise and acceptable solutions which will eventually achieve a stabilization of population. Only then will it be possible for the peoples of the free world to enjoy the benefits of constitutional government and the fruits of modern technology. The Rockefeller Foundation fully recognizes that progress toward population stabilization is not a simple process or one having but a single facet. The factors involved are many and complex, and must be approached from various points of view. This Foundation will assist, first, research relating to human fertility in such fields as the physiology of reproduction, endocrinology, human genetics, the biochemical effects of diet, and others. Second, it will support research in demography and on cultural attitudes. Third, it will support pilot operations and studies in areas where population density poses especially difficult problems and where there is a desire for help. Hopefully, successful pilot operations could be extended and expanded with reasonable rapidity; in order to serve wherever there is need for them.

The study of population and its possible stabilization is not a new venture for The Rockefeller Foundation. Over a period of some forty years grants amounting to more than $7.1 million have been made to organizations in this country and abroad working in this area.

## III. STRENGTHENING EMERGING CENTERS OF LEARNING

For fifty years The Rockefeller Foundation has worked toward the day when adequate educational opportunities will be available to people everywhere. The Foundation's practice has been to take advantage of every opportunity to identify men and women of potential excellence and with leadership qualities and to assist them in their chosen careers. Fellowships, scholarships, and a variety of other training awards have been the principal thrust of this program, with support to research programs, institutions, and operating projects completing

the Foundation assistance pattern.

Today, as new nations appear with a rapidity never before seen in the world's history, millions of people expect to participate in the march of progress. Unfortunately, many new and underdeveloped nations have not been able thus far to bring their educational systems to a satisfactory level.

One way in which educational opportunities are offered to outstanding individuals from less developed nations is through vast numbers of scholarships, fellowships, and study grants for training abroad.

This has been a major force in the progress of many nations, and each owes a great debt to those agencies which have enabled members of their communities to take advantage of educational opportunities in other countries.

It is obviously impossible and undesirable for any one nation to satisfy the educational needs of another. Foreign universities cannot and should not have the responsibility for mass education which is always that of the sovereign nation. Believing this, The Rockefeller Foundation has sought to reinforce the educational pattern of developing nations largely through assistance to indigenous institutions of higher education.

Currently and during the foreseeable future, the Foundation expects to work with a number of foreign institutions, each of which shows a potential for great service to the nation and to the region in which it is situated. Such strong institutions of higher learning stand for progress. They are the wellsprings of knowledge and the source of increasing numbers of well-trained young men and women who may take on important public and private responsibilities. They can act as stabilizing influences in government and politics and they contribute to the tone of society and to the development of their cultures.

As new nations come into being, and as older ones show increasing desire to improve their educational resources, the Foundation can be of assistance in at least a few instances where there would appear to be both need and opportunity. This process is already well under way and some very satisfying cooperative relationships have been established in Latin America, in Asia, and in Africa.

The Foundation collaborates with these emerging institutions of higher learning by contributing highly qualified personnel for such periods of time as may be necessary to organize and develop university departments and to train people who eventually can assume full responsibility for their operation. Foundation staff members are working in intimate association with their colleagues in these institutions toward mutually established goals in the national interest. In addition, fellowships are granted to improve the training and experience of young faculty members, and assistance in the form of equipment and other items essential to developing programs can be made available.

To illustrate the work of the Foundation in strengthening centers of learning overseas, four typical examples might be cited.

The University of Valle has received Foundation support for more than a decade and already is internationally important in several areas of the field of medicine. Even more significant for its influence on Latin American university evolution is the fact that other colleges within the university are keeping pace and there is growing interest in supporting them among several international agencies. In 1963 the Foundation's assistance was given at levels as varied as studies of the business and financial aspects of the university's administration, the provision of basic teaching materials, support of visiting appointments and of travel and study abroad by faculty members, grants toward salaries and operating expenses, and for the construction of a new building to house the humanities and linguistics departments.

The University of East Africa consists of constituent colleges in Kenya, Uganda, and Tanganyika. It is a creative experiment in educational federation among three states in varying stages of development.

Among the larger items of support in 1963 were grants to set up a program for research and training in economic development, and for an intensification of the work of the Faculty of Agriculture. Substantial assistance has also been provided in support of medical education and the development of a faculty of veterinary science within the university, The three countries in which constituent colleges are located have been increasing their support of higher education, and other international agencies have become interested in assisting with one or more phases of the total educational program.

The University of Ibadan, Nigeria, presents a special opportunity for a variety of sound and reasonably rapid educational developments on a broad front.

The University of the Philippines is a firmly established institution which occupies a strategic position for playing a leading role in educational development in Southeast Asia. Substantial Foundation grants were made during the year to support faculty research in the Departments of English and Comparative Literature, History, Political Science, and Sociology, and for the development of framing and research programs in economics and agriculture. The International Bice Research Institute, operated by the Foundation, and the university's College of Agriculture are further developing and strengthening their mutually beneficial relationship.

During 1963, Foundation officers continued to visit and to recommend experimental grants to several other universities which some day may be brought into the development program. Although funds for this program are necessarily limited, there is growing evidence that Foundation assistance has permitted accomplishments which have attracted other agencies prepared to invest in projects of demonstrated merit and great potential.

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## IV. Towards Equal Oportunity for all

The Rockefeller Foundation and several of its sister boards, principally the General Education Board, have long been concerned with the inequality of opportunities and advantages which exists for various citizen groups in this country. Although this undesirable situation applies to more than a single group, the Negro has been most affected.

Americans like to think of this nation as a democracy with equal opportunities for all; we point with pride to the success which has been achieved by many individuals from minority groups. The position of the Negro, however, is not and has never been the same as that of others. Tradition and individual attitudes have prevented parallel development with the result that social progress in this nation has been intolerably slow for those who believe in total human justice.

The Rockefeller Foundation, the General Education Board, and the Laura Spelman Rockefeller Memorial together have invested over the years more than $66 million in the cause of Negro education. Under a recent resolution by its Board of Trustees the Foundation is now making this area one of its major program sectors.

The tremendous problems involved in providing equality are by no means centered in education for the Negro. It is essential that many forces work in concert to bring about as rapidly as possible those changes which will enable the Negro and other disadvantaged citizens to develop their full potential: have full civil rights, equal educational opportunities, and the chance to utilize their abilities.

Because so much of its long experience lies in education, the Foundation, as only one small unit in this endeavor, has chosen to help stimulate greater educational opportunities for the disadvantaged citizens of this country. A major concern will be with efforts to aid the Negro community, with considerable — but by no means total — emphasis on higher education.

The Foundation will continue to seek to be of assistance to selected institutions of higher education whose student bodies are predominantly Negro, At the same time, it would expect to encourage and support efforts to broaden the pattern of Negro education in other institutions throughout the nation. Negro students have difficulty in qualifying for university education in numbers which are proportional to the Negro population, not from inherent lack of ability but from lack of opportunity for adequate preparation. In a great many instances in which Negro students do qualify for college entrance they are beset by economic difficulties which discourage the desire to pursue advanced training, particularly because eventual employment opportunities may be restricted because of race. The Foundation stands ready to work with others toward improvement in these problem areas.

A strong start was made this year, with several major appropriations exemplifying the Foundation's objectives, A substantial contribution to the United Negro College Fund will help strengthen faculty and plant of 32 predominantly Negro member colleges; an additional sum is available to the officers for allocation to member colleges over the next three years.

To explore ways in which outstanding colleges can work with secondary schools to find and prepare disadvantaged students for higher education, the Foundation made grants to Princeton University, Oberlin College, and Dartmouth College to conduct on-campus summer sessions over a three-year period to provide intensive instruction for groups of promising students, both Negro and white, from secondary schools within their region.

Duke, Emory, Tulane, and Vanderbilt are among the outstanding private universities in the South that have established a new policy within the last year or two to admit students to all parts of the university without restrictions as to race or color. These universities are distressed, however, by the fact that even among Negro students who can qualify for admission very few can qualify for scholarship aid on equal terms with other needy students. To assist qualified undergraduates at Duke, Emory, Tulane, and Vanderbilt universities for whom these institutions cannot provide aid, the Foundation has appropriated funds to be available over a six-year period.

Finally, to encourage a larger number of Negroes and other students in southern colleges to seek graduate training, the Foundation made a grant to the Woodrow Wilson National Fellowship Foundation to enable Fellows to teach for a year at some forty southern colleges,

most of them predominantly Negro, with an especial emphasis on identifying and preparing promising students to qualify for graduate training at major institutions.

These grants are illustrative of the complexities surrounding higher education for the Negro, which itself is only one of many parallel efforts needed to achieve for the Negro a more fitting place in United States society, Toward that still distant day when disadvantaged young people are represented in colleges and graduate schools in proportion to their numbers, it is necessary today to help provide them with a better secondary education, to identify promising students, to mount intensive programs to qualify them for college admission, to provide financial and tutoring assistance to many who are admitted to college, and lo give additional aid to the hopefully increasing number who can be expected to qualify for graduate training.

The Foundation will seek to develop leadership through education wherever possible in the hope that the day will come before too long when all Americans have equal opportunity and none is remarkable because of differences in race, creed, or color.

## V.Aiding our cultural development

Since 1929, when the social sciences and the humanities became a part of lie Rockefeller Foundation program, noteworthy accomplishments have been recorded. Currently it appears to the officers and the Trustees that even greater opportunities exist for the Foundation to help stimulate opportunities for individual citizens to develop their own taste and their own expression for deeper enjoyment of the life around them.

Until relatively recently, it was necessary for most citizens to work for long hours each day throughout the year to gain a living. Little time remained for activities other than those necessary for supporting families. Cultural opportunities were largely created and enjoyed by

those few who had sufficient accumulation of wealth to provide themselves with leisure time.

With the advance of American technology the pattern of life has changed- dramatically. Essentially all segments of society now find themselves with substantially increased amounts of leisure. At the same time much of the drudgery of manual labor which once required so much energy from the individual has been largely eliminated by the use of modern tools.

Today the American citizen seeks expression for the additional time which he can call his own, time during which he can devote himself to pursuits of interest to him. Although these may be various they depend to some degree on what is available.

The Foundation believes that very much greater numbers would take a rewarding interest in literature, music, and the creative and performing arts if opportunities for their enjoyment were more readily accessible. Such interests are not only desirable, but necessary if people are to make the most of the leisure opportunities afforded by modern society.

The Foundation for its part is considering involvement not in commercial forms of entertainment, but rather in helping cultural activities take root more deeply in the communities of the nation. Its intention is to attract larger numbers of people to these interests either as a

career or as leisure avocation. For the Foundation the means toward these objectives is support for departments of humanities and performing arts in American colleges and universities. These are in their way disadvantaged areas of the university community since they find support hard to come by. Throughout the nation people of dedication and competence are developing, against odds, the musical and dramatic arts for the benefit of those who participate in and those who enjoy them.

Two grants made during the year 1963 illustrate the Foundation's efforts to help raise the standards of excellence in the theatre. The awards reflect the Foundation's belief that both professional groups and universities can stimulate growth and change in die drama. A grant was made to the Actors Studio in New York to develop new plays in the hope of eventually introducing more experimental works of merit into the general theatrical repertoire. Under this plan a script is selected for final polishing by the Playwrights Unit of the studio, which then engages a director and cast to work with the author in a period of intensive rehearsal and revision. The aim is to bring each script to a point where it is fully ready for production, by seeming the uninterrupted collaboration of the playwright and the performing team over a period of several weeks. The need of such a plan exists because commercial theatrical management is seldom able or willing to put this pre-production investment into an unproven, experimental play.

The fruitful cooperation of universities and outstanding professional theatre groups is being encouraged, in the hope that these joint efforts may have creative significance for the drama as a whole in the United States, A grant to the University of Minnesota will assist the university, which has established close working relationships with the new Tyrone Guthrie Theatre, in establishing a program for playwrights and other professionals under which they are offered the same freedom, intellectual stimulus, opportunities to work out problems, and other conditions for effective work in a professional environment, which universities have so fully provided for scientists and other scholars.

In the field of music, the Foundation supports a new program within the University of Southern California which during the years to come may have a far-reaching influence on the climate in which music is performed. Perceptive music criticism can contribute to a wider acceptance for established modern composers and assure a welcome for new music forms. The demand by newspapers and other general media for music critics is strong, yet there are not more than one hundred full-time critics in the United States.

The School of Music at the University of Southern California, after successful experimentation, has developed a plan under which five to eight carefully chosen young men will be enrolled for one year in a program that not only emphasizes intensive and broad preparation in musicology and critical writing, but also calls for up to one year's apprenticeship with a major music critic in an urban area to gain practical experience. The proposal has received strong support from leading musicians and critics who see in it a chance to help overcome the present dearth of music critics and to raise the standards of criticism.

The Foundation has watched with attention the development of community cultural centers throughout the United States as effective instruments for stimulating the performing arts. It cannot participate in local ventures, but its hope that such centers will have important role in aiding America's cultural development was expressed by substantial grants to two institutions with national and international implications: the Lincoln Center for the Performing Arts in New York City nd the building program of the National Cultural Center, now known as the John E Kennedy Center for the Performing Arts, in Washington,D.C.

The Foundation proposes to find other opportunities to support thoughtful efforts to utilize the cultural dimensions of the American college and university to enrich the life of the community in which they exist. Many colleges and universities have perhaps given too little attention to their potential for the development and enrichment of community life. A great deal remains to be done in this wide area and the Foundation intends to be helpful where promising opportunities exist.

The Foundation does not exclude from its program the continued support of creative activities in universities in emerging nations with rich cultural backgrounds which would be of interest to other nations throughout the world.

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## People for Progress

TRAINED MANPOWER is the key to accomplishment. In the more industrialized nations the need for educated and trained manpower grows apace; in less developed areas the lack of trained men and women is the bottleneck which blocks satisfactory progress toward national goals.

Over the years The Rockefeller Foundation has woven education and training into all aspects of its effort to advance human welfare.

This fundamental principle holds for every sector of Foundation program; in practice it is applied through a wide variety of techniques. It is to certain of these techniques and the problems to which they are being applied that the discussions in the following sections of this

review are directed.

Viewed from one perspective, the simplest and most direct way to increase the supply of trained manpower is to award scholarships and fellowships to promising individuals for advanced study calculated to contribute most to their professional maturation. The Rockefeller Foundation's program has already given study opportunities to a relatively large number of people at home and abroad, a heartening proportion of whom are contributing professional competence in fields of critical need for their nations.

The Foundation's experience has shown that even an apparently simple fellowship plan is in reality can exceedingly complex process.

The complexity begins to appear as soon as training is related to goals. For example, if the goal is to help an advancing nation grow more food or improve the level of public health, then a very large number of individuals will have to be trained in a wide variety of skills and professions. To assume that competence on this scale can be achieved merely through the awarding of fellowships for study abroad is unrealistic.

What is needed is a more sophisticated training program in which strategic use of the fellowship process is only one of the vital elements. Joined with it must be the establishment or reinforcement of local institutions of education and research and the strengthening of national agencies with responsibility for putting new methods and materials into actual use.

In seeking to reach its newly denned objectives, the Foundation is putting greater emphasis on strengthening institutions in the less developed regions where they are so sorely needed. While the award of individual fellowships is continued as an essential tool in the building process, a variety of other procedures which have proved effective in previous experience are also being used. Grants of funds to an institution often represent the simplest and most effective way to help. Sometimes cooperative direct-action projects with participation by Foundation staff members fit best where the need is for demonstrations of what can be done. Very frequently progress can be encouraged by supplying highly trained and broadly experienced professional staff on a temporary basis for specific tasks. It is the Foundation's hope that it can fashion flexible programs to achieve broad goals under a variety of particular conditions. Current activities in this direction are illustrated in the following pages.

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## Trained Manpower for Health Services

Among the social services required for a modern civilization, medicine in the broad sense of curative and preventive services ranks high in priority in any population. But the development of the fully trained professional, whether physician, nurse, midwife, sanitary engineer, or skilled laboratory expert, takes a great deal of time and a great deal of money. Their tools of the trade — hospitals, health centers, laboratories, sanitary installations, drugs, and diagnostic equipment — are expensive and essential if medical and public health services are to be provided at a level commensurate with modem twentieth century practices. Few, if any, of the developing nations can afford the full complement of professional medical personnel who man the medical services of the developed nations. With limited resources of professional health workers and limited funds to support their services, the developing nations must turn to alternative solutions that will provide a maximum of health services for a minimal expenditure of fully trained personnel and funds. The magnitude of the problem can best be described by reviewing the doctor-to-population ratio in the ga nations for which adequate data are available. In the well-developed nations a ratio of at least one physician to 1,200 people is thought to be essential for coverage of the curative and community health services. And yet only 30, or less than one-third of the nations have been able to achieve this level of medical manpower, The World Health Organization has set a goal of one physician to 10,000 people for Africa — to he achieved within the next decade. Only a handful of African or Asian states have a chance of

producing physicians in numbers large enough to establish this ratio in so brief a time.

Unhappily, reliable data on the number of fully qualified nurses, midwives, sanitarians, sanitary engineers, and laboratory technicians are not readily available. These professionals are as essential to an effective health service as their colleagues the doctors and must be provided in numbers substantially greater if the health team is to function with any degree of proficiency. Even in the advanced countries these essential elements of the health services are in short supply, and in every underdeveloped country the shortage is desperate. It is clear that the developed Western nations cannot supply their neighbors with sufficient professional personnel to meet the day to day needs for these medical services. The advanced countries can and are assisting by supplying teachers for medical schools and other professional faculties and by offering opportunities for training in their own university centers. The United Nations specialized agencies and other technical assistance programs furnish technical help for the organization of specialized programs. But the bulk of the burden must be borne largely by a slim cadre of indigenous professional medical personnel.

They cannot begin to meet their responsibilities without a well-organized system of medical auxiliaries to supplement and extend their efforts to the entire citizenry.

The auxiliary, in whatever field of medical service, must have sufficient education to grasp the technical essentials of his task and to work if necessary as an independent responsible person with only occasional contact with his fully trained colleagues. In countries with developing social and economic services, other opportunities for individuals with this background are legion and often have the added attraction of service in major urban centers. Competition is keen for the educated person who for one reason or another cannot go on to full professional work in a university. Consequently, service as an auxiliary medical technician must offer a reasonably good salary, an opportunity to advance in the medical services or to additional education, and sufficient creature comforts in rural settings to make life attractive for him and his family. A great deal of study and research is needed to overcome these obstacles and to provide a streamlined efficient medical service.

On the other side of the coin is the fact that the fully trained physician and nurse are educated in a system and reared in a tradition that takes little account of these basic issues. They are, by and large, geared to the theory that certain procedures are sacrosanct and can be performed only by the elite. It is unlikely that this pattern will change appreciably until competent research, based on universities or advanced centers of public health practice, demonstrates clearly that many of the duties of the professional can be delegated to subprofessional personnel

with safety and increased efficiency of the health team.

The Rockefeller Foundation over the past fifty years has had an unusual opportunity for contact with these problems. From 1913 through 1950 the staff of the International Health Division carried on programs to establish public health services by training officers of many nations in the art of applying public health techniques and in research in methodology. Extensive studies were made in several countries of the use of ancillary personnel in rural villages based on public health services of the government. Progress was made in establishing patterns of local health services that were effective up to a point, but the projects lacked certain features to assure continued growth and success.

Since these programs were based solely on government public health agencies, there was no opportunity for contact with centers of medical education where the initial indoctrination in community medicine and opportunities for research could be provided. The conclusion that better programs could be achieved only if they were associated with sound centers of medical education was inescapable.

The Foundation turned to the problem of institutional development in the field of the medical sciences in the igso's. A program of concentration on a few selected centers in Latin America, Africa, and Asia has evolved during recent years that stresses sound scientific education combined with emphasis on the physician's responsibility for community health as well as individual medical care. As these centers mature, field training and research centers become a reality in which the clinical sections of the medical center work cooperatively with their colleagues associated with community health services through the department of preventive medicine, The goal is to define curative and public health problems and to demonstrate that these services can be operated at a high level of professional activity with a minimum expenditure of professional personnel and money.

Foundation officers are aware of the fact that no single pattern will be applicable to the conditions of each continent, or for that matter to adjoining countries on a single continent, Nonetheless there appear to be basic principles that will be applicable to research and pilot training schemes in this important area of technical development.

Any attempt to train professional or subprofessional personnel to cope with health problems is dependent upon a careful assessment of the flow of disease and of demographic factors in the area that will condition the order of priority in which the health team will attack these problems. Such data are frequently lacking in the developing countries.

A first step, therefore, in establishing a center for research in medical services anywhere must be an intensive and continuing epidemiological study of the community.

All the information gathered from these basic studies can be channeled back to the students in professional schools. But one cannot transmit in the classroom and on the hospital ward the knowledge of how to manage the problems encountered in the day to day work of the community health team. If we accept the tenet that modern student physicians gain competence through working with patients, then we must also accept the premise that a professional in the field of community health will best learn the practice of community medicine by serving a clerkship in a training center designed to give him responsibility and to teach him to use the talents of his subprofessional teammates. This must be done in the formative period of professional training if one is to break the tiresome tradition that all medicine, all nursing, all medical services follow the curative pattern of the hospital wards where the major training is obtained. Since most physicians in developing countries must deal in one form or another with community health services, it follows that they must be trained to lead the team. The Foundation has approached the problem from several angles, depending on the local culture and its apparent opportunities and needs.

In Latin America the supply of physicians is by and large reasonably adequate and the output from current and new schools is sufficient to establish a cadre of doctors for medical care and health services. On the other hand nursing personnel, sanitary workers, and technicians are in

very short supply and are likely to remain so for some time to come. One possible solution for providing rural medical services is to place responsibility for segments of rural care on the medical schools.

The Foundation's approach in Africa is somewhat different from that in Latin America. The number of indigenous physicians and auxiliary personnel is very small indeed, and even with expatriate help the health services must be manned with a skeleton staff for many years to come. Most of the1 African countries have based their health services on district hospitals staffed by a few qualified physicians who have the dual role of caring for a heavy load of ward patients and outpatients and supervising curative and community health services provided through satellite dispensaries in outlying rural areas.

At one level or another, schools have been developed to train assist ant personnel to serve as medical assistants, nursing assistants, and so on, who work both in the hospital and in the rural dispensary or health center. The doctors who supervise their efforts come to the task without

basic preparation for administering these services, and many years are required to supplement their trained preoccupation with hospital care by a concern for community and preventive problems.

Recently established indigenous medical schools of the highest academic standards have continued to emphasize the traditional patient-oriented training with little or no instruction in public health or training in the management of large health services. The task in Africa, there-

fore, is one of maintaining the very high level of clinical training while inserting into a crowded curriculum sound field training in the methods of running a dispersed health service largely staffed with subprofessional personnel.

The Foundation has attempted to assist in this difficult task by providing staff and economic assistance to centers based on the medical faculties of the University of Ibadan, Nigeria, and the University of East Africa. Established government centers near the schools have been expanded to provide housing for students and teaching staff. The basic government facility must also be expanded to provide adequate though limited laboratory quarters for student training and research.

In these programs the basic clinical departments will work in a joint program with the faculties of preventive medicine in teaching the students while they undertake responsibilities for running the various sectors of the rural program and participate in basic epidemiological studies. In this fashion students of clinical medicine will receive orientation and guided experience in the complex problems of a team approach to community care and environmental sanitation.

While serving this basic purpose, the centers can assume the additional role of determining standards for training subprofessional personnel which in most countries of Africa need substantial improvement.

By experimenting with various levels of ancillary personnel it should be possible to establish guidelines for government training centers and to provide opportunities for students in these centers to work hand in hand with then: future colleagues of the full professional level. In India the opportunity for such programs is hi some ways unique.

The Indian government determined some years ago to establish the All India Institute of Medical Sciences in New Delhi as a central institution for preparing academic personnel for the burgeoning network of medical schools. Here was an ideal opportunity to orient future teachers of medicine in the principles of community medicine while giving sound preparation to the select undergraduate student body, many of whom will follow the footsteps of their teachers into academic work.

(…)

The Foundation hopes that these programs will serve as models for future development of research and training in community medicine and endemic disease in many schools in these areas. The full evolution of the projects will take several years, and in the meantime many countries are going to demand help in establishing new schools to train professional and subprofessional personnel for their expanding health services. Until these countries reach their full economic potential and are producing their own teachers for these schools, the developed

nations will have to meet, as well as they can, the needs for teachers and for funds to establish new centers, Teachers of science, medicine, nursing, and environmental engineering are in short supply in the Western nations and will become increasingly so as the West expands its own professional schools to meet the increasing demand for health services. Western countries are already providing major financial support to the developing countries and additional funds must be used sparingly to assure the orderly development of the world without impairing the economic base of the advanced nations.

All countries, large and small, developed and developing, use auxiliary subprofessional personnel to augment their health services. In Europe and the United States, and also in Latin America, auxiliaries have been used by and large to supplement nursing and technical personnel. In the newer nations it has been necessary to use subprofessional personnel for every branch of the health services including curative medicine.

Schemes for training and utilizing such technicians have taken various forms. In some countries they are geared to short-term courses to train individuals with a restricted background of education to carry out set procedures in hospital or in outlying dispensaries. In others the training programs have been more sophisticated, providing several years of instruction designed to produce individuals who can assume substantial responsibility for every aspect of the health services.

In any case, each program is based on the assumption that auxiliary staff will function under the supervision of professional staff. In the actual operation of health services manned by a handful of doctors, nurses, and sanitarians, supervision is necessarily scant in most of these countries. Since this pattern of care will have to continue for many years, there will be an increasing need to set uniform standards for training and using such individuals in systems that are realistic and economical, Definitive information on the functions and effectiveness of subprofessional personnel is scarce and must be augmented and correlated with plans for training full professionals.

Proper utilization of subprofessional personnel will not occur until their professional colleagues are convinced by reliable data that they can operate safely at a high level of responsibility. Fortunately, there are examples that can serve as a basis for comparative studies. The Rockefeller Foundation believes that it should undertake to study these problems and to provide guidelines for the advanced nations in their efforts to assist the development of health- services in all the countries that need them.

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## Education and the Conquest of Hunger

Paradoxically, to feed hungry people remains the principal challenge to society today as it has been for centuries, and this despite the progress in science and technology made over the past hundred years.

This challenge is not being met effectively now, nor is a successful answer just around a nearby corner, In the race between increasing numbers of people and the production of food, nutrition is falling behind numbers.

Ultimate success in satisfying human need can come only with the re-establishment of a balance between population on the one hand and resources and their utilization on the other. The prospect hardly seems bright: there are nearly 3.5 billion people in the world today, and the number increases by a million every week. The struggle for the conquest of hunger grows sterner with each new mouth to be fed.

The primitive-agricultural systems on which most of the world depends cannot increase yields to match demands, and present yields, vulnerable to the traditional hazards of drought, pests, and diseases, are not reliable. No single or simple procedure can guard against these uncertainties nor increase total harvests; improved agricultural technologies must be applied in informed and intelligent combinations.

In the combination must be seed of higher yielding, disease-resistant varieties, better planting and cultivation practices, optimum use of fertilizer, timely application of safe and effective pesticides, rational water management, more efficient tools and implements, better methods of

harvesting, storage, and shipping — all of which must be of tested and demonstrated effectiveness in the particular environments where they are to be used.

The role of education in modernizing the world's agriculture is obvious. Only educated people can operate the sophisticated systems that characterize agriculture in the more advanced countries. Farmers must understand what they are doing and be open-minded in listening to suggestions for changes. They must be assisted by an organized corps of professional specialists ranging in abilities from mechanics and technicians to scientists capable of devising better materials and practices. To function effectively the specialists must have behind them organized structures of governmental and private agencies and institutions dedicated to increasing and disseminating knowledge and to educating the oncoming generation, In the United States it took nearly a hundred years to accumulate the knowledge, train the people, and

build the organizations upon which agricultural prosperity rests.

Mexico and a few other countries have moved an astonishing distance toward this goal during the past twenty years, The momentum of events puts even greater pressure on time in many other countries where failure to improve nutrition and health promptly would be disastrous.

In its agricultural sciences program The Rockefeller Foundation has sought to contribute to general education and to agricultural education in particular in a number of different ways. Its earliest effort was to give individuals of promise, who had completed their undergraduate training, practical experience in scientific agriculture under the direction of Foundation staff members. Begun in Mexico in 1943, this method has become the cornerstone of the other cooperative projects established in Colombia and Chile in Latin America, and in India.

To supplement this training experience, formal scholarships and fellowships are awarded to selected young men and women for advanced study, usually in foreign universities and usually for work leading to graduate degrees. Some 1,300 such study awards have been made, and in practically every instance the recipients have returned to their own countries to work professionally in agriculture and allied fields.

In 1963 funds for the support of the Foundation's scholarships and fellowships in agriculture were increased by 50 per cent to a level of $1.5 million. During the year a total of 318 students from 27 countries were supported by the Foundation for advanced study at 46 institutions in the United States and other countries.

The other types of aid are directed to the institutions that serve agriculture in its practical aspects, such as official ministries and departments of agriculture responsible for research and its dissemination, and in its educational aspects, such as colleges of agriculture and other research and training organizations. In all the countries where The Rockefeller Foundation has cooperative agricultural units, an ultimate objective is the strengthening of institutions and research centers as permanent bases for continuing progress in the advancement of agricultural science and education. As they develop, these institutions serve not only the continuing needs for research, education, and extension in the host country but also furnish patterns of organization that may be utilized in other advancing countries with similar physical, economic, and social characteristics.

The Foundation has recently cooperated in establishing two institutes for agricultural research and training, which because they have certain features not usually associated with this term may prove to be of value in setting patterns for similar ventures elsewhere. One is devoted to the improvement of corn and wheat on an international basis and is located in Mexico; the other concentrates on rice and is in the Philippines. Each is situated on or adjacent to the campus of a college of agriculture that offers high-quality graduate work, and through this association can combine research training with course work leading to advanced degrees; both attract students from other countries where the crops concerned are important; and both conduct international crop improvement research projects.

The International Center for Corn and Wheat Improvement is to be located at Chapingo, the seat of the National School of Agriculture and of its Graduate School. An outgrowth of the cooperative agricultural program that has been conducted in Mexico for over two decades the new center will accelerate progress in the improvement of these two basic crops in other countries also as Mexico joins in this new international cooperative effort. The Foundation has appropriated $1 million for the costs of operation of the institute over the next four years.

The International Rice Research Institute, which began operation in early 1962, is now fully staffed and has under way a comprehensive and integrated program of basic and applied research on all aspects of rice production. The institute, located 40 miles south of Manila on a

site adjacent to the College of Agriculture of the University of the Philippines, has now completed its buildings and possesses one of the best equipped and most modern facilities to be found in Asia. The senior scientists on the institute's staff are members of the university's Affiliated Graduate Faculty and serve on advisory committees for institute trainees, many of whom are registered in the graduate school of the College of Agriculture. Funds for the construction of the institute's buildings and for some of its international activities were supplied by The Ford Foundation; costs of operation are borne by The Rockefeller Foundation.

As part of its university development program, the Foundation is furnishing support to undergraduate and graduate faculties of agriculture in the Philippines, Thailand, Nigeria, and East Africa. These ventures, only recently initiated, will come into measurable productivity in the next few years.

Research and Training in Latin America

These recent developments in the Foundation's agricultural program have evolved out of an, experience of twenty years in which, as already noted, research directed to the improvement of food crops has been intimately associated with the training of young people. This pattern is based on the assumption that experimentation is most meaningful when the participants can see clearly the importance to their own countries of the results they are obtaining. Their interest is likely to be more consistent when they can also have assurance that agricultural research and its corollary fields offer rewarding career opportunities on a long-term basis.

Several types of results have flowed from the linking of research to training in the Foundation's cooperative programs. For one, the corps of competent, well-trained professional agricultural scientists in the host countries has steadily increased in size. In the earlier years of the program, Foundation staff members personally led the research projects. In kter years, as local nationals acquired skill and experience, the direct administration of the projects could be turned over to them.

Foundation staff could then assume advisory roles or be freed for assignment to other areas. The take-over process is most advanced in Mexico, and is steadily gaining in Colombia, Chile, and India.

For another, accumulated research results, translated into terms which farmers could understand, have had measurable impact on the yields of the basic food crops in the countries concerned. Larger harvests are a powerful argument for increased popular and governmental

support of research agencies.

The increased resource of trained manpower in all the important agricultural specialties has also made possible an evolutionary progress in the structure and functioning of the agencies concerned with agricultural advancement. Previous reports have chronicled the growth and success of the cooperative research and training unit that began in Mexico in 1943, and the increase in manpower which made possible the creation of the National Institute of Agricultural Research of the Ministry of Agriculture. In the institute are merged all the plant research activities of the ministry; its unified administrative structure is completely under Mexican leadership. In 1963 a new advance was made in the decision to proceed with the construction of additional buildings so that the research institute, the federal extension service, and the International Center for Corn and Wheat Improvement could be located' together on the campus of the National School of Agriculture at Chapingo. Both the graduate and the undergraduate divisions of the school will also benefit from the construction through the inclusion of a new library, a commons hall, dormitories, and faculty and staff housing. The plans for the construction have been approved by the Mexican government and ground will be broken early in 1964.

In Colombia, where cooperative research and training began in 1950, various agricultural activities have been consolidated into a new entity, the Agricultural Institute of Colombia, administered and staffed by professionally trained Colombians. An important feature of the new organization will be the building and administration of an agricultural center at Tibaitata, the national experiment station near Bogota. Here it will be possible to give combined attention in a single location to graduate education, extension training, and research on food plants and livestock. The institute was authorized by Colombian law in 1963 and a director and other principal officers have been selected. The research unit in the Ministry of Agriculture with which the Foundation cooperates has been transferred to the institute. Funds for financing the Tibaitatd center have been furnished by the Colombian Development Corporation,

In Chile the Minister of Agriculture recently requested that the Foundation assist in the formation of a special review team to study the organization and functions of an agricultural institute to provide leadership in agricultural research and extension on a national basis.

The team completed its investigation in early 1963 and its report is serving as a basic guide for the development of a center or institute which is expected to materialize in 1964. The Foundation's cooperative unit in Chile, which started work in 1955, has concentrated on the improvement of wheat —with results already mentioned — and on studies of pasture grasses and legumes as a basis for improvement in livestock production. A good deal of attention has also been given to building up the physical facilities essential for agricultural research, and excellent experiment stations now serve the central and southern regions which are the country's major agricultural reliance. The training aspects of the research projects are conducted largely in cooperation with Chile's four agricultural colleges. At the experiment stations, and often under the supervision of program staff members, some forty to fifty students each year plant and analyze the experiments upon which their graduation theses are based.

Agricultural Education and Research in India

Until 1956 The Rockefeller Foundation's cooperative programs in agriculture, in which its staff members participate directly, were all located in Latin America. In that year the government of India invited the Foundation to establish a joint program in that country which would have two major objectives: to help increase the number of agricultural specialists trained in modem research and crop improvement methods, and to increase the production of two important cereals — maize and sorghum — through practical demonstrations of crop improvement methods in action.

Indian educators and scientists had realized almost from the time of independence in 1947 that the existing research and educational structures were not proving effective in increasing agricultural production. Research was-not directed toward the solution of practical problems that inhibit yields; it was conducted by uncoordinated national and central agencies specialized on various commodities.

Colleges of agriculture functioned primarily to train men for government positions; they usually had no responsibility for research and neither taught nor engaged in extension. The courses they offered, because of their affiliation with universities, were prescribed by administrators who had little appreciation of the specific needs of agriculture.

After several studies by groups of eminent educators and agricultural experts, the government of India decided to foster the establishment of a new type of agricultural university to be sponsored by state governments.

In the meantime, under the 1956 agreement with the government, The Rockefeller Foundation undertook to assist the development of a Post Graduate School at the Indian Agricultural Research Institute, New Delhi. It was the hope that this graduate school could supply a significant portion of the teachers, research leaders, and extension specialists needed to staff the new agricultural universities and the government agencies concerned with agricultural improvement.

The formulation and installation of the new graduate curriculum proceeded with careful deliberation. Suggestions for changes in the teaching program were thoroughly reviewed and considered by the Indian professors and were activated only after agreement by the Faculty Council. When the graduate school was authorized as an autonomous degree-granting institution by the proper accrediting authorities, the new curriculum, embodying many of the features of graduate level education in land-grant universities in the United States, went into effect in October, 1958. Its success in the intervening years has been mentioned previously. Substantial progress has been made in setting up several of the planned state agricultural universities, and legislation for the establishment of a number of others is well advanced.

The agricultural university program is receiving enthusiastic endorsement from leaders in the central and state governments as an essential element in meeting the critical problem of skilled manpower — "educated manpower willing to work on the land with the farmer and dedicated to the service of the farmer."

The government of India hopes to have an agricultural university in each state by the end of the Fourth Five-Year Plan, in 1971.

(…)

A special effort has been made by the Foundation to use the crop improvement research projects as a means both of helping to establish a pattern of effective cooperation between the agricultural agencies of the central and state governments, and of linking practical field work

with students' classroom and laboratory experience, As previously indicated, a specific effort was made to locate the regional research centers at state institutions that have responsibility for research and education and with which extension programs may eventually be associated.

(…)

The success of the crop improvement projects has prompted the government of India to investigate whether similar patterns might not be advantageously applied in other agricultural problem areas. At the request of the government, the Foundation supplied funds for a review team which studied the further improvement of research, education, and extension, giving special attention to ways of integrating work in the three areas and to the coordination between the states and the central government in research. The team completed an initial review in December, 1963, and its recommendations are under study by the appropriate authorities.

In the foregoing discussion the focus has been on the Foundation's belief in the critical significance of the educational and training process for the eventual conquest of hunger, and on the various methods found useful in implementing this belief. The accomplishments described result to a major degree from the abilities and energies of the young men and women who have improved their knowledge, skills, and experience through the Foundation's training program. But the most important result demonstrated by the entire operation is its generative power — the way it has succeeded in stimulating local enterprise and endeavor. More and more the projects described are being thoroughly nationalized. They are growing and improving because of their own scientific merit and economic benefit, and because of the increasing numbers of qualified teachers, investigators, and extension specialists they can deploy for the effort. When the conquest of hunger is achieved, the victory will be won by the energy and dedication of trained people in each country. To aid them in this endeavor is the aim of the Foundation's assistance.

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## Developing leadership in Africa

The universities evolving in the new nations of Africa represent a significant amalgamation of differing traditions of higher education. Having been founded, for the most part, within the past two decades, the African institutions exhibit more clearly, perhaps, than those in many other developing countries the impress of the different traditions. British, French, and Belgian educators were the first to aid in shaping their organization and curricula; more recently, Americans, Canadians, and others have widened the partnership.

Common to these educational traditions is the central role assigned to the liberal arts as fundamental to the preparation of leadership among an informed citizenry. In several of these traditions, the liberal arts are also regarded as an essential foundation upon which specialized

training in the professions must rest. Young people learn to think objectively and clearly, to distinguish between fact and prejudice, to weigh evidence, and to understand more deeply their nation's history and culture and that of other civilizations. A student well grounded in the liberal arts develops habits of mind that serve him well in whatever career he pursues. He gains a cultural and intellectual reserve on which he can draw for the future.

Education in African universities is also stressing another feature. African education must be related to the needs of the people. It must touch the live problems and pressing concerns of local societies. Studies must be relevant to questions that Africans are required to answer. These demands call for a curriculum that does not overlook topics that have urgent meaning for Africans; the classroom examples chosen for discussion must include some of immediate concern to them. Training at its best has always stressed issues of enduring importance. Thus, the historic tradition of the liberal arts and the central issues of present-day African life are consistently and integrally related.

African leaders who share a lively interest in higher education are joining to help the universities succeed. In governmental ministries and in universities, these leaders are bending their efforts to create strong educational systems tied to the requirements of the time. The need is not only for men well trained in the specialized professions but also for men who can make wise and sensible decisions in government and business. Someone must train the teachers, design the curriculum, and shape the educational structure that others can use and follow. Historically, throughout the world, liberal arts institutions have done this job and there are reasons for believing they can do it in Africa.

In implementing its goal of strengthening centers of learning in emerging countries, The Rockefeller Foundation has been working with a few key institutions in important regions of the world, At several of these institutions the Foundation has been cooperating with particular faculties for the past decade or longer — notably those of medicine, nursing, agriculture, and veterinary science. Similar cooperation with faculties of arts and letters, although a much newer undertaking, is well under way at several African institutions, one of them being the University of East Africa.

The University of East Africa is an imaginative experiment in educational federation among three independent states; it came officially into being in June, 1963. Educators and government officials in the three countries recognized that while the costs of a university offering full graduate and professional training were beyond the resources of each individual state, they could, by pooling resources and minimizing duplication, achieve maximum results.

The administration is making a conscious effort to orient the development of the university to the needs of the area. (…) he university intends to introduce more courses designed to serve the needs of the area and to prepare its students better for the roles they will play in the newly independent states. At present the Foundation is giving assistance to almost all faculties in the three colleges comprising the University of East Africa.

The influence of the university is already spreading beyond the three countries which support it into the region as a whole. (…)

The long-range aims of the university have been unofficially described as follows;

First, to establish an integrated and nonduplicating program that reconciles the ambitions of the three colleges of the university.

(…)

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One tool the Foundation is using more and more is the provision of human "capital" to help the colleges achieve their goals. (…) These new programs in economics are intended to demonstrate that economics can be made operationally relevant to meet the needs of emerging

societies.

(…)

The future of the University of East Africa and of the East African countries will depend in large measure on the quality of the leadership during the initial stages of development. The university is continuing its efforts to attract, for varying periods, first-class academic and administrative leadership from the United Kingdom, the United States, and Europe until the time arrives when qualified African professionals can assume full responsibility.