THE ROCKEFELLER FOUNDATION

President's Review · 1963

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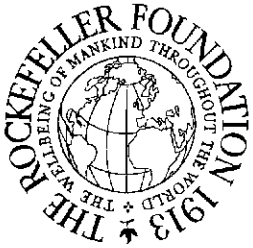

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THE ROCKEFELLER FOUNDATION

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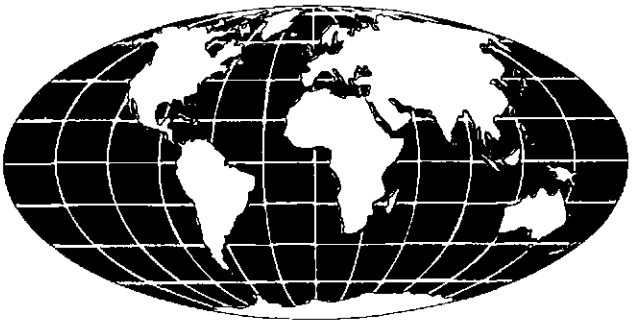


PROMISE AND PROGRESS

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 life 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 Founda-

tion 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 will 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

A housewife (below) makes sorghum *chappaties,* a staple in much of India; the improvement of sorghum is a major aim of the Foundation's cooperative Indian agricultural program. Harvesting seed (opposite) of hybrid corn in El Salvador, a project of the Foundation's international food crop improvement program.

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 has 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. Action

must involve educational and research institutions, religious organizations, governmental and civic groups — in short, all levels of social endeavor. Only then will the problem be capable of solution; only then will it be possible to make available to each individual the information and materials necessary to permit rational family planning within his own cultural and social environment.

Before any substantial results can be hoped for, it will be necessary to bring about a greater measure of agreement among groups presently holding different points of view. All must one day understand that no ethically oriented society can survive the erosion of overwhelming numbers of disadvantaged people. Uncontrolled increases in population without consideration of the carrying capacity of the world's natural and man-made resources will render life less and less meaningful.

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. More than $2 million of this total was for the support of research on the biol-

The Population Council, New York, has sponsored demographic studies for over a decade. The interviewer (above) is assisting in a council-administered family planning survey in Baunia, East Pakistan. Social workers (center) conduct a family planning education session for women of Baunia.

The Kurali health center near New Delhi is associated with a primary center at Ballabhgarh, in a pilot project in which the Foundation is cooperating. Community health centers may prove to be a major reliance for family planning education.

ogy of reproduction, and more than $5 million for demographic studies and for the training of specialists in population research. In 1963 the Foundation contributed substantially to the establishment of a Center for Population Studies at Harvard University, and the year before supported a pilot study of family planning in Santiago, Chile, conducted cooperatively by Harvard University and the University of Chile. The Foundation's interest in rural health centers also includes family planning as a topic of investigation.

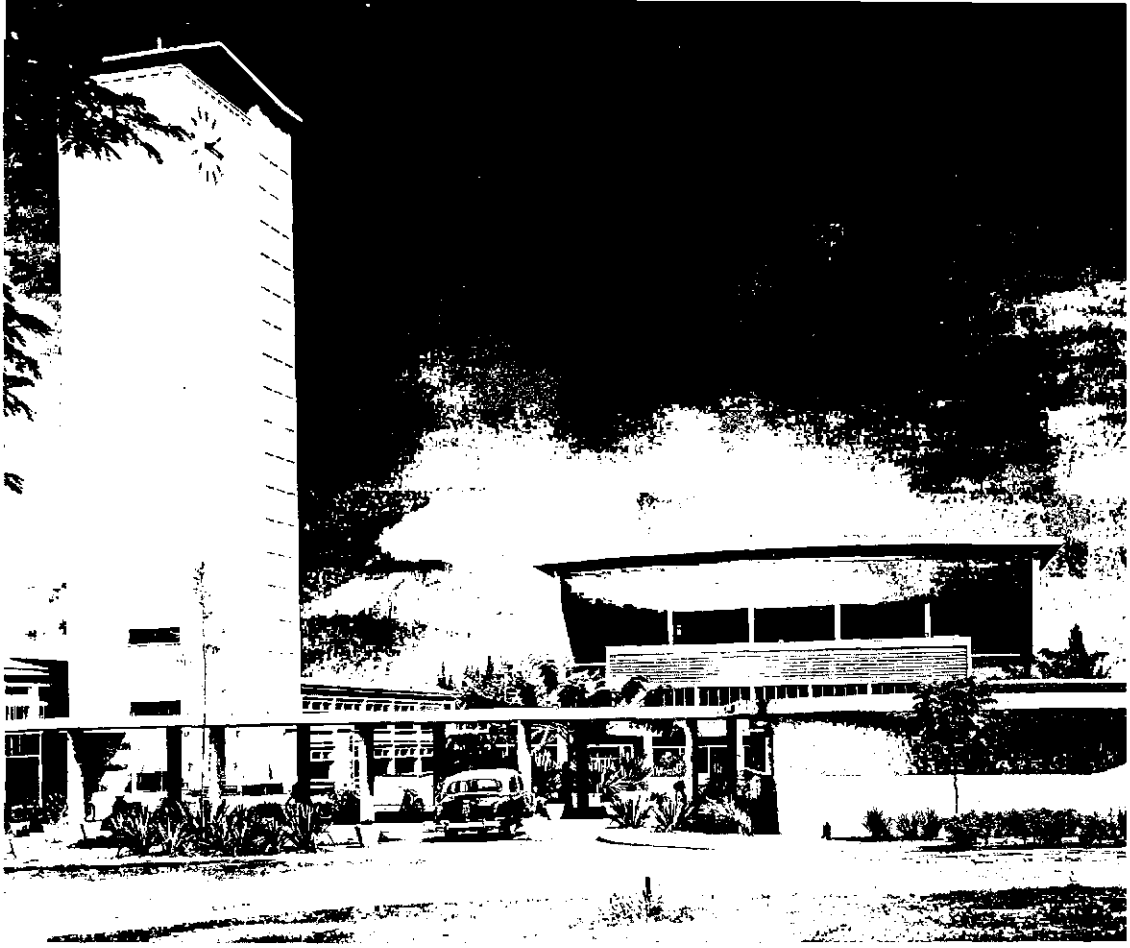
III. STRENGTHENING EMERGING CENTERS OF LEARNING

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 develop-



University of Ibadan, Nigeria: Tower Court with administration buildings (left) and a lecture hall.

ing 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

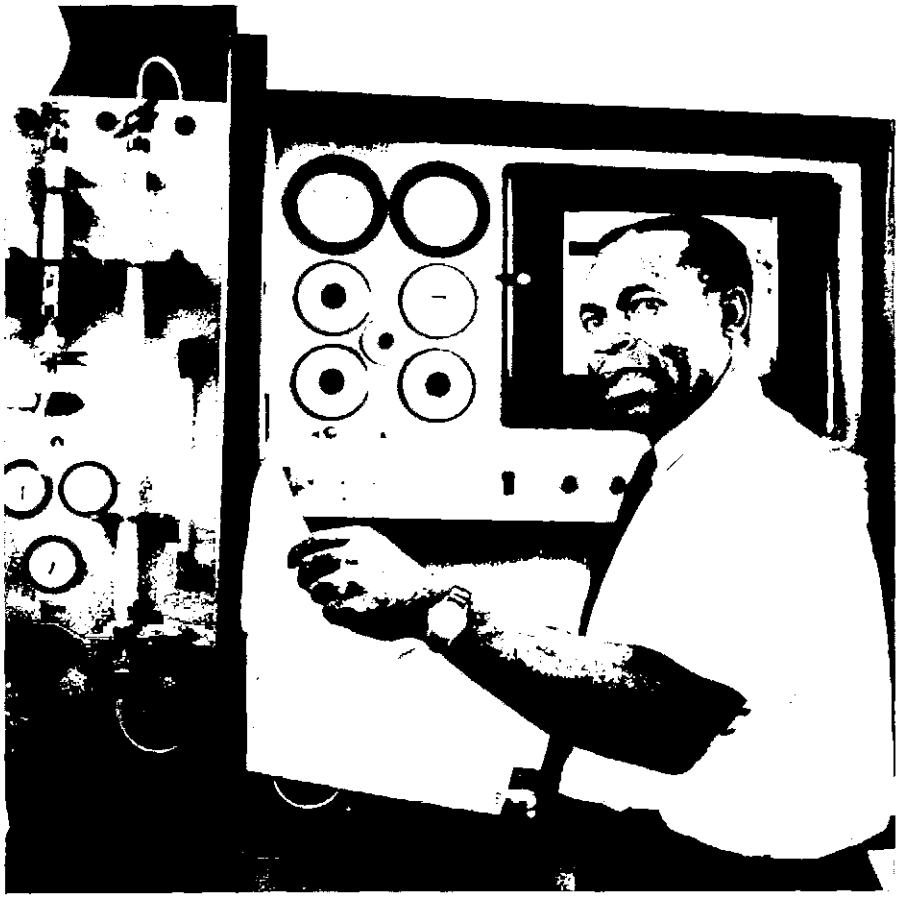
of assistance in at least a few instances where there would appear to be both need and opportunity. This process is already well under way and some very satisfying cooperative relationships have been established in Latin America, in Asia, and in Africa.

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



At the University of Ibadan, the head of the department of chemical pathology (above) makes a nutritional evaluation with an amino acid analyzer, and an animal scientist (left) helps a member of his dairy microbiology class examine milk samples for bacteria.

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. For example, the Department of Psychiatry, Neurosurgery, and Neurology, created in 1963 within the Faculty of Medicine, is the first in Africa to train students in these fields. The creation of this department was substantially aided by the Foundation. A virology research unit also is being set up at Ibadan, with the help of Foundation grants and staff assistance, to study the large number of presently undiagnosed "tropical fevers" that seem to be common in West Africa; this unit will be the first of its kind at an African university. The Foundation made a number of other grants to Ibadan in 1963, for over-all development, and for strengthening teaching and research in the Faculties of Agriculture and Veterinary Science. Several Foundation staff members participate directly in the program through assignment to the faculty of the University of Ibadan. The Foundation has also made available resident specialists in medicine, agriculture, and virology.

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 training and research programs in economics and agriculture. The International Rice 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.

IV. TOWARD EQUAL OPPORTUNITY 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.

United Negro College Fund member institutions are providing educational opportunities for more than 25,000 students. A Hampton Institute student welcomes foreign visitors to campus (right); a group in the Fisk University physics department (below) examines a student-built van de Graaff generator.

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 to 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 the 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.

The six United Negro College Fund members of the Atlanta University Center, on adjacent campuses, share central library facilities.

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 the 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 securing 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.

During a rehearsal of an experimental production at the Actors Studio, performers pause to discuss a point with the director.

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 roles 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 and the building program of the National Cultural Center, now known as the John F. 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.

Yajnik Memorial Fountain, at the Royal College, Nairobi, Kenya, one of the three constituent colleges of the University of East Africa.

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 an 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 defined 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.

TRAINED MANPOWER FOR HEALTH SERVICES

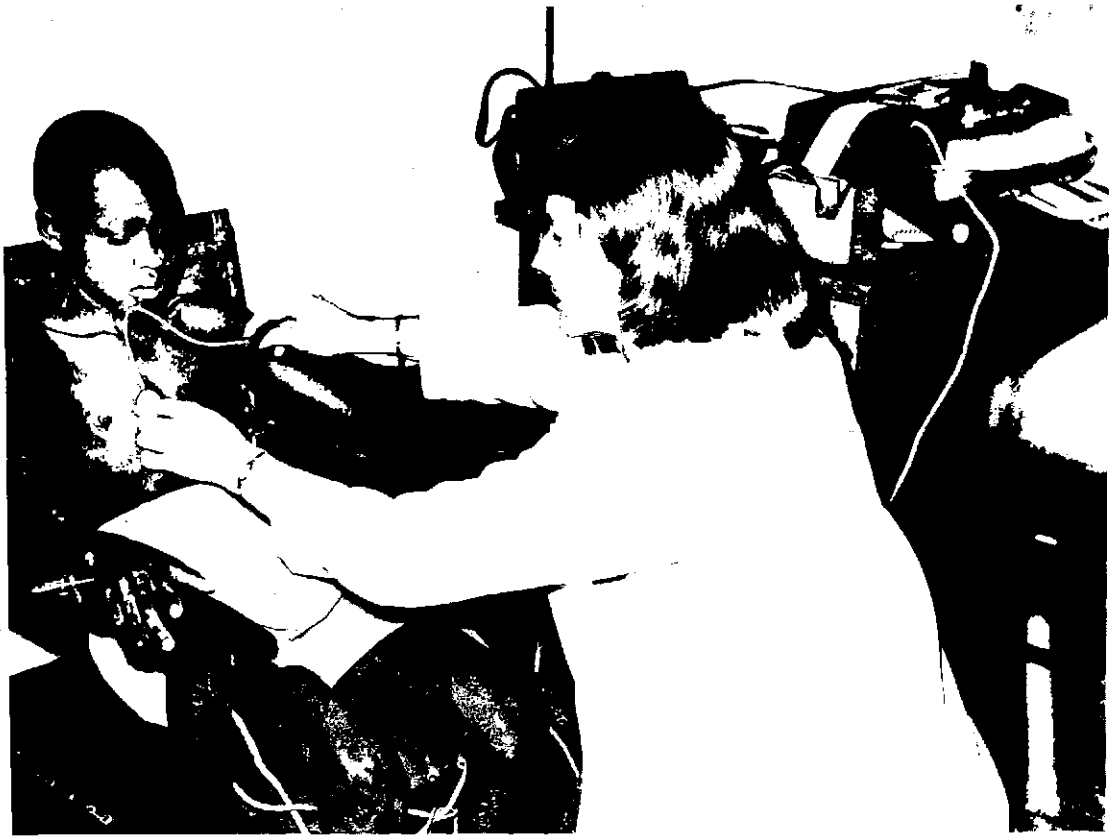
Among the social services required for a modern civilization, medicine in the broad sense of curative and preventive services ranks high in priority in any population. But the development of the fully trained professional, whether physician, nurse, midwife, sanitary engineer, or skilled laboratory expert, 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 modern 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 92 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 be 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

Near the Kasangati health center, Uganda, a visiting medical fellow from Makerere University College takes an electrocardiogram on a schoolboy.



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

In the outpatient clinic of the Kasangati health center, Uganda's first female medical graduate examines a child.

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 1950'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

A Rockefeller Foundation staff member from the University of Valle visits a home in Candelaria, Colombia.

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.

At the Casita for the Rehabilitation of Malnourished Children, Candelaria, for which the Candelaria health center provides medical services, a nurse auxiliary bathes a young patient.

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.

In the village of Candelaria, in Colombia, the University of Valle assigns first- and second-year residents to a community health center with satellite dispensaries in outlying smaller population groups. Auxil-

iary nurses are trained and used to complement the residents' services. A long-range research plan calls for an orderly study of community health and sanitary needs. A program for training auxiliary community nurses is under way and recruits students from rural areas who have basic primary and some secondary school education. It is hoped that other individuals from the same background and with limited education can be trained in a school for laboratory technicians at the center to perform with competence and confidence the routine outpatient laboratory tests.

In the Candelaria pilot center comparative studies are being made to determine how much care and preventive services one resident can provide using one or more auxiliaries, when he is backed by a top-flight medical center within reasonable distance to care for illness beyond the scope of the rural center.

A long-range goal is to develop better methods for on-the-job training of auxiliaries and to demonstrate that residents can provide basic health services for substantial segments of a rural population with modest ancillary staff commensurate with the financial realities of a Latin American country. Hopefully, any sound center of medical education with large numbers of residents could undertake responsibility for the rural care of populations up to 500,000 or 600,000 without diluting its graduate training program; indeed, such a step would strengthen the program. Any scheme of this type presupposes the existence in the base medical school of a sound program of training in preventive medicine for the undergraduate students before they venture into the rural communities as residents.

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 the 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, therefore, 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 their future colleagues of the full professional level.

In India the opportunity for such programs is in 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.

As in Colombia, the program in India is based on an established government scheme for medical and preventive care. The core staffing is maintained by interns and registrars who assist the academic staff in teaching while learning to operate a central cottage hospital and health center as a base for care of thousands through satellite centers manned by students and subprofessional personnel. The Foundation, in cooperation with local government and the All India Institute of Medical Sciences, has supported this key scheme with both funds and staff. After several years of trials the project should now become the guiding center for the development of training and research in community medicine throughout India.

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

University Hospital, Ibadan: registering at the children's clinic. Faculty and students of the university medical school also cooperate in the work of the government health center at nearby Igbo-ora.

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.

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 tech-

nologies 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

Their Excellencies Adolfo López Mateos, President of the Republic of Mexico, and Julián Rodríguez Adame, Minister of Agriculture, look on as Dr. J. George Harrar, President of The Rockefeller Foundation, adds his signature to the agreement establishing the International Center for Corn and Wheat Improvement. The signing ceremony took place in October, 1963, in Mexico City.

The center, which will be operated jointly by the government of Mexico and the Foundation, will concentrate on international projects for the training of agricultural scientists and for the improvement of two basic food crops.

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 International Rice Research Institute, Los Baños, the Philippines: experimental plots seen from the central plaza.

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.

The group of graduate-level trainees at the institute increased in 1963 from 27 to 45, and it is expected that in another year the figure will reach 60, the number provided for in the original plans. Presently the trainees come from Rice Bowl countries; it is anticipated that a few may be accepted from Latin America and Africa in future years.

The Foundation has also assisted in the establishment of two graduate schools of agriculture, one in Mexico and the other in India.

In Mexico the Graduate School of the National School of Agriculture at Chapingo was established with Foundation support in 1959. Sixteen master of science degrees in the major agricultural specialties were awarded in 1963. Some 60 students are presently registered. The Post Graduate School of the Indian Agricultural Research Institute in New Delhi, established in 1958 with Foundation cooperation, has an enrollment of more than 400 students, including 12 from other Asian countries. About 45 per cent of them are candidates for the Ph.D. degree; the rest for the master of science degree. By the end of 1963 a total of 77 Ph.D. and 305 M.Sc. degrees had been awarded.

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 meaning-

ful 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 later years, as local nationals acquired skill and experience, the direct administration of the projects could be turned over to them.

Latin American and Indian genetic materials are being used in Thailand in a maize improvement project of the Ministry of Agriculture and Kasetsart University, to which the Foundation contributes technical consultancy and some financing.

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.

In Mexico, for example, research in wheat improvement continues to be a significant factor in the economy; in 1963 the national wheat harvest reached 1,930,700 metric tons, enough to permit a substantial carry-over of 300,000 tons. Numerous hybrid corn varieties, each tailored to the requirements of particular climates and regions, have also made Mexico largely self-sufficient in the production of the grain that still feeds a majority of her people. In Colombia, total yields of corn, wheat, and beans are increasing steadily and livestock production of all types is becoming more reliable. In 1963 Chile's 1.2 million ton wheat harvest met domestic needs for the first time in recent years. Improved wheat varieties from the cooperative programs in Mexico, Colombia, and Chile are proving productive in Africa and in several Middle East countries. Research on potato improvement in Mexico and Colombia is stabilizing previously erratic production of this important food source, and has been extended to other countries through an international program with direction and coordinating leadership from Mexico.

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 for 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 Tibaitatá, the national experiment station near Bogotá. Here it will be possible to give combined attention in a single location to graduate education, extension training, and research on food plants

At the national experiment station near Bogotá, seed of new wheats is packaged (above) for testing at other stations throughout Colombia.

Dwarfed corn plants (left) developed in Mexico are being studied in a novel approach to securing larger and more reliable harvests.

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 Tibaitatá 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 modern 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.

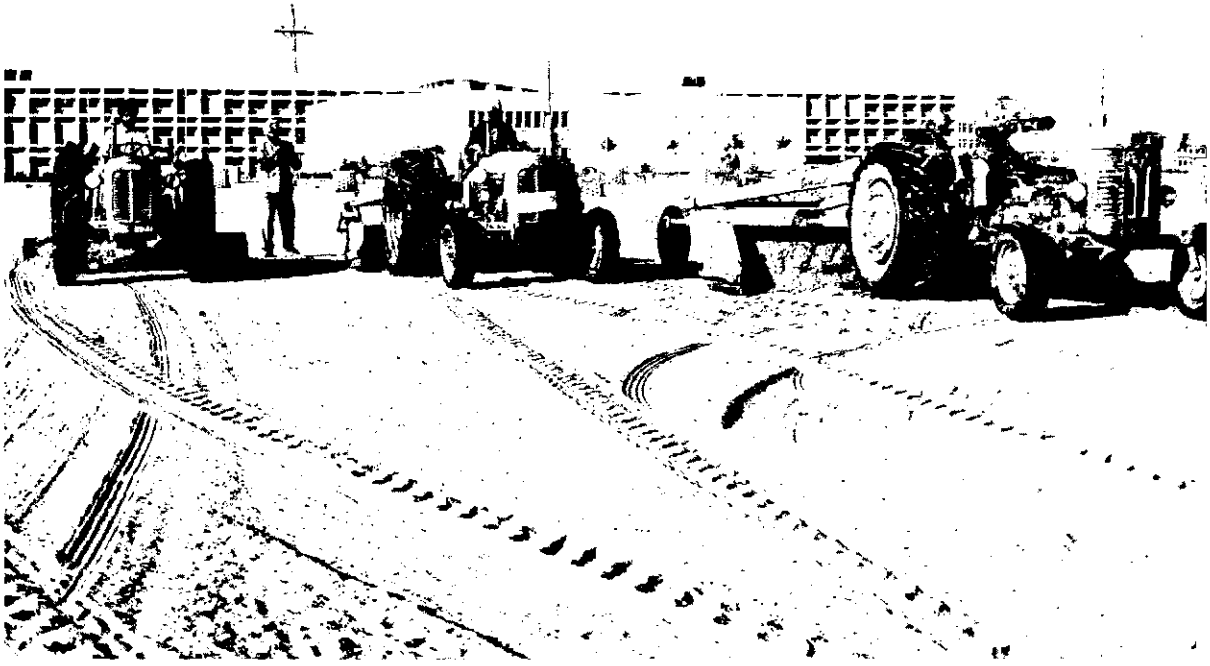
Indian educators and scientists had realized almost from the time of independence in 1947 that the existing research and educational structures were not proving effective in increasing agricultural production. Research was not directed toward the solution of practical problems that inhibit yields; it 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, and appointed an advisory committee whose mission was defined in these words:

> The urgency of bringing about a rapid increase in food production in the country necessitates a re-examination of the existing patterns with the aim of bringing about the greatest possible efficiency and effectiveness of the organizations serving agriculture. It is apparent that there is a need for establishing much closer relationships between research, teaching, and extension programs which is not possible under the existing arrangements. It is with these aims in view that the concept of the Agricultural University has been developed.

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 au-



Land leveling and development at the experimental farm attached to the Punjab Agricultural University, Ludhiana, India, one of that country's new state agricultural universities.

tonomous 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. In Uttar Pradesh and the Punjab state agricultural universities are in operation. At both, excellent experimental farms provide facilities for practical experience on the part of the students as well as for the regional improvement work on food crops. The Rockefeller Foundation has aided the creation of the experimental farms and has encouraged their designation as regional centers of the maize and sorghum improvement programs.

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. Questions have been raised about the number of agricultural universities that should be established. If one keeps in mind the fact that 68 land-grant institutions supplied much of the leadership for agricultural development in the United States, it does not seem unreasonable for India to plan for at least 15 to serve essentially half the land mass but about the same agricultural acreage, and a population about 2.5 times that of the United States.

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 possibility that an agricultural university for the state of Uttar Pradesh might be established at the Tarai State Farm was taken into account in 1957 in choosing that location for the regional center for the Gangetic Plain; maize improvement is now a major research interest of the experiment station at that university. The cooperative research project in the Punjab was shifted to Ludhiana when the agricultural university was established there. The cooperative maize and sorghum schemes are similarly tied into the colleges of agriculture at Coimbatore, Hyderabad, and Dharwar, where it is anticipated that state agricultural universities will be established in the future.

Both the maize and the sorghum-millet improvement projects are sizable undertakings, having between them 23 research centers and 175 technical personnel, strategically located in the main agricultural regions of the country. Between these projects and the Indian Agri-

cultural Research Institute in New Delhi there is a steady interchange: graduate students from the institute going to the experiment stations for experience in field work, and station personnel going to New Delhi for advanced training in various specialties.

The work with maize, begun in 1957, has already resulted in the creation of seven adapted, high-yielding, double-cross hybrids. Arrangements are well advanced for the formation of a privately owned and operated company to multiply and distribute seed of the new varieties and to handle seed of other crops as it becomes available. Selections of superior sorghums and millets have been made from varieties systematically collected all over India and from other countries; the breeding of still better varieties is in advanced stages. Administrative and technical responsibility for both projects is progressively being transferred to Indian scientists.

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.

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

The entrance to the Law Library at the University College, Dar es Salaam, Tanganyika, a constituent college of the University of East Africa.

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 oldest of the university's three constituent units is Makerere University College in Kampala, Uganda, which began university-level teaching shortly after the second World War. The second unit, the Royal College in Nairobi, Kenya, was advanced from a technical school to a university college in January, 1961. The youngest of the three, the University College in Dar es Salaam, Tanganyika, launched its program with a law faculty in 1961 and will begin courses in the basic arts and sciences in July, 1964.

The administration is making a conscious effort to orient the development of the university to the needs of the area. During the past year both Makerere and the Royal College have introduced a new East African syllabus, which draws on but expands the London degree requirements. The 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. Besides students from Uganda, Kenya, and Tanganyika, young people are enrolled who come from Zanzibar, Nyasaland, and the Rhodesias, and in addition to Africans there are others of Indian and Pakistani origin.

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. Curricula in medicine, nursing, agriculture, and the basic arts and sciences will be offered at Makerere. Engineering, veterinary science, and commerce will be concentrated at the Royal College in Nairobi, in addition to the basic arts and sciences. The University College in Dar es Salaam will specialize in professional training in law and will also teach the basic arts and sciences; a future possibility is African and Islamic studies. Each of the three colleges will in the long run have a viable faculty in the basic arts and sciences, but will not duplicate the professional schools supported by all three countries. Duplication is likewise being avoided in some of the more specialized undergraduate fields. Both Makerere and the Royal College have schools or departments of art, but art students may spend two years at one and then transfer to the other campus for courses not offered by the former.

Second, to relate research closely to teaching.

Third, to relate university activities to the aim of meeting the most urgent evident needs of the new East African countries and thus to encourage strengthened government support.

A few years ago almost all faculty and administrative personnel at the institutions comprising the university were expatriates. Coincident with events leading toward the political independence of the three territories, the colleges realized the importance of searching out and appointing qualified East Africans to both the administrative and academic staffs. It was also realized that because of the limited number of positions open in the faculties of each institution, serious administrative difficulties would lie in the way of appointing Africans to positions already held by expatriates. Foundation assistance is enabling the university to appoint qualified Africans to teaching and administrative positions through the mechanism of supernumerary appointments, with the guarantee that individuals engaged in this manner will be absorbed into budgeted staff positions as openings occur. In addition to supplying funds to make the appointments possible, the Foundation has assisted the university in locating and recruiting Africans for the positions.

First-year students in economics consult informally with their instructor following a class at the Royal College, Nairobi.

In planning for the establishment of undergraduate courses, the University College in Dar es Salaam started considerably later than the other two. To prepare for the opening of the Faculty of Arts, the Foundation responded to a request for assistance to enable the college to engage some of its leading faculty members (equivalent to departmental chairmen) a full year in advance of the time they will assume teaching responsibilities. In this way, the University College has succeeded in attracting senior academicians who are able to pursue their

own research interests while planning the syllabus. With financial support for this plan, the principal of the University College has filled the chairs of history, literature, linguistics, and economics, and sound preparation is being made for the opening of a full program for the academic year beginning July, 1964.

In addition to these regular staff positions, the university has requested Foundation assistance in providing for visiting professors in specialized fields who can be of service to one or more of the institutions comprising the university. Help of this type has proved invaluable in the field of international relations and political science. A number of scholars of international standing have lectured at Makerere and Dar es Salaam, and at Makerere the result has been that a regular academic program in international relations is now being introduced.

A similar activity is taking place in the broad field of Islamic studies. Islam has played, and is playing, an important role in East Africa, but no formal courses have been offered in Muslim history, religion, or jurisprudence. During the summer of 1963, the Foundation made it possible for the university to invite one of the world's leading scholars of Islam to visit East Africa to lecture and advise the university on the development of studies of the different aspects of Islam. Makerere now plans to offer courses in Islamic history in the Department of History, and in Muslim theology in the Department of Religious Studies. Courses in Islamic jurisprudence at the law faculty of the University College in Dar es Salaam are projected. The Foundation has also awarded a scholarship to an East African to pursue graduate studies in the religious aspects of Islam.

In the general field of university library development, the Foundation has encouraged further cooperation among the three separate institutional libraries and has assisted materially both with the acquisition of basic collections and with interlibrary services. It has also aided in steps being taken to introduce a centralized library training program keyed to the needs of the university's libraries, and in the training of East African bookbinders at the University of Khartoum.

The picture on the opposite page was taken in the library of the Royal College, Nairobi.

One tool the Foundation is using more and more is the provision of human "capital" to help the colleges achieve their goals. As part of the university effort to stimulate the teaching of economics and research on the problems of economic development, two members of the Foundation's staff have been assigned to Makerere, one serving as chairman of the Department of Economics and the other directing research on East African economic development problems at the East African Institute of Social Research. Assistance also has been given to research in economic development at the Royal College. These new programs in economics are intended to demonstrate that economics can be made operationally relevant to meet the needs of emerging societies.

The group at the East African Institute of Social Research includes three young Africans who have had advanced training which they are now applying in significant studies. While the group is devoting itself primarily to investigation, they are also doing some teaching; this enables members of the economics department to participate in the research activities, helps to integrate teaching and research, and supplies research results to enrich the teaching program.

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.

Recently a conference of leaders of the University of East Africa, the three colleges, the governments of Uganda, Kenya, and Tanganyika, and of the East African Common Services Organization, plus representatives of other governments and private foundations, met at the Villa Serbelloni on Lake Como in Italy to discuss the university's future development. Specifically, the group considered the university's development plan for the triennium 1964-1967. The University Triennium Development Plan, which grew out of a series of meetings and discussions in 1962, revealed a deficit in the projected recurrent account of approximately £1 million sterling and of nearly £4 million sterling in

the capital account for the period. A substantial amount of this capital is required to build and expand the University College in Dar es Salaam and the Royal College in Nairobi. Makerere, being older and relatively well equipped in buildings and physical plant, had minor capital needs during this triennium. The Villa conference was remarkably successful. The recurrent-budget deficit appears to have been covered and there is a high degree of probability that substantially all of the capital required will be found during the three-year period. The future of the university appears far brighter than it did before this important conference.

STUDY AWARDS

THE ROCKEFELLER FOUNDATION'S study awards are integrated with the interests of its several programs. Through its fellowships and scholarships, the Foundation seeks to train personnel and to advance knowledge in the medical and natural sciences, the agricultural sciences, and the humanities and social sciences. Awards are made on an international basis to outstanding men and women who have shown promise of making important contributions to their fields of study in their native countries.

During 1963 a total of 709 persons held Foundation fellowships and scholarships: 433 awards that began in previous years continued active into 1963, and 276 new awards became active during the year. Their distribution by program is as follows:

	STUDY AWARDS FROM PREVIOUS YEARS CONTINUED INTO 1963	NEW AWARDS IN 1963	NUMBER OF AWARDS ACTIVE IN 1963
Agricultural Sciences	197	121	318
Humanities and Social Sciences	120	71	191
Medical and Natural Sciences	116	84	200
	433	276	709

In addition to the fellowships and scholarships awarded and administered directly by The Rockefeller Foundation, several organizations have awarded similar fellowships with funds contributed in 1963 and previous years by the Foundation. The organizations administered a total of 93 fellowships provided for by Foundation funds during 1963:

British Medical Research Council	12
Population Council	
Demographic	17
Medical	5
Social Science Research Council	
Predoctoral and Postdoctoral	49
Political Theory and Legal Philosophy	10
	93

Rockefeller Foundation fellows and scholars in 1963 came from 52 countries and one international organization:

	PREVIOUS AWARDS	NEW AWARDS		PREVIOUS AWARDS	NEW AWARDS
Algeria	1	—	Mexico	53	22
Argentina	13	7	Morocco	1	—
Australia	—	3	Netherlands	1	1
Belgium	—	1	Nicaragua	1	—
Bolivia	3	1	Nigeria	15	12
Brazil	29	16	Norway	5	1
Ceylon	3	—	Pakistan	7	2
Chile	35	20	Peru	10	17
Colombia	63	47	Philippines	24	23
Congo	—	1	Poland	9	13
Costa Rica	5	4	Senegal	—	1
Denmark	1	2	Southern Rhodesia	2	—
Ecuador	3	3	Sudan	1	1
El Salvador	4	—	Thailand	10	8
Ethiopia	6	2	Trinidad	2	1
France	2	3	Turkey	9	7
Germany	—	1	Uganda	4	3
Ghana	4	1	United Arab Republic	6	1
Guatemala	1	2	United Kingdom	1	2
Honduras	1	1	United States	3	5
Iceland	1	—	Uruguay	1	—
India	37	20	Venezuela	1	—
Indonesia	7	1	Vietnam	2	—
Iran	3	—	World Health Organization	2	1
Iraq	2	—		433	276
Jamaica	4	1			
Japan	32	16			
Kenya	—	2			
Korea	3	—			

The Rockefeller Foundation made available a total of $3,525,000 for its fellowship and scholarship activities during 1963, and appropriated $3,625,000 for the awarding of fellowships during 1964.

The Foundation in 1963 continued to appropriate funds for allocation in the form of unrestricted grants to institutions where Foundation fellows and scholars are engaged in study and research. Recognizing that the disparity between universities' expenses and their income

from tuition and fees is most apparent at the level of postgraduate study, the Foundation, since 1958, has made available funds to be disbursed in units of $1,000 for each full year a fellow spends at a university and $500 for each half year. The grants are in addition to tuition and other fees also paid by the Foundation through its fellowship and scholarship awards. Under this program in 1963, the Foundation sent funds amounting to $428,500 to 96 institutions in the United States and foreign countries.

Fellows and scholars are listed by name and region in the Annual Report.

FINANCIAL SUMMARY FOR 1963

THE TRUSTEES OF The Rockefeller Foundation appropriated a gross amount of $37,146,072 during 1963 ($30,047,036 in 1962). Income on investments was $26,039,803 ($24,233,991 in 1962) and expenditures were $35,342,598 ($29,470,180 in 1962).

Net appropriations ($37,146,072 minus $3,286,529 of lapsed portions of appropriations) were $7,792,583 more than receipts (income on investments of $26,039,803 plus refunds of $27,157). This amount was transferred from the uncommitted Principal Fund, leaving a balance of $170,867,559 as of December 31, 1963. The market value of the uncommitted Principal Fund was $683,579,852.

Expenditures exceeded net appropriations by $1,483,055; the amount of appropriations for future payment was thus reduced from $62,818,340 to $61,335,285.

Further diversification of investments was accomplished by exchanges with the Ford Foundation of 89,058 shares of Standard Oil Company (New Jersey) capital stock for 122,045 shares of Ford Motor Company common stock. Three other stock issues in the Foundation's portfolio were sold for $4,929,464 in order to invest the proceeds in other equities, and $5,109,399 of additional stock purchases was financed by withdrawals from savings deposits.

Financial Statements for 1963 are published separately and are also given in full in the Foundation's Annual Report. The statements present the balance sheet at December 31, 1963, with supporting information including a list of security transactions during the year, a schedule of securities owned at the end of the year, and the opinion of Haskins & Sells, independent public accountants.

ORGANIZATIONAL INFORMATION

MEETINGS

The annual meeting of the corporation and a regular stated meeting of the Board of Trustees were held on April 3; a stated meeting of the Board of Trustees was held on December 3 and 4. Six regular meetings of the Executive Committee of the Trustees were held to take actions within the general policies approved by the Board.

TRUSTEES AND PRINCIPAL OFFICERS

At the meeting of the Board of Trustees on April 3, Mr. Thomas J. Watson, Jr., Chairman of the Board and Chief Executive Officer of the International Business Machines Corporation, was elected to the Board to fill the vacancy created by the resignation of Mr. Dean Rusk in 1961, and Dr. Robert F. Goheen, President of Princeton University, was elected to succeed Dr. Henry P. Van Dusen who retired on June 30. Dr. Detlev W. Bronk also retired from the Board at the end of June.

At the same meeting Mr. Kenneth Wernimont, Treasurer, was elected Vice-President for Administration. He will continue to serve in his capacity as Treasurer.

The death of Orvil E. Dryfoos on May 25, 1963, created another vacancy on the Board of Trustees. Mr. Dryfoos, who was President and Publisher of *The New York Times,* had been a Trustee of the Foundation since April 6, 1960. His loss is reported with profound regret.

REPRESENTATIVE GRANTS · 1963

All grants appear in the 1963 Annual Report

UNITED STATES

New England

DARTMOUTH COLLEGE, Hanover, New Hampshire: support of an experimental summer school program for talented disadvantaged high school students; $150,000 for a five-year period;

HARVARD UNIVERSITY, Cambridge, Massachusetts: development of a Center for Population Studies at the School of Public Health, Boston; $600,000 for a ten-year period, $250,000 of which is to be applied to construction costs, on a secured-financing basis;

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge: expansion of its psychology program; $75,000;

YALE UNIVERSITY, New Haven, Connecticut:

Support of its program to encourage and support the completion of important scholarly works by senior faculty members, especially in the humanities; $200,000 for a six-year period;

Continued support of an advanced training program for African students at the Law School; $75,000 through June, 1970;

Middle Atlantic

ACTORS STUDIO, INC., New York: experimental work in the Playwrights Unit, and an instructional program in playwriting, acting, and directing; $56,400;

AMERICAN PHILOSOPHICAL SOCIETY, Philadelphia, Pennsylvania: a study of "The Role of Philanthropy in Western Society"; $40,000 for a two-year period;

COLUMBIA UNIVERSITY, New York: to appoint Dr. Charles Glen King as special lecturer and associate director of the Institute of Nutrition Sciences; $45,000 for a three-year period;

LINCOLN CENTER FOR THE PERFORMING ARTS, INC., New York: a further contribution toward the costs of its construction; $5,000,000;

LONG ISLAND BIOLOGICAL ASSOCIATION, INC., Cold Spring Harbor, New York: support of a biological research program conducted by the Cold Spring Harbor Laboratory of Quantitative Biology; $85,000 for a five-year period;

NEW YORK UNIVERSITY, New York: preparation of an index for the *Revista de Filología Española,* under the direction of Professor Alice M. Pollin and Mrs. Raquel Kersten, Department of Romance and Slavic Languages and Literatures; $22,000 for an 18-month period;

PRINCETON UNIVERSITY, New Jersey:

Support of an experimental summer school program for talented disadvantaged high school students; $150,000 for a five-year period;

Support of a program under the direction of Professor Cyril E. Black, chairman, Coordinating Committee on Foreign and International Affairs, to enable scholars to accept special assignments for research and teaching related to university development in Latin America and Africa; $100,000 for a five-year period;

Study of the office and powers of the Chief Justice of the United States, by Professor Alpheus T. Mason, Department of Politics; $22,000 through 1964;

Assembly of materials for research in diplomatic history through additions to the John Foster Dulles Collection of state and personal papers; $15,000;

ST. LUKE'S HOSPITAL, New York: additional physical facilities and equipment for the Nutrition and Metabolic Research Center; $271,000 available on a matching basis;

WOODROW WILSON NATIONAL FELLOWSHIP FOUNDATION, Princeton, New Jersey: support of the Woodrow Wilson Teaching Internship Program; $405,000 for a three-year period;

UNITED NEGRO COLLEGE FUND, INC., New York:

Further development and strengthening of selected colleges that are members of the fund; $1,500,000 for a three-year period;

Contribution to its campaign development fund; $1,000,000;

South

ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES, Washington, D.C.: toward establishment of an office to assist the association to coordinate

the activities of its member colleges with other agencies working in the area of rural development abroad; $60,000 for a three-year period;

DUKE UNIVERSITY, Durham, North Carolina: support of a student assistance program designed to advance equality in educational opportunity for southern youth, with special attention to Negro youth; $250,000 through June, 1970;

EMORY UNIVERSITY, Atlanta, Georgia: support of a student assistance program designed to advance equality in educational opportunity for southern youth, with special attention to Negro youth; $250,000 through June, 1970;

NATIONAL ACADEMY OF SCIENCES – NATIONAL RESEARCH COUNCIL, Washington, D.C.: for use by the Agricultural Board of the Division of Biology and Agriculture in stimulating research and development programs in the United States and abroad; $15,000;

NATIONAL CULTURAL CENTER BUILDING PROGRAM, Washington, D.C.: toward the costs of construction and development of the center (now known as the John F. Kennedy Center for the Performing Arts); $1,000,000;

OVERSEAS EDUCATION FUND OF THE LEAGUE OF WOMEN VOTERS, Washington, D.C.: support of a training program in citizenship education for women chiefly from Latin American countries; $50,000 through June, 1965;

SOUTHERN REGIONAL COUNCIL, INC., Atlanta, Georgia: contribution toward its general program; $50,000;

TULANE UNIVERSITY OF LOUISIANA, New Orleans:

Support of a student assistance program designed to advance equality in educational opportunity for southern youth, with special attention to Negro youth; $250,000 through June, 1970;

Support of a program in Latin American legal and social science research and training; $68,500 for a four-year period;

UNIVERSITY OF TEXAS, Austin: for use by its Institute of Latin American Studies in the preparation of Guides to Latin American Historical Sources in the United States and Latin American countries; $38,000 through July, 1965;

VANDERBILT UNIVERSITY, Nashville, Tennessee: support of a student assistance program designed to advance equality in educational opportunity for southern youth, with special attention to Negro youth; $250,000 through June, 1970;

Central West

ASSOCIATION OF AMERICAN MEDICAL COLLEGES, Evanston, Illinois: to assist in

the establishment and operation of a secretariat for the Pan American Federation of Associations of Medical Schools; $75,000 for a five-year period;

MICHIGAN STATE UNIVERSITY, East Lansing: economic research, under the direction of Dr. Dale E. Hathaway, professor of agricultural economics; $16,500;

OBERLIN COLLEGE, Ohio: support of an experimental summer school program for talented disadvantaged high school students; $150,000 for a five-year period;

UNIVERSITY OF CHICAGO, Illinois:

Research in economics, under the direction of Professor Theodore W. Schultz, chairman, Department of Economics; $175,000 for a six-year period;

Research in selected Middle Eastern and North African countries on the cultural and social gap as a problem in modernization; $60,000 through 1965;

Research on development and use of international water resources in Africa, by Professor Gilbert F. White, chairman, Department of Geography; $50,000 for a three-year period;

UNIVERSITY OF MINNESOTA, Minneapolis: support of a developmental program for advanced creative work in the theatre; $74,000 through June, 1965;

UNIVERSITY OF WISCONSIN, Madison: special appointment of senior staff to universities in Africa; $100,000 for a three-year period;

West

STANFORD UNIVERSITY, California: graduate research and training in natural product chemistry, collaborative between the Department of Chemistry, under the direction of Dr. Carl Djerassi, and a group of plant product chemists at the University of Brazil, Rio de Janeiro; $110,000 through September, 1966;

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles: development of a training program for music critics at the School of Music; $296,000 through August, 1968;

*

Virus Research Program

FOR VIRUS RESEARCH in the United States; $552,000;

*

FOR STUDIES in international relations; $200,144;

For Studies in constitutional democracy; $94,650;

For Studies on specific problems in urban design; $44,000;

For Special Projects relating to the program of The Rockefeller Foundation, including historical studies, presentations, and appraisals of program; $260,000;

EUROPE

Austria

For the Support of Hungarian refugee students and scholars studying the arts and sciences at 12 Austrian institutions of higher learning; 2,750,000 Austrian schillings (about $110,000);

France

Institute of Applied Economics, Paris: support of a research program on the impact of industrialization on the rural sector of the economies of selected African countries, to be conducted by the institute's office in Dakar, Senegal, under the general direction of Dr. C. J. van der Vaeren; $32,000 for a two-year period;

National Foundation of Political Sciences, Paris: support of a program of research and training on Latin America, by the Center for the Study of International Relations; $37,400 for a three-year period;

Netherlands

Netherlands Economic Institute, Rotterdam: economic research and analysis for education planning, under the direction of Professor Jan Tinbergen; 83,000 Dutch guilders (about $23,650) for a two-year period;

United Kingdom

Medical Research Council, London: a final contribution to its program of fellowships in the medical sciences; $25,000 through 1964;

Royal Institute of International Affairs, London: research in connection with the series *Islamic Society and the West;* $20,180 for a five-year period;

St. Antony's College, University of Oxford: support of a research and training program in African studies; $75,000;

UNIVERSITY OF CAMBRIDGE: research on the biochemistry of reproduction, under the direction of Dr. T. R. R. Mann, reader in physiology of animal reproduction, School of Veterinary Medicine, and director, Unit of Reproductive Physiology and Biochemistry, British Agricultural Research Council; $15,000 for a three-year period;

UNIVERSITY OF LONDON:

King's College; research equipment for the Department of Biophysics; £21,000 (about $60,000) for a two-year period;

London School of Economics and Political Science; training and research in political science, with particular reference to strategic studies, by scholars from universities in the Far East, the Middle East, and Africa; £11,075 (about $31,565) for a three-year period;

Institute of Advanced Legal Studies; research fellowships for Asian and African legal scholars; £8,000 (about $22,800) through August, 1969;

LATIN AMERICA

Argentina

NATIONAL COUNCIL OF SCIENTIFIC AND TECHNICAL RESEARCH, Buenos Aires: toward expenses of equipment and supplies for research in Argentine universities; $160,000 for a two-year period;

Brazil

FOR PROJECTS IN genetics research and training at Brazilian institutions; $67,419;

INSTITUTE OF ATOMIC ENERGY, UNIVERSITY OF SAO PAULO: equipment essential to its operations and its research program in radiochemistry; $24,000;

UNIVERSITY OF MINAS GERAIS, Belo Horizonte: expenses of research and field operations and the purchase of equipment for the Institute of General Biology, Faculty of Philosophy; $15,000 for a two-year period;

UNIVERSITY OF PARANA, Curitiba: preparation of a catalogue of Neotropical bees, by Professor Jesús S. Moure, head, Department of Zoology; $25,000 for a three-year period;

Chile

CATHOLIC UNIVERSITY OF CHILE, Santiago: laboratory and field equipment, a greenhouse, and library materials for the Faculty of Agronomy; $96,000 through May, 1966;

UNIVERSITY OF CHILE, Santiago: for use by the Research Committee of the Faculty of Medicine in support of selected research projects; $80,000 available on a matching basis for a two-year period;

Colombia

UNIVERSITY OF VALLE, Cali: for general development; $594,731;

Costa Rica

LATIN AMERICAN ASSOCIATION OF PLANT SCIENCE, San José: support of the sixth symposium of the association, in Lima, Peru; $25,000 for a two-year period;

El Salvador

UNIVERSITY OF EL SALVADOR, San Salvador: for use by the School of Medicine toward the salary of Visiting Professor Noel David Burleson, Department of Preventive Medicine, and the purchase of equipment for the Department of Pathology; $25,400 for an 18-month period;

Mexico

ESTABLISHMENT AND OPERATION of an International Center for Corn and Wheat Improvement at Chapingo, by the Ministry of Agriculture in cooperation with The Rockefeller Foundation; $1,000,000 for a four-year period;

NATIONAL SCHOOL OF AGRICULTURE, Chapingo: development of the Graduate School; $120,000;

Peru

PERUVIAN UNIVERSITY OF MEDICAL AND BIOLOGICAL SCIENCES, Lima: development of the Faculty of Medicine; $100,000;

UNIVERSITY OF SAN MARCOS, Lima: an international program of postgraduate training in the Faculty of Veterinary Medicine; $138,000 for a three-year period;

*

Agricultural Operating Programs

FOR OPERATING PROGRAMS in Chile, Colombia, and Mexico; $590,000;

Virus Research Programs

For Virus Research in Brazil and Colombia; $57,970;

AFRICA

Congo

Lovanium University, Leopoldville: support of special projects in the Medical School and School of Agriculture; $133,570 for a two-year period;

Ethiopia

Haile Sellassie I University, Addis Ababa: equipment and supplies for a new office and laboratory building at the Central Agricultural Experiment Station, Debre Zeit; $50,000 for a two-year period;

Ghana

University of Ghana, Legon, Accra: work in African music under the direction of Professor J. H. Nketia, and expenses of the research program of the Institute of African Studies; £2,850 (about $8,140);

Kenya

East African Common Services Organization, Nairobi:

East African Agriculture and Forestry Research Organization; support of its sorghum research program at Soroti, Uganda; $100,000 for a four-year period;

Periodicals, books and other printed matter, and microfilm equipment and supplies for the Muguga Library, Kikuyu; $15,000;

Egerton College, Njoro: support of its expanded program; $75,000 for a three-year period;

Plant Breeding Station, Ministry of Agriculture, Animal Husbandry, and Water Resources, Njoro: support of a program of maize improvement research and training; $86,000 for a three-year period;

Royal College, University of East Africa, Nairobi: for general development; $87,605;

Nigeria

University of Ibadan: for general development; $830,693;

Senegal

UNIVERSITY OF DAKAR: establishment of a cooperative program with the University of Ibadan, Nigeria, in the training of teachers of French and English; $17,000 through September, 1964;

Tanganyika

UNIVERSITY COLLEGE, UNIVERSITY OF EAST AFRICA, Dar es Salaam: for general development; $6,217;

Uganda

MAKERERE UNIVERSITY COLLEGE, UNIVERSITY OF EAST AFRICA, Kampala: for general development; $280,920;

MIDDLE EAST

Lebanon

AMERICAN UNIVERSITY OF BEIRUT: support of a documentary and chronological research project in the international relations of the Arab countries, under the direction of Professor Walid Khalidi, Department of Political Studies; $12,400;

INDIA

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, New Delhi: equipment and supplies for the basic science departments and clinical research laboratories; $200,000 through March, 1966;

PUNJAB AGRICULTURAL UNIVERSITY, Ludhiana: development of agricultural experiment station facilities on lands of the university, and the purchase of books, periodicals, and laboratory equipment; $320,000 for a five-year period;

*

Agricultural Operating Program

INDIAN AGRICULTURAL PROGRAM; $290,000;

Virus Research Program

FOR VIRUS RESEARCH IN INDIA; $62,460;

FAR EAST

Japan

UNIVERSITY OF TOKYO:

Improvement of the library of the Faculty of Agriculture; $150,000 through 1964;

Improvement of the university library; $79,000 through 1964;

Philippines

UNIVERSITY OF THE PHILIPPINES, Quezon City: for general development; $700,195;

Thailand

FOR UNIVERSITY DEVELOPMENT: $66,675;

*

Agricultural Operating Program

INTERNATIONAL RICE RESEARCH INSTITUTE, Los Baños, Philippines: operating costs; $625,000.

SUMMARY OF FUNDS APPROPRIATED · 1963

TOTAL APPROPRIATIONS AND ALLOCATIONS LISTED ABOVE	$22,117,184	
APPROPRIATIONS NOT LISTED ABOVE	79,405	
	22,196,589	
LESS ALLOCATIONS FROM PRIOR YEAR APPROPRIATIONS INCLUDED ABOVE	2,353,510	$19,843,079
APPROPRIATIONS FOR ALLOCATION BY EXECUTIVE COMMITTEE OR OFFICERS		2,704,057
GRANTS-IN-AID (1964)		2,200,000
FELLOWSHIPS AND SCHOLARSHIPS (1964)		4,053,500
COOPERATING PROGRAMS (1964)		3,900,870
ADMINISTRATION AND SUPPORTING SERVICES (1964)		3,666,710
SHIPPING AND INSURANCE ON GOODS SENT ABROAD		332,423
OTHER RELATED PROGRAM AND FIELD EXPENSE		445,433
TOTAL APPROPRIATIONS, 1963		$37,146,072

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