

CaC-840

# THE ESTABLISHMENT OF AGRICULTURAL UNIVERSITIES IN INDIA

A Case Study of the Role of  
USAID-U.S. University  
Technical Assistance



UNIVERSITY OF ILLINOIS COLLEGE OF AGRICULTURE in cooperation with COMMITTEE  
ON INSTITUTIONAL COOPERATION and AGENCY FOR INTERNATIONAL DEVELOPMENT

### **ACKNOWLEDGMENTS**

The need for a study of the history of USAID-U.S. university technical assistance to Indian agricultural education was first discussed informally at a conference of Principal Investigators of the CIC-AID Rural Development Research Project at Madison, Wisconsin, in November, 1966. The author was encouraged by Jackson Rigney and others to undertake the study as a contribution to the project.

The author is indebted to the CIC-AID Rural Development Research Project, particularly Dr. William N. Thompson, Principal Investigator at the University of Illinois, for continued support of the study. Many persons associated with the CIC-AID Rural Development Research Project kindly consented to read the manuscript and offered excellent suggestions for improvements. These persons included Dr. Ira L. Baldwin, Director; Mr. R. Wade Jones, Associate Director; Professor Jackson Rigney, Senior Overseas Researcher, Near East-South Asia Region; and Dr. Frank W. Parker. Other persons who constructively criticized the manuscript included Dr. Royden Dangerfield, Department of Political Science faculty advisor, Dr. Ralph W. Cummings, Sr., and Dr. O. Neal Liming. However, the author must accept final responsibility for the presentation and conclusions expressed.

The author gratefully acknowledges the contributions of the several persons who willingly submitted to lengthy interviews, and without whose cooperation and interest this study would not have been possible.

**One portion of the Final Report of the CIC-AID Rural Development Research Project, Contract No. AID/csd-840. This research report was submitted in February, 1968, to the Graduate College of the University of Illinois in partial fulfillment of the requirements for the degree of Master of Arts in Political Science.**

**University of Illinois College of Agriculture Special Publication 15  
Urbana, Illinois, October, 1968**

## FOREWORD

Historical accounts of past events are subject to several sources of bias. The particular information available to the historian restricts his capacity to understand and to interpret a sequence of events. He seldom has access to information about all of the personal influences that are brought to bear on decisions which alter the course or which modify the impact of certain activities. These restrictions are compounded by variations in interpretation which are applied to a given set of details depending on the background experience of the author.

The development of the seven agricultural universities of India with a land-grant orientation is such a unique experience in the entire technical assistance efforts of the U.S. government that it merits attention from both the Indian and the American point of view. For example, an extensive groundwork was laid in preparing Indian administrators and political leaders, not only in understanding the potential of the land-grant orientation but also in preparing them for the drastic changes in institutional philosophy and administration which this orientation would precipitate. The individual Indian states have responsibility for education and agriculture but the center government is able to make additional resources available to the states for specific programs. The preparation of the decision makers was undertaken at both the center and state level. There was a unique degree of cooperation and collaboration between the U.S. government program and the Ford and Rockefeller Foundations. This cooperation extended from an overall distribution of responsibility down to minute details in the operation of participant training and research programs. Still another unique feature of the Indian experience was the fact that the U.S. universities which contracted to provide technical assistance operated initially on a regional basis for five or six years until a particular institution within the region was identified as being ready to move in the direction of the land-grant model. Finally, the experience embraces the full range of institutional background, beginning with a new university which had neither physical plant nor faculty and extending to institutions composed of multiple campuses operating in an affiliated manner. The lessons learned from this experience are highly relevant to the development of similar institutions in most of the emerging countries of the world.

As the Overseas Research Analyst for the CIC-AID Rural Development Research Project, I was fortunate in being able to arrange for the history of these seven universities to be written from two different

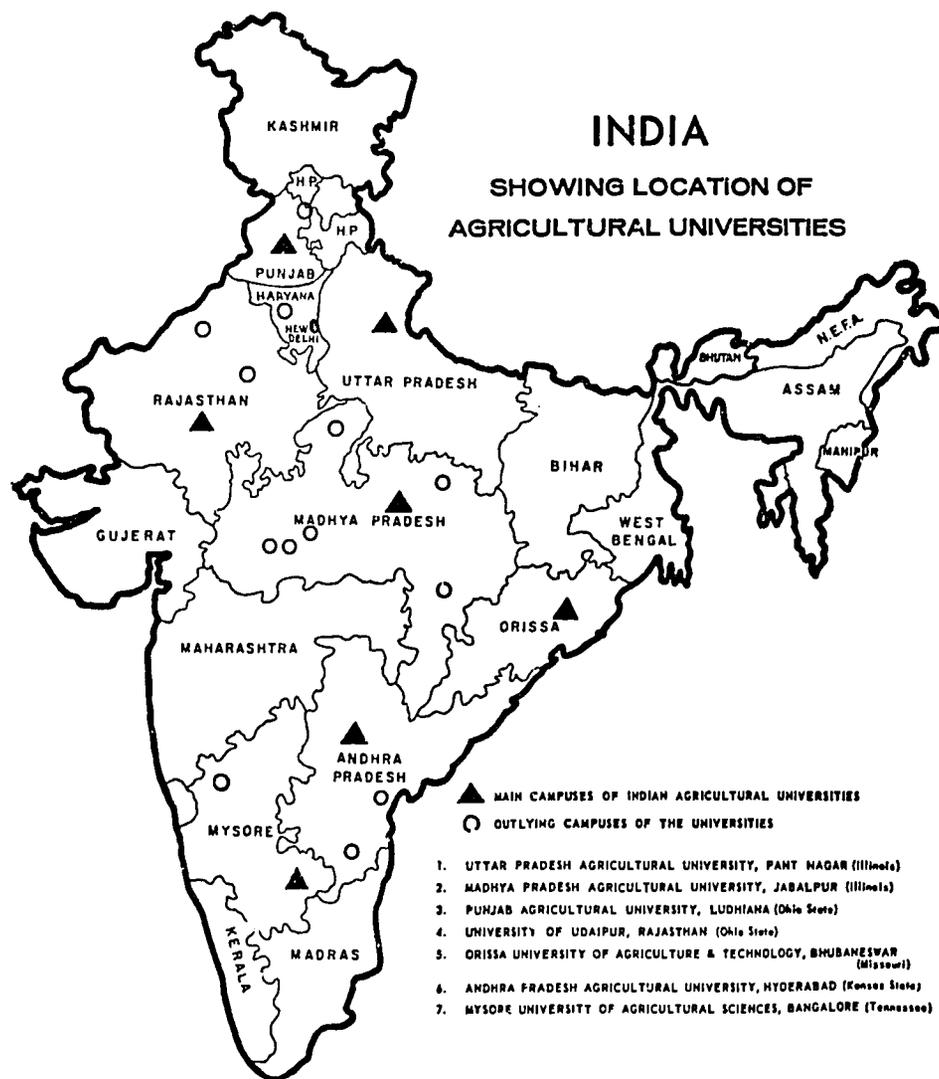
points of view. One report has been prepared by Dr. K. C. Naik, Vice-Chancellor of one of the Indian universities involved. Dr. Naik has long experience as a scientist and faculty member and he has been intimately associated with the agricultural university movement of India from its inception. He has a unique acquaintance with the Indian leaders who were responsible for the movement. He also has a keen insight into the Indian culture and traditions that form the environment within which these universities have developed. However, he had only limited access to the long list of U.S. personnel who played important roles in this development. Therefore, Mrs. Kathleen Propp, who was working with the University of Illinois on this project, was encouraged to write a history of the agricultural universities of India on the basis of the large number of reports available in this country from U.S. university teams and AID/Washington and also from extensive interviews with former team leaders and AID personnel. Thus her report carries the perspective of U.S. policy in technical assistance and the ideas of U.S. persons concerning appropriate strategies and approaches.

While each report could be considered as an adequate history of the agricultural university movement of India, together they represent an unusually useful set of documents on this important development. Their parallel publication will be welcomed by students of international development and institution building around the world.

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# The Establishment of Agricultural Universities in India

U.S. GOVERNMENT TECHNICAL ASSISTANCE TO INDIAN AGRICULTURAL education has gone through three phases — a modest *ad hoc* beginning in 1952, the Agricultural Education and Research Project, 1955-1961, and the subsequent Agricultural University Development Project, from 1961 to the present.

Indian interest in adapting U.S. land-grant university concepts for the improvement of India's agricultural education led to the formation of the First Joint Indo-American Team on Agricultural Research and Education in 1955 and to the signing of contracts between the U.S. Technical Cooperation Mission (TCM)<sup>1</sup> and five U.S. land-grant universities for the purpose of upgrading agricultural and veterinary education throughout India. This university contract program was known as the Agricultural Education and Research Project.

In 1961 the Agricultural Education and Research Project underwent a basic change in emphasis. The new Agricultural University Development Project, as it evolved between 1961 and 1964, resulted in assistance being restricted to those Indian states that had established or were in the process of establishing agricultural universities modeled after the U.S. land-grant university pattern.

## Objectives of Study

This study is concerned with a historical analysis of U.S. university technical assistance to Indian agricultural education through contracts with USAID and with the ways in which U.S. university staff and other key Americans worked within the Indian environment in encouraging and facilitating the legal establishment of agricultural universities. Several countries besides India have already set up such institutions. Other nations are now planning to establish agricultural colleges or universities modeled in spirit if not always in form after the U.S. land-grant universities. Many of these nations have utilized and will continue to utilize U.S. land-grant college staff members

<sup>1</sup> U.S. technical assistance has been administered by several successor agencies. The two agencies important in the Indian context are the Technical Cooperation Mission to India (TCM), and the Agency for International Development Mission in India (USAID), which has administered the program since 1961. Hereafter the notation "USAID" will be used to refer to both TCM and USAID.

through USAID contracts similar to those in India to advise on the principal features and procedures for such universities. An analysis of roles and functions performed by U.S. university technical assistance personnel in the Indian context could be valuable to others undertaking similar assignments.

The emphasis in this study on the U.S. role is not intended to minimize the importance of efforts by the Indians themselves in establishment of Indian agricultural universities. *If sufficient numbers of key Indians had not personally understood and believed in the applicability of U.S. land-grant university concepts to Indian agricultural education, agricultural universities would never have been established.* The purpose of this study is not to emphasize the importance of the American role, but rather to analyze the elements of American technical assistance and the means employed in encouragement and facilitation of the legal establishment of agricultural universities.

A complete history of the origins of these agricultural universities in India, their principal features, and their progress since inception is beyond the scope of this study. The reader is referred to a parallel report by Dr. K. C. Naik, Vice-Chancellor of the Mysore University of Agricultural Sciences, Bangalore, entitled "Educational, Research, and Extension Concepts for Indian Agriculture — History of Agricultural Universities," (12) for a comprehensive look at the Indian agricultural universities in terms of Indian efforts leading to their establishment, and an analysis of the principal features, problems, and successes of the new universities.

### **Approach to Study**

A synopsis of the approach in this study may be helpful to those unfamiliar with U.S. technical assistance to Indian agricultural education. Sections I, II, and III provide the background necessary to understand the discussion of the ways in which American technical assistance contributed to establishment of Indian agricultural universities. Sections IV and V analyze the role and functions performed in the establishment of agricultural universities by USAID officials, by joint U.S. university program coordination, and by individual U.S. university team leaders. The study focuses on team leaders because they were the U.S. university personnel most closely involved with agricultural university establishment. The contributions of most of the other team members were of a different sort, but certainly extremely important in the overall progress of the Agricultural Education and

Research Project. The study treats only those features of the Agricultural Education and Research Project that bear on the eventual establishment of agricultural universities in seven of the states being assisted.

Section VI discusses briefly those aspects of the Rockefeller Foundation and Ford Foundation programs in India that were most closely related to the USAID program in agricultural education. Section VII examines the process of change in the official objectives and emphasis of the Agricultural Education and Research Project. Section VIII draws on the previous material in summarizing the roles and functions performed by U.S. technical assistance in the legal establishment of Indian agricultural universities.

### **Sources of Data**

Data collection was done entirely in the United States, under the auspices of the CIC-AID Rural Development Research Project. Each of the five U.S. land-grant universities involved in the contract program in India supplied relevant file materials and periodic reports to the CIC-AID Rural Development Research Project. These materials were invaluable as a primary source of information on the early years of the university contracts in India. Dr. Frank Parker, Dr. Ralph Cummings, and others generously permitted the author to use personal copies of other key documents relating to the history of the university contract program.

The second principal source of data was lengthy personal interviews conducted in the spring of 1967 of former U.S. university team leaders and university administrators, U.S. Agency for International Development officials with firsthand experience in India, the former Director of the Rockefeller Foundation program in India, Dr. Ralph W. Cummings, and the Director of the Ford Foundation program in India, Dr. Douglas Ensminger. These persons were, without exception, extremely helpful and anxious to be of assistance. In talking to these "old India hands," one could not help but be impressed by their team spirit, high regard for India and the Indian people, and genuine enthusiasm for the India contract program.

## I. INDIAN AGRICULTURAL EDUCATION AND U.S. LAND-GRANT UNIVERSITIES

After 1857 the British set up a system of universities in India modeled after London University and based largely on the report in 1854 of Sir Charles Wood to the Court of Directors. This report has come to be known as "the Magna Charta of English education in India." The subsequent British influence on the development of Indian universities is well documented and perceptively analyzed by Sir Eric Ashby in his book, *Universities: British, Indian, African*. Ashby concludes that the system of higher education inherited at independence in 1947 from the British was dangerously weak in three ways: (1) The British failed to set and maintain the quality of teaching and standards of achievement essential for Indian degrees to be acceptable in other countries; (2) the British failed to devise, and persuade Indians to accept, a content of higher education suited to India's social and economic needs; and (3) they failed to establish patterns of academic government and relations between universities and the state which would accord to universities that degree of autonomy without which they cannot serve society properly (3, page 138).

### Indian Agricultural Education

Agricultural higher education was particularly weak in 1947. Agriculture as a profession had very low prestige; the professions of law, medicine, arts, engineering, and basic sciences had been stressed, and technological and vocational studies were not considered to be on the same plane. Although liberal subjects had been taught at well-established universities for a number of years, the University Education Commission reported that in 1948 there were only 17 agricultural colleges in India, 12 of which had been established since 1940. Facilities for training in postgraduate<sup>1</sup> research work in the agricultural sciences in 1948 were available for only 166 students. The fact that higher agricultural education was relatively new did not preclude it from falling into many of the same patterns of older colleges and universities.

The situation existing in Indian agricultural and veterinary colleges in the immediate post-independence period will be discussed in terms of (a) the colleges' organization and administration, (b) the relationship of instruction to research and extension activities, (c) the colleges' curricula and teaching methods, and (d) the quality of facilities.

The Constitution of India specifies which activities shall be the con-

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<sup>1</sup> In India, "postgraduate" means education beyond the bachelor's degree.

cern of the center government and which are reserved to the individual states. Agriculture and education are specifically allocated to the states. Agricultural colleges were under the immediate supervision and control of the state departments of agriculture, while veterinary colleges were responsible to the state veterinary departments or state departments of animal husbandry.<sup>1</sup> All agricultural and veterinary colleges were affiliated with a university which controlled examinations, curricula, and standards. Each college was headed by a principal who reported directly to the state director of agriculture or animal husbandry. Although the principal had theoretical responsibility for operations of his college, he usually lacked sufficient authority to make the required decisions. The state director of agriculture made many of the decisions, but even he did not have full authority to act without the approval of the state secretary of agriculture. Financial support for the colleges was channeled through the state department of agriculture.

By and large, instruction, research, and extension activities in agriculture were carried out by different staffs at different locations in the states and with little cooperation or contact. College teachers did little or no research and research workers did little or no teaching. Most colleges had no organized programs of research or extension, and little enthusiasm for building such programs into the college activities.

Research and extension programs were the function of the state departments of agriculture and animal husbandry. Research techniques were often poor, and the research tended toward theoretical problems rather than toward applied research specifically oriented to solving India's serious production problems. A particular lack of significant research dealing with India's livestock problems was observed. The agricultural extension work of the state departments of agriculture included service and regulatory activities in addition to extension education, with the result that the latter was neglected. Extension workers placed emphasis on supplying the basic materials and services to cultivators, with lack of corresponding attention to instructions about ways to make most effective use of these materials and services.

Agricultural (crops) education and animal husbandry (livestock) education were separated, with animal husbandry being incorporated into the veterinary colleges. In most states these agricultural and veterinary colleges were in different locations and had little contact.

Although the agricultural and veterinary colleges concentrated primarily on instruction, their teaching methods were poor. All subjects

<sup>1</sup> In an Indian state, the departments of agriculture and animal husbandry are units within the Ministry of Agriculture. The term "agriculture" generally refers to crops, while "veterinary science" and "animal husbandry" refer to livestock.

were taught through lectures from syllabi prepared by a board of studies and approved by the university with which the college was affiliated. College faculty members had little part in preparing the syllabi or in giving the examinations over the course work at the close of the school year. The external examinations were conducted by outside representatives of the university (usually faculty members from other colleges) and were used as the sole criterion for successful achievement in the courses. Thus the syllabi were adhered to rigidly. The syllabi were usually out of date and there was no incentive to keep up with new developments in a subject-matter field. The curriculum was inflexible, with all students taking the same courses. There was no opportunity for specialization at the undergraduate level. The instructional programs in general tended to be too academic and book-centered and to minimize applied phases of study. Laboratory periods were few or inadequate, and it was not considered dignified for a professor to work with his hands in doing menial tasks for research purposes, for maintaining demonstration plots, etc.

The primary student objective became that of passing the annual external examinations, and all teaching and learning were oriented toward that end. Students memorized the lecture notes, with little use of outside reference books or questioning of the material. The system discouraged teacher or student initiative and intellectual curiosity.

Partly because of the relative youth of most agricultural and veterinary colleges and because of their relatively low prestige, facilities were inadequate. Improvements were particularly needed in laboratory and field equipment and in libraries. The libraries were open only limited hours and books were kept locked up. Students were not permitted full access to the library facilities. Books were out of date, and few scientific journals were subscribed to on a continuing basis.<sup>1</sup>

### **University Education Commission**

In 1948-49 an all-India University Education Commission, chaired by Dr. S. Radhakrishnan, made an overall study of higher education in India (19). Included among its ten members were two American educators, Arthur E. Morgan, former president of Antioch College and first board chairman of the Tennessee Valley Authority, and John J. Tigert, president emeritus of the University of Florida and former U.S. government Commissioner of Education.

<sup>1</sup>The foregoing observations on Indian agricultural and veterinary education were made by the First Joint Indo-American Team on Agricultural Research and Education in 1955 (17) and were confirmed by the U.S. university teams in their initial surveys and in later periodic reports.

The tone of the *Report of the University Education Commission* is indicated by this quotation:

We were everywhere struck by a deep general awareness of the importance of higher education for national welfare and an uneasy sense of the inadequacy of the present pattern (19, page 5).

The Commission examined higher education on the criterion of its ability to play the role expected of it in the newly independent Indian democracy. The democratic philosophy pervades the report. A distinguishing feature is the emphasis on the general advancement of rural India. Education is viewed as an instrument of social change, with the double aim of preparing individuals for a particular vocation and for citizenship in a democratic community. Not only must much larger numbers of people be educated, but this education should be more specifically oriented to rural life and practical problems. Practical skill should be looked on as equal in dignity and worth to purely intellectual skill.

The Commission recognized the importance of a broad liberal education but also stressed the need to develop the faculties of science, technology, and agriculture at Indian universities. It recommended that agricultural education in particular be recognized as a major national problem and given high priority in national economic planning; that agricultural education be given a rural setting; and that agricultural education, research, and policy be managed by persons with first-hand knowledge of rural life.

The Commission's most far-reaching suggestion for Indian agricultural education was its recommendation that a system of rural universities be established to supply the ever-increasing ranges and quality of skilled persons that would be needed by India and to meet the requirements of an educated citizenship. "A new beginning is desirable, with freedom to create a distinctive tradition as to purposes, spirit and methods" (19, page 574). These rural universities leaned heavily for their inspiration on the U.S. land-grant university system.

Principal features of the proposed rural universities were mentioned by the Commission in general terms. A rural university should include a ring of small resident undergraduate colleges, with specialized and university facilities in the center. While the need for a common core of liberal education in the basic sciences and social sciences was recognized, it was stressed that the curriculum should fit the needs of individual students and should provide for specialization and taking courses from more than one college. Each rural university should be autonomous and free to work out its own program in its own way, in terms of syllabi, curricula, evidence of completion of work, and

examinations. The system of uniform external examinations was challenged as destroying flexibility and adaptability. The Commission envisioned such a rural university as being governed in its overall policy and program by a select executive council, similar to the board of trustees of U.S. universities. It also called for increased faculty participation in educational policies and academic affairs of the university.

Through its concept of rural universities, the University Education Commission introduced the land-grant college philosophy into India. The Commission's report has since provided the basic legitimacy for the development of what came to be called agricultural universities based on the U.S. land-grant college pattern.<sup>1</sup> Zakir Husain, a member of the University Education Commission and now President of India, has given much of the credit for the rural university concept to Arthur E. Morgan (10, page 7).

The University Education Commission suggested that from one to three rural universities could be established with existing staff. The Government of India First Five Year Plan called for the establishment of at least one rural university for experimental purposes and for meeting the requirements of higher education in relation to rural areas. Agriculture was given first priority in the First Plan.

Thus the stage was set for introduction of U.S. land-grant college philosophy and methods into India through the report of the University Education Commission and the interest of key officials of the Government of India. These officials viewed the land-grant college system as a key factor in the intellectual and material achievements of rural America and reasoned that a similar system in India could also serve to stimulate India's rural life.

The decision to establish rural universities, however revolutionary it was in terms of India's past, was one thing. The implementation of this decision was another and much more difficult problem. The concept of rural universities involved many new and completely different principles from what had been practiced in Indian agricultural education. By no means all Indians recognized the value of these new land-grant college principles at the time of the Commission's report, and even today some Indians question their desirability or applicability to India.

### **The U.S. Land-Grant University**

To understand the radical changes involved in the rural university concept, it is important to understand the basic philosophy, functions, and organization of its model, the U.S. land-grant university.

<sup>1</sup>The name was changed from "rural university" to "agricultural university" to avoid confusion with the Rural Institutes of the Ministry of Education.

While the functions and basic organizational principles of land-grant colleges are generally agreed upon, the organizational patterns developed for the execution of these functions have not been completely uniform. Many varying organizational patterns are found in the United States itself, with still other variations found in countries such as India that have adopted parts of the land-grant college system.

Three major aspects of the land-grant college philosophy as it has evolved in the United States can be distinguished. These include (1) the relationship of the land-grant college philosophy to the democratic philosophy through education for all people regardless of economic or social status; (2) concern with service to the people and the states; and (3) the legitimization of practical vocational education as a fit subject for university training.

The land-grant college philosophy is directly related to the democratic spirit. Land-grant colleges were originally conceived by Senator Justin Morrill, Jonathan Baldwin Turner, and others as a means whereby people of all economic and social levels could participate in a higher education oriented more directly toward the practical vocational needs of the common man in agriculture, veterinary science, home economics, and engineering. A major purpose was to educate greater numbers of people in a more practical vein. The resulting system of state universities in the United States had this very effect of extending higher education to those who previously could not afford to attend the private colleges, particularly the rural population. Higher education in America came to be regarded not so much a luxury as a national necessity.

The second aspect of the land-grant college philosophy is related to the democratic spirit through the concern with public service for both the immediate and long-range needs of society. Land-grant colleges have been responsive to the needs of rural people and have been able to adapt to changes in these needs. The colleges have developed an outward-looking orientation and a feeling of responsibility for agricultural development in the state, rather than an inward-looking ivory-tower program with little relationship to current rural and agricultural problems.

The third aspect of the land-grant college philosophy follows from the second. Because the colleges were responsive to the needs of the people in the state, practical scientifically oriented education was gradually elevated to an equal status with traditional liberal education. With higher education in such subjects as agriculture, veterinary medicine, home economics, science, and engineering came increased respect for and acceptance of these vocations as professions in their own right along with the traditional professions of law, medicine, philosophy, and theology. Land-grant colleges did not seek to replace the pursuit of

fundamental knowledge, but to establish the proper balance between fundamentals and applications of this knowledge toward practical solutions of rural problems.

In the United States the functions of land-grant universities are generally agreed upon today, and taken for granted. Full-blown universities as we know them did not spring up immediately upon passage of the Morrill Act in 1862; rather they gradually evolved and expanded their functions as needs dictated. The first land-grant colleges were concerned primarily with instruction, although research was recognized as an important supplement and there were some early extension efforts. In 1887 the Hatch Act created federal-state-college cooperation in setting up agricultural experiment stations to conduct applied research. Not until the 1914 Smith-Lever Act was the Cooperative Agricultural Extension Service established. The three principal functions of land-grant colleges — teaching, research, and extension — thus evolved over a period of some 50 years.

Coordination and integration of these three functions has been recognized as important to the effectiveness of each. Research needs to be made responsive to the current problems of farmers as they face them. Extension workers in daily contact with farmers are in a good position to bring these problems to the attention of the research workers. In turn, the extension workers provide a channel for immediate conveying of research findings to the farmer. Teachers need to maintain contact with researchers and extension workers in their respective subject fields to keep abreast of recent research developments and current field problems if instruction is to be oriented toward applied problems and current data.

Because the land-grant colleges are service-oriented and devoted to the solution of important agricultural problems, teaching methods have focused on development of the student's capacity to identify important problems and to proceed confidently in their solution. The curriculum is flexible; although students take some common courses in liberal education and basic sciences, there is opportunity for specialization in various subject fields at the undergraduate level. The curriculum combines theoretical, fundamental subject matter with more practical, applied material. The teaching programs generally involve the students in considerable field work, where they physically come in contact with problems and their solutions and where they learn by doing. Professors are generally responsible for developing the course outline and contents and for examining the students on the material periodically during the year. Use of outside materials and reference books in the library to supplement class lectures is encouraged.

While general organizational principles of the colleges are similar, each state has been free to make strategic organizational decisions regarding its own university. Therefore there have been essentially 50 independent experiments on the development of U.S. land-grant colleges. The basic principle of organization is the integration of teaching, research, and extension. The college of agriculture is composed of several subject-matter departments, whose heads are responsible to the dean of the college through individual administrative officers in charge of instruction, research, and extension. A second pattern found in some institutions gives the director of research authority for the research program, while the dean is responsible for instruction and extension. The dean exercises overall coordination of these functions, and integration usually takes place at the subject-matter level as well. Each department includes teachers, researchers, and extension specialists. A professor often divides his time between two or three functions.

The land-grant universities were established with the help of some federal financial support, and the physical plant and current operational expenses are largely borne by the state governments. Yet these universities are autonomous, with ultimate supervision and policy-making resting with a board of trustees composed of public citizens. The dean of agriculture is responsible through the president to this board.

A key feature of the land-grant college system is the cooperative federal-state-county-college relationships, particularly in research and extension activities. The research activities of the college of agriculture are channeled through the agricultural experiment station set up under the Hatch Act. The U.S. Department of Agriculture maintains regional government research stations with its own research staff. Many of these stations are located at the campuses of land-grant colleges and in such cases the two staffs work closely together. The Cooperative Agricultural Extension Service fields one set of county agricultural agents and home demonstration agents who have joint federal-state-college appointments. Headquarters for the extension service in each state is the college of agriculture, through its director of extension. Many regional committees in research and extension have developed for discussion and solution of common problems. The state departments of agriculture handle the service and regulatory functions of extension work and work closely with the land-grant colleges in their extension education work.

It was this philosophy, if not the exact organization, which key Indian leaders sought to adapt to the Indian agricultural education system. It seemed logical that U.S. land-grant universities should assist the Indian institutions in this task.

## II. ORIGINS OF THE AGRICULTURAL EDUCATION AND RESEARCH PROJECT

### Early Ford Foundation Program

One of the major provisions of India's First Five Year Plan called for a village development program, known as the Community Development Program, aimed at stimulating the villagers to self-improvement efforts in economic and social development. Multi-purpose village-level workers were to assist villagers in development of basic local social, educational, and political institutions, to help organize and construct community improvements such as roads, schools, and wells, and to encourage development of agriculture. While increased agricultural production was only one goal of the Community Development Program, it was emphasized that desired community improvements could come only from additional agricultural production and higher incomes (25).

The Ford Foundation program in India began in late 1951 with grants to support the Community Development Program. Its first grant for \$1,200,000 to the Indian government was for fifteen pilot projects of 100 villages each, to devise and test suitable educational and demonstration methods, and for five centers to train village-level workers to guide villagers in self-improvement efforts. About the same time, the Foundation made the first of two grants totalling \$1,359,950 to help establish extension departments at nine agricultural colleges for advanced research and training in rural sociology, extension education methods, and field demonstrations (6).

### Early USAID Agricultural Program

U.S. government technical assistance to India in the field of agriculture began with an agreement signed January 5, 1952. The initial USAID agricultural program in India also concentrated principally on assistance in agricultural extension and extension training in support of the Community Development Program. American technicians trained principally as vocational agriculture teachers and county agents were hired directly by USAID for this purpose. These technicians worked on an *ad hoc* basis with units of the central and state government ministries of agriculture. The first U.S. government assistance to Indian agricultural education as such was provided by a USAID contract with the University of Illinois signed on June 26, 1952. The University of Illinois was to provide American advisory personnel, participant training for Indian staff in the United States, and scientific equipment and books to the Allahabad Agricultural Institute in Uttar Pradesh for the

purpose of upgrading the Institute's instruction and research program in agriculture, mechanic arts, home economics, and social sciences. The early USAID efforts in agricultural education, however, were random and not directly related to the University Education Commission recommendations on agricultural education or any other long-range plan.

Indian officials were interested in the possibility of an Indo-American interinstitutional exchange program in agriculture. A conference of the state ministers of agriculture, vice-chancellors, and deans of the faculties of agriculture was held in November, 1951, in New Delhi to consider the question of reorganization of agricultural education in the country. In one of its resolutions, the conference approved of the formation of sisterhood relations between Indian and U.S. universities with a view to promoting exchanges of professors and students.

When Frank Parker arrived in India in July, 1953, to assume the post of USAID Chief Agriculturist, he found a general Indian interest in interinstitutional programs. At about this same time, AID/Washington was encouraging the development of U.S. university contracts with educational institutions in less-developed countries, with a particular focus on agriculture. Dr. Parker and various Government of India officials held informal discussions about an interinstitutional program during the summer and fall of 1953, with the first formal meeting between USAID and Government of India representatives occurring in November, 1953.

### **Operational Agreement Number 28**

On the basis of these and subsequent meetings, the original Operational Agreement Number 28, "Project for Assistance to Agricultural Research, Education and Extension Organizations," was signed April 30, 1954. The purpose of this agreement was to strengthen institutions engaged in agricultural instruction, research, and extension through provision of (a) laboratory and classroom equipment for programs of a practical and applied nature, (b) books and journals, (c) interchange of staff and possibly advanced students between agricultural institutions in the United States and India in the areas of research, instruction, extension, and administration, (d) additional specialists as needed, and (e) the opportunity for training of Indians outside India. Five hundred thousand dollars was allotted for the equipment and books.

In addition, a joint team of Indian and U.S. specialists in agricultural research and education was to undertake a comparative study of the organization, functions, and operation of Indian and U.S. agricul-

tural educational and research institutions. On the basis of this study, the team was to advise the cooperating governments as to the most effective utilization of the assistance provided and envisaged under the Indo-American Technical Cooperation Program.

The first supplement to Operational Agreement Number 28 was signed March 30, 1955. This supplement provided the authorization for five U.S. university contracts with USAID to strengthen agricultural institutions in India and to increase cooperation and coordination in agricultural research and education. Each contracting university was to work with the agricultural colleges and research stations in a region of India, which usually comprised two to four states. Financial support to March 30, 1958, came to \$3,000,000, including \$1,000,000 for commodities and \$2,000,000 for costs of the U.S. university services and participant training.

### **First Joint Indo-American Team**

The terms of reference of the First Joint Indo-American Team on Agricultural Research and Education were considerably broader than those of the U.S. university contracts (17). This First Joint Team was to provide a thorough *national* review of Indian agricultural research and education as a device for providing comprehensive guidelines for overall American technical assistance to these fields. The U.S. universities were to deal with Indian agricultural research and education on a *regional* basis.

The First Joint Team was composed of five Indians and three Americans. American members included A. H. Moseman, U.S. Department of Agriculture; Dean R. E. Buchanan, Iowa State University; and Dean E. E. Leasure, Kansas State University. Indian members included K. R. Damle, Vice President of the Indian Council of Agricultural Research; B. N. Uppal, Government of India Agricultural Commissioner; L. Sahai, Director of the Indian Veterinary Research Institute; H. K. Nandi, Director of Agriculture, Government of West Bengal; and J. V. A. Nehemiah, Secretary, Indian Council of Agricultural Research. The Indian members of the First Joint Team visited the United States from January to March, 1955, while the American members went to India in July, 1955.

The First Joint Team represented a unique approach to technical assistance planning. First, its report was accepted by both the Indians and the Americans as the basis of a national plan for reforms in Indian agricultural research and education. It represented an attempt at long-

range planning of U.S. technical assistance to Indian agriculture on the basis of a thorough survey of Indian needs and conditions. Frank Parker was one key American official who recognized the need for long-range guidelines arrived at jointly by Indians and Americans, to replace the *ad hoc* technical assistance efforts described earlier.

Second, the bi-national composition of the First Joint Team caused the Americans and their Indian colleagues to focus jointly and simultaneously on the key problems to be overcome in increasing the effectiveness of Indian agricultural education and research. Many differences in viewpoint were resolved during the drafting of the report, so that most of the recommendations, with the exception of the minority report on the proposed delineation of animal husbandry and veterinary science areas, were fully concurred in by both the Indian and American members. The full participation by the Indian members of the team ensured a much better and more thorough Government of India understanding of the substance and implications of the recommendations than would have been possible with a wholly American team. The fact that the team's membership included prominent, respected Government of India officials in the field of agriculture gave considerable weight to its report and represented a Government of India commitment that could not be ignored.

Third, the First Joint Team's report contained 118 principal recommendations, many of which were relatively minor and could be implemented with little or no additional cost. The members agreed that many changes in Indian agricultural education and research were necessary, and that several relatively minor changes could be as important as a few major changes. Thus the First Joint Team deliberately presented a long series of smaller recommendations, with the hope that the Government of India could then choose among them. These smaller recommendations could be acted upon with much less difficulty than a few massive recommendations, and implementation could be phased over a period of time as conditions permitted.<sup>1</sup>

Two of the First Joint Team's principal recommendations are of particular interest to this study. First, the team endorsed the recommendation of the University Education Commission that wherever possible each state should develop a rural university. Particular places that the team felt were ready for consideration of a rural university included Uttar Pradesh (Tarai), West Bengal (Haringhatta), Bihar (Patna), Orissa (Bhubneshwar), Travancore-Cochin, and Bombay

<sup>1</sup> Interview with A. H. Moseman.

State (Anand). Second, the team suggested that postgraduate colleges be established by the Government of India at the Indian Agricultural Research Institute and the Indian Veterinary Research Institute among other places.

Other major recommendations dealt with the topics of research organization, higher education in agriculture, veterinary science, and related fields, the relation of research and instruction to service and regulatory activities, administration and personnel management, and professional societies and farm organizations.

The First Joint Team went considerably further than had the University Education Commission in describing possible functions and organization for a rural university that were closely related to those of a U.S. land-grant university. The author supports the view expressed by Henry Hart in *Campus India* that a subtle change had come over the rural university concept (8). The University Education Commission was primarily concerned with rural universities as an appropriate vehicle for educating larger numbers of rural people in a more practical and vocationally oriented vein. Its report contains no mention of the value of a land-grant type university in modernizing India's agriculture and contributing to increases in her agricultural production. Nor is there any direct reference to integration of agricultural instruction, research, and extension as a cardinal organizational principle of a rural university. In this sense, the University Education Commission endorsed the original land-grant college philosophy rather than specific functions and organization of a land-grant college as evolved in the United States (see Section I).

The First Joint Team, on the other hand, viewed a rural university as one solution to agricultural problems. A primary concern of the team was to strengthen postgraduate teaching and research in agricultural subjects. Many of the recommendations urge close coordination, if not actual integration, of agricultural instruction, research, and extension.

American technical assistance in the implementation of the First Joint Team's recommendations took place through two principal agencies — the five U.S. land-grant universities that contracted with USAID as authorized by the first supplement to Operational Agreement Number 28 in 1955, and the Rockefeller Foundation. The program carried out by the five U.S. university contracts was referred to as the Agricultural Education and Research Project.

The First Joint Indo-American Team report was intended to serve as the basis for the U.S. university Agricultural Education and Research Project. However, the First Joint Team field work and the

initial planning for the Agricultural Education and Research Project proceeded simultaneously. At the time the Indian members of the First Joint Team visited the United States in January, 1955, Dr. Parker was also in the United States to identify U.S. institutions willing to participate in the contract program. Initial discussions with representatives of the University of Tennessee, Ohio State University, Kansas State University, the University of Illinois, and Pennsylvania State University (later replaced by the University of Missouri) took place in January and February, 1955, and concluded with a meeting of representatives of the five universities, AID/Washington, and USAID in Chicago. The first of the two-man pre-contract survey teams from each U.S. university arrived in India in April, 1955. When the American members of the First Joint Team visited India in July, 1955, they found their paths crisscrossing with those of the U.S. university survey teams. The First Joint Team report was submitted to the Government of India Ministry of Food and Agriculture in September, 1955, the same month in which the first of the five U.S. university contracts under the Agricultural Education and Research Project was signed with Ohio State University. The first U.S. university staff members arrived in India in October, 1955.

Thus the U.S. university contract provisions anticipated, rather than followed from, the First Joint Team's recommendations. Although the First Joint Team report could not have significantly influenced the contract provisions themselves, in practice the report, interwoven as it was with the land-grant college philosophy, reinforced the University Education Commission report of 1950 in providing basic legitimacy for the U.S. university field teams' efforts toward improvements in and coordination between agricultural instruction, research, and extension education.

### **Early Rockefeller Foundation Program**

At the same time that the U.S. university Agricultural Education and Research Project was getting under way, the Rockefeller Foundation was looking for an appropriate country in Asia with which to work. The Foundation had a number of smaller exploratory projects in the region, but no large programs. Dr. Parker was influential in persuading the Foundation to consider India, and the Government of India Ministry of Food and Agriculture invited the Rockefeller Foundation to participate in the agricultural program. The 1956 agreement between the Government of India and the Rockefeller Foundation contained two principal features: (a) The Foundation was to assist in

the development of the postgraduate school of agriculture at the Indian Agricultural Research Institute (IARI); and (b) the Foundation was to assist in the development of national research programs on the improvement of certain cereal crops (maize, sorghums, and millets initially). Thus the Rockefeller Foundation took on the implementation of some of the First Joint Team's recommendations at the national level.<sup>1</sup>

Ralph Cummings arrived in India in March, 1957, to direct the Rockefeller Foundation's program. Albert Moseman, who had been a member of the First Joint Team and was then Director of Agricultural Programs for the Rockefeller Foundation in New York, retained an active and sympathetic interest in India.

### **III. ORGANIZATION, STAFFING, AND OBJECTIVES OF THE AGRICULTURAL EDUCATION AND RESEARCH PROJECT**

#### **U.S. University Field Team Organization and Staffing**

H. M. Patel, Secretary to the Ministry of Food and Agriculture of the Government of India, suggested that India be divided into regions for the purposes of the Agricultural Education and Research Project. Accordingly, Dr. Parker and J. V. A. Nehemiah, Secretary of the Indian Council of Agricultural Research, divided India into five regions.<sup>2</sup>

The state in which the Allahabad Agricultural Institute was located, Uttar Pradesh, together with the less-developed adjoining state to the south, Madhya Pradesh, made a natural area for Illinois to serve. Four other regions were defined on the basis of transportation, crops, and existing administrative regions, and later assigned to the four other contracting U.S. universities. Because of this regional division and the large number of host institutions involved, the Agricultural Education and Research Project was sometimes referred to as the Regional Assistance program.

Region I, including the states of Uttar Pradesh and Madhya Pradesh, was assigned to the University of Illinois; Region II, including the states of Punjab and Rajasthan, to Ohio State University; Region III, including the states of Orissa, West Bengal, Assam, and Bihar, to the University of Missouri; Region IV, including the states of Andhra Pradesh and Bombay (later divided into Maharashtra and Gujerat), to Kansas State University; and Region V, including the states of Mysore, Madras, and Kerala, to the University of Tennessee.

<sup>1</sup> Interview with Dr. Ralph W. Cummings, Sr.

<sup>2</sup> Interview with Frank Parker.

USAID contract assistance to each region was provided in three forms — American advisors, participant training for Indian staff members in the United States, and purchase of equipment and books. The initial agreement provided for 35 U.S. university staff members to work in India, 35 Indian participants to study in the United States each year, and \$1,250,000 for library, classroom, laboratory, and field equipment.

U.S. university staff members worked with a number of host institutions in their respective regions, including public and private agricultural and veterinary colleges, various research agencies and stations of the state government departments of agriculture and animal husbandry, and some central research institutes. At one time, these totalled 81 different institutions. In 1957 this number was reduced to a more manageable 45, with the USAID policy decision to restrict formal contract operations to teaching institutions and to two central research institutes.

After 1957 the University of Illinois had the responsibility for five colleges in Uttar Pradesh, including the Allahabad Agricultural Institute, and six colleges in Madhya Pradesh. Kansas State University served four colleges in Andhra Pradesh, five colleges in Maharashtra, one in Gujerat, and the Indian Veterinary Research Institute at Izatnagar, Uttar Pradesh. The University of Missouri assisted two colleges in Assam, three colleges in Bihar, two colleges in Orissa, and two colleges in West Bengal. Ohio State University aided two colleges in the Punjab, two colleges in Rajasthan, and the National Dairy Research Institute at Karnal. The University of Tennessee helped with three colleges in Mysore, four colleges in Madras, and two colleges in Kerala. Altogether these host institutions included 27 agricultural colleges, 15 veterinary colleges, and one home science college, plus two national research institutes.

Initially, each U.S. university fielded one team leader with responsibilities for overseeing and coordinating all U.S. university team activities in his respective region. These team leaders were located in the states of Uttar Pradesh, Andhra Pradesh, the Punjab, Mysore, and West Bengal. The rest of the team members were located at various colleges throughout the regions, with usually no more than one or two per college.

### **USAID Staffing in Agriculture**

The Agency for International Development Mission in India officials most directly concerned with the Agricultural Education and Research Project have been the Chief Agriculturist, the Agricultural Education

Advisor, and the Field Operations Officer, Agricultural Universities Branch. Chief Agriculturists since the beginning of the Agricultural Education and Research Project have included Frank Parker, Raymond Davis, Ray Johnson, and Russell Olson. Ephriam Hixson served as Agricultural Education Advisor to the Government of India Ministry of Food and Agriculture from September, 1957, to April, 1962. In this position Dr. Hixson had numerous contacts with the agricultural and veterinary colleges and with the U.S. university teams. From November, 1958, to May, 1966, the immediate U.S. university field team contact with USAID was through O. Neal Liming, Field Operations Officer. These USAID officials were officed in Delhi and carried on most of their activities there. However, they visited the various states periodically and provided substantive as well as administrative assistance to the U.S. university teams.

### **Objectives of the Agricultural Research and Education Project**

In 1955 a complete meeting of Indian and American minds on the objectives and methods of the interinstitutional Agricultural Education and Research Project was difficult. Both groups agreed on the need for upgrading the agricultural and veterinary colleges; there was some disagreement over the most effective methods to accomplish this. A majority of the concerned Indian colleges wanted more equipment and books than USAID thought could be properly selected and used. Both agreed on the need for a strong participant program, which was later more than doubled. USAID favored more U.S. university staff than many Indians thought were needed.

USAID was interested in a good number of U.S. university staff because the job could simply not be done without them, and because India and USAID needed better-trained men than the county agents and vocational agriculture teachers that constituted the first group of U.S. advisors. Men with experience in teaching and research were needed to implement the program, and USAID expected on the average to get better men from contracting universities than they could hope to get by direct hire.<sup>1</sup>

The stationing of U.S. university team members throughout the various states, beginning in 1955, probably helped produce an imbalanced distribution of USAID direct-hire staff between the states and the central government. In effect, the U.S. university teams became USAID's principal representatives in agriculture in the various states.

<sup>1</sup> Interview with Frank W. Parker.

In 1952, four USAID technicians were assigned to the Government of India Ministry of Food and Agriculture while 33 were assigned to the states. In 1954, there were ten USAID technicians assigned to the Ministry of Food and Agriculture, and 32 technicians working in the states. Between 1954 and 1955, the number of the USAID technicians assigned to the states declined by approximately one-third from 32 to 20, partly because some voluntarily left India after one two-year tour of duty and partly because some were not asked to stay. In 1955, there were six university contract staff members working under the Agricultural Education and Research Project in various states. While the number of university contract staff continued to increase from 20 in 1956 to 26 in 1958, the number of USAID technicians in the states declined rapidly to 15 in 1957 and to 6 in 1958. On the other hand, technicians working with the Ministry of Food and Agriculture increased rapidly to 12 in 1955, 17 in 1956, 23 in 1957, and 26 in 1958.

The first U.S. university teams to arrive in India sensed a diversity in objectives. They found that key officials in the Government of India Ministry of Food and Agriculture were generally interested in and understood the purposes of the Agricultural Education and Research Project and the land-grant college concepts underlying it. State government officials were less sure of the purpose of the program, while many host institution principals and staff members simply wondered why the Americans were there. Not only were the host institution staff members somewhat suspicious of the U.S. university intentions, but they were so busy with their own work that they had little time for their American counterparts. While a few key state government and host institution staff members had received degrees in the United States or had visited the U.S. land-grant universities, most had had no experience with the land-grant college concepts advocated by the U.S. university team members. The First Joint Indo-American Team noted this situation, indicating that while the team had found approval of the desirability and even necessity for coordination of higher education, research, and extension education work, nowhere did it find evidence of effective techniques for accomplishing this coordination on the local, state, or central government levels. The team commented that in the agricultural colleges there was some reluctance to recognize the inter-relationship of these programs (17, page 30).

This lack of interest in, experience with, or understanding of U.S. land-grant college methods was complicated by the relative priority accorded to agriculture in India's Second Five Year Plan (1956-1961). While agriculture, irrigation, and related items accounted for about

one-third of the First Five Year Plan's total outlay, the corresponding provisions in the Second Five Year Plan accounted for only about one-fifth of the total outlay. The Second Plan emphasized industrial development. Thus one would expect such Government of India agencies as the Planning Commission to place agricultural matters, particularly new proposals such as rural universities, in lower priority.

Further, the first U.S. university teams found that little or no serious thought had been given by state government or host institution officials to the possibilities of developing rural universities, as recommended by the University Education Commission and the First Joint Indo-American Team on Agricultural Research and Education.<sup>1</sup> The one exception was the state of Uttar Pradesh. Pundit G. B. Pant, U.P. Chief Minister, was a key early supporter of a "people's university" for Uttar Pradesh. Two other important officials, A. N. Jha, then Secretary of Agriculture, and Major H. S. Sandhu, Director of the Tarai State Farm, had visited the United States in the early 1950's and studied the land-grant universities. When the Agricultural Education and Research Project was first discussed with U.P. officials in the spring of 1955, they recognized that the program could provide the means for assisting the state of Uttar Pradesh in establishing a rural university. Uttar Pradesh was the only state at that time to request the help of a U.S. university specialist in drawing up a blueprint for a rural university. Accordingly, H. W. Hannah, Associate Dean of the University of Illinois College of Agriculture, was assigned this task in addition to his team leader duties.

Given this sort of climate relative to rural universities at the Government of India level and in the states, it would have been exceedingly difficult to declare the principal objective of the U.S. university contracts under the Agricultural Education and Research Project to be the establishment of rural universities.

Instead, the principal objectives of the five U.S. university contracts signed between September, 1955, and March, 1957, called for the contracting U.S. university to advise and aid in training the staff of the cooperating institutions in organization, administration, and methods in the fields of agriculture, animal husbandry, and veterinary science, with emphasis given to teaching, research, and training of extension workers. Later contracts specifically provided that the contracting U.S. universities were to advise and assist the Ministry of Food and Agriculture and cooperating states in the development of improved coordi-

<sup>1</sup> Conclusion based on interviews with former U.S. university team leaders.

nation among teaching, research, and extension programs carried out by their institutions.

Thus the primary and immediate U.S. objective under the Agricultural Education and Research Project was to assist in upgrading and in coordinating the instruction, research, and extension training programs of the agricultural and veterinary colleges and other host institutions in each region.

At the initial stages of the Agricultural Education and Research Project, most concerned USAID and U.S. university persons assumed that over a period of time various Indian states would develop rural universities along lines similar to those suggested by the First Joint Indo-American Team.<sup>1</sup> However, there seems to have been no clearly defined and mutually understood projected role of the U.S. university contractors with respect to the development of such rural universities except in the case of the University of Illinois and Uttar Pradesh. USAID certainly was receptive to providing such assistance to other states, but apparently had no definite ideas as to possible timing or strategies for encouraging such developments.

On the other hand, all the early U.S. university team leaders soon came to believe that rural university development was, at the least, an ultimate objective of the Agricultural Education and Research Project, and most felt it to be a primary objective. Thus it is fair to say that rural university development was indeed an *ultimate* objective of both USAID and the U.S. university teams, with the term "ultimate" remaining undefined and individual interpretations of it varying widely. It was also the ultimate objective of the Indian Council of Agricultural Research (ICAR) and the Government of India, as indicated by their acceptance of the First Joint Indo-American Team recommendations. However, rural university development was *not* an official widely espoused objective of the Agricultural Education and Research Project until the formal change in emphasis in 1961 when the program was renamed the Agricultural University Development Project.<sup>2</sup>

<sup>1</sup> Conclusion based on interviews with Frank W. Parker and former U.S. university team leaders.

<sup>2</sup> Conclusions based on interviews, examination of yearly country programs submitted by USAID in India to AID/Washington, and review of periodic reports to USAID prior to 1961 by the U.S. university field teams.

#### **IV. USAID AND AGRICULTURAL UNIVERSITY ESTABLISHMENT**

From the beginning of the U.S. university Agricultural Education and Research Project, USAID made a major effort at program coordination between the five U.S. universities and their respective regions. These efforts were of two types: (1) those directed principally at coordination between Indians and at increased Indian understanding of the contract program, and (2) those directed at coordination among the five U.S. universities themselves. Frank Parker was instrumental in encouraging and in implementing these mechanisms for coordination. Although these devices were conceived originally for purposes of the general Agricultural Education and Research Project rather than as means for attaining development of agricultural universities, each mechanism played some part in the evolution of these universities.

##### **Indian Program Coordination**

Three major mechanisms conceived by USAID and the Indian Council of Agricultural Research (ICAR) that proved effective in increasing inter-Indian coordination and understanding of land-grant college concepts were the seminars on teaching methods, the regional advisory committees, and provision for travel grants for short-term study tours by Indian administrators to the United States.

Seminars on teaching methods were held in 1957, 1958, and 1960 at Trivandrum (Kerala), Mussoorie (Uttar Pradesh), and Bombay, respectively (21 and 22). Those in attendance were the agricultural and veterinary college principals and representatives from the colleges' staffs, with some observers from the U.S. university teams, USAID, and ICAR. These seminars provided a forum where the Indian staff themselves critically examined existing teaching practices in agriculture and veterinary science. Each seminar proposed recommendations for improvements in teaching methods, organization and administration, and facilities, which were published and circulated. In nearly all states, these seminars were followed up by seminars at the individual colleges for the entire staff, and by reviews at later times to check on the degree to which the seminar recommendations had been implemented. For many in attendance, these seminars on teaching methods marked their first intensive discussions of applicable land-grant college methods that could be used effectively at their colleges.

Regional advisory committees were organized in each of the five regions and met once or twice annually. Membership included host institution principals, state and center ministry of agriculture officials,

and the U.S. university team leader, with observers from USAID and ICAR. In the first few meetings, discussion centered on contract operational questions. As those in attendance became acquainted and accustomed to meeting together, with freer discussion resulting, the agenda often turned to more general and fundamental matters such as continued improvements in regional teaching, research, extension, and library programs. These meetings served to bring agricultural officials from neighboring states and the central government together, many for the first time, with the hope that they would form the habit of cooperative regional discussion in the identification and solution of common agricultural problems. The committees were valuable in serving as a vehicle for informational exchange and coordination. In some states, early regional advisory committee meetings provided the forum for the first discussion of agricultural universities in a general way.

The third major mechanism, and the one most directly related to the ultimate development of agricultural universities, was the provision in USAID contracts for travel grants to selected key Indian college and state government administrators to visit the United States to study land-grant university organization, functions, and operations. Such visits proved valuable in nearly all instances through stimulating the interest of the Indian officials and increasing their knowledge and understanding of the land-grant college system. Various officials from the states of Uttar Pradesh, Madhya Pradesh, West Bengal, Madras, Punjab, Rajasthan, and Mysore have participated in such study tours.

Unfortunately, USAID programming requirements proved too rigid for maximum effectiveness of these travel grants. USAID regulations did not permit the Indian wives to accompany their husbands. The wives were often important, though, through their greater interest in campus food service, dormitories, and other student services. In addition, it proved difficult for an agency of a foreign government such as USAID to finance study tours for high-level Indian state government officials. Because of its greater administrative flexibility, the Rockefeller Foundation began to cooperate with USAID and the U.S. university teams in sponsoring these study tours.

### **U.S. University Program Coordination**

USAID utilized four major mechanisms directed at maximizing coordination among the five U.S. universities. While these universities do not constitute a formal consortium, they have cooperated closely from the beginning of the program. These mechanisms included the

periodic meetings in India of the team leaders and USAID representatives; the annual meetings in India of executive visitors from each U.S. university; the annual meetings of the campus coordinators in the United States; and direct participation in the program by USAID personnel.

In terms of having the most direct and immediate effect on the programs of the individual U.S. university teams, the team leader meetings with USAID held every few months in Delhi have been the most important. Such meetings have been useful for exchange of information, discussion of mutual substantive program problems, and hammering out of housekeeping-administrative questions. These meetings have served also to generate a spirit of team unity and better mutual understanding of the contract program.

Under the Agricultural Education and Research Project, provision was made for informal exchange of U.S. university staff between regions. A staff member on a short-term special assignment could sometimes be utilized effectively in a number of locations by other teams, or long-term U.S. university staff members could consult with other teams on solutions of mutual problems. The periodic reports show that some informal consultations and exchanges did take place.

Meetings of executive visitors from each U.S. university home campus have been scheduled in January or February of each year in Delhi. Executive visitors have included members of boards of trustees, university presidents, directors of international programs, deans of colleges of agriculture, and other key U.S. university officials. These executive visits were conceived primarily for the benefit of the individual teams and their relationships with the host institutions and state governments, and as a means of more deeply involving responsible officials on the home campus in the India contract operations. While the joint meetings of these executive visitors began largely for purposes of exchange of information and general coordination, they have come to be used by the USAID mission as sounding boards relative to overall contract program policy.

Meetings of campus coordinators have been held for two days each summer since 1956 in the United States. These have been attended by representatives of the contracting universities, AID/Washington, and USAID/India. While both policy and administrative matters are discussed, these sessions tend to concentrate more on the administrative and operational aspects of the contract program.

The U.S. university campus coordinator and executive visitor meetings served as important forums for discussion of the 1961 change in

program emphasis from regional assistance to concentration on selected agricultural universities.

### **USAID Assistance and Strategy**

The coordinating mechanism that probably had the greatest direct impact on agricultural university establishment *per se* was the supplementary help provided by USAID personnel. Dr. Hixson, Dr. Liming, and the Chief Agriculturists spent some time in the various states consulting with state government officials, host institution officials, and the individual U.S. university teams concerning plans and enabling legislation for establishment of agricultural universities, and the possibility of USAID assistance to these new universities. Dr. Hixson was selected as education advisor to ICAR because of his extensive experience in land-grant university administration, and he was active in discussions of agricultural universities during his stay in India. These men were helpful in development of plans and legislation for most of the agricultural universities, but prior to 1960 such efforts tended to be limited and *ad hoc*.<sup>1</sup>

While there was some interest in and discussion of agricultural university possibilities at these various meetings of Indian, USAID, and U.S. university personnel, the first formal intensive joint discussions of the relationship of the U.S. university Agricultural Education and Research Project to the establishment of agricultural universities did not come until about 1960.

Prior to 1960 USAID apparently felt that land-grant type institutions were an essential part of the agricultural development of India, but did not seem to have a detailed strategy for the specific development of those which had emerged by 1964. USAID and U.S. university personnel were united in their sincere belief in land-grant college concepts as an appropriate vehicle for increasing the effectiveness of Indian agricultural education. However, there were few USAID overall policy guidelines for the five U.S. university teams in terms of timing, methods, and nature of proposals for establishment of agricultural universities. The Agricultural University Committee (Cummings committee), of which Dr. Hixson of USAID was a member, represented the first Indian *and* American attempt on an all-India basis to draw up detailed long-range plans and to set up sound criteria for establishing agricultural universities.<sup>2</sup>

<sup>1</sup> Conclusions based on interviews and review of periodic U.S. university team reports.

<sup>2</sup> Conclusions based on interviews and examination of the records listed in the bibliography.

Dean Hannah's *Blueprint for a Rural University in India* (7) was published in 1956 and circulated widely throughout India with the hope that it would serve to stimulate interest in a rural university in other states. In the absence of any articulated USAID strategy, the Blueprint served as a focal point for discussion of rural universities.

As a result, in the early years U.S. assistance in the timing, methods, and content of proposals for establishing agricultural universities in the various states fell to the individual U.S. university team leaders.

## V. U.S. UNIVERSITY TEAM LEADERS AND AGRICULTURAL UNIVERSITY ESTABLISHMENT

Much of the early American assistance in agricultural university establishment was carried out independently by individual U.S. university team leaders. The roles and functions performed by the team leaders in stimulating and guiding agricultural university establishment will be analyzed in terms of four factors: (1) individual conceptions of the proper objectives, role, and functions of a team leader; (2) the Indian officials with whom the team leaders worked most closely; (3) the methods used by the team leaders in promoting agricultural universities; and (4) the existence of any articulated individual team strategies or long-range plans of operation in promoting agricultural university establishment.

For purposes of analysis, the team leaders can be divided into groups on the basis of the time period in which they served in India. Usually two years is considered to be one tour of duty. Thus the "first group" of team leaders includes the first five, who served from approximately 1955-56 to 1957-58. The "second group" refers to those who served from approximately 1957-58 to 1959-60. Three team leaders in the "second group" were new, and two stayed for a second tour. The "third group" means those who served from approximately 1959-60 to 1961-62. By this time, only one team leader remained from the original five, and another from the "second group" stayed for his second tour. Two of the four new team leaders had just completed two years in India as subject-matter specialists, while two completely new team leaders were recruited from the United States.<sup>1</sup>

<sup>1</sup> The third group included six team leaders because the University of Illinois had entered into a second contract providing for assistance to the new Uttar Pradesh Agricultural University.

### **Individual Conception of Team Leader Role**

Team leaders varied in their conception of the proper role and functions that they should assume relative to the promotion of agricultural universities. Only one of the first five team leaders had a clear mandate from the state government to develop a rural university proposal. USAID had indicated some interest in agricultural universities, but had established no clear policy guidelines for the university contractors. Nonetheless, each of these early team leaders, and their successors, soon recognized the need for administrative and organizational changes in Indian agricultural education and research, and nearly all advocated a rural university modeled after the land-grant college system as an ideal organization to achieve these changes.<sup>1</sup>

The team leaders and other team members promoted land-grant college methods because it was the only system they had experienced and understood, and because the reports of the University Education Commission and the First Joint Team on Agricultural Research and Education made it legitimate for them to do so. They were sincere in their belief that something similar to the U.S. land-grant college was the best answer to India's needs. Perhaps they were too insistent on transplanting its exact form, but they genuinely believed in its applicability to India.

However, it has been pointed out that agricultural university development was *not* an official objective in the early years. The team leaders' major responsibility was the Agricultural Education and Research Project. These duties were both administrative and professional. Each team leader spent much time coordinating the activities of his U.S. university team members, who usually were scattered among several colleges in the region, making reports to USAID and to the home campus, supervising participant selection and equipment and book purchases for the region, hosting visitors, and looking after the administrative and housekeeping needs of the team. Some team leaders held dual positions as subject-matter specialists, and devoted additional time to counseling with college staff and state departments of agriculture and animal husbandry on programs in their subject area. No leader was able to spend full time on agricultural university development.

USAID policy in India called for all U.S. university team members to function as "advisors" to one or more Indian counterparts. This "advisor" role has been generally conceived as one where the Americans carry out various tasks or make suggestions upon a request for

<sup>1</sup> Conclusions in this section are based on interviews with former U.S. university team leaders and on review of U.S. university team reports.

such assistance from the appropriate Indian official. The American has no authority to develop a program on his own that will be binding on any of his Indian colleagues. Thus he is not placed in an "operational position" which carries both responsibility and authority with respect to the host institution. While the team members were to be primarily concerned with their own subject fields, USAID and the Indians looked upon the team leaders as the senior representatives of their respective U.S. universities and therefore as having a general state and regional advisory responsibility in terms of broader policy, administrative, and organizational matters, much as would the dean of a college of agriculture. As a result, promotion of agricultural universities was generally handled by the team leader, with some assistance by other team members.

This type of official role definition is sufficiently general to allow for wide latitude in individual interpretation. The team leaders were faced early with the question of how best to operate in promoting the ultimate objective of agricultural university establishment. Should they interpret their advisory capacity literally and take no initiative in suggesting agricultural university possibilities until so requested by the state governments? Or should they assume the initiative and utilize every possible opportunity to aggressively push for early consideration of agricultural universities?

Nearly all team leaders chose a middle course between these two extremes, with the degree of initiative and aggressiveness exercised varying with the personalities involved. Interestingly, all of the first group of team leaders promoted agricultural university establishment in an *active* sense, but some were subtle and diplomatic in their methods while others tended to be somewhat blunt and aggressive. Fewer of the team leaders in the second group actively promoted agricultural university establishment, while those in the third group swung back again toward active promotion of agricultural universities. By this time, however, the Second Joint Indo-American Team had submitted its report, and USAID, the U.S. universities, and the Government of India were in the process of discussions leading to the change in emphasis toward agricultural university establishment as an overt and important objective. One would expect these team leaders to react accordingly.

### **Indian Officials With Whom Team Leaders Worked**

Those Indians with whom the team leaders worked most closely reflected both the location of the team leader within his region and the Indian system of administration discussed in Section I. Three of

the first group of team leaders were headquartered at one of the colleges in the region and two were officed with one of the state departments of agriculture. They tended to spend the majority of their time at their headquarters. Most of the first group of team leaders therefore worked most closely with the college staffs. Of the second group of team leaders, only two were located at a college while three were officed with the state department of agriculture. However, three of them spent most of their time with college staff, while only two worked most closely with state government officials. With the third group of team leaders, five of the six were officed at one of the colleges, while only one was headquartered with a state department of agriculture. These persons divided their time accordingly.

Regardless of where the team leaders were located, there was definite similarity in those Indian state government and college officials with whom the team leaders had their principal contacts. These persons included the college principals (particularly the one at the college where the team leader was located), and the state government directors of agriculture and animal husbandry and the secretary of agriculture in the ministry of agriculture (especially those in the state where the team leader was located). A few team leaders had frequent contacts with the minister of agriculture and two had more than occasional contacts with the state chief minister.

While one would expect the team leaders to have many contacts with the college principals, frequent contacts with the secretary of agriculture and directors of agriculture and animal husbandry in the ministry of agriculture were more important in the long run for agricultural university establishment. As indicated in Section I, under the traditional Indian system of agricultural education the college principals were directly responsible to the state director of agriculture (for an agricultural college) or the state director of animal husbandry (for a veterinary college), who in turn reported to the secretary of agriculture.

The secretary of agriculture was probably the most strategic single contact for the team leaders prior to establishment of an agricultural university because he was the top civil servant in the state ministry of agriculture and his jurisdiction embraced several departments, including those of agriculture and animal husbandry, and because he was concerned with broad policy and organizational matters. Policy decisions affecting agricultural and veterinary colleges were made at these top levels in the ministry of agriculture.

The directors of agriculture and animal husbandry, the secretary of agriculture, the minister of agriculture, and the chief minister were among the key persons who could make the decision to establish an

agricultural university. The college principals generally lacked authority and prestige in the system, and so in terms of importance in making the decision to set up a new university were secondary. However, once an agricultural university was established, support by the principal and college staff for land-grant concepts and their understanding of the concepts were vital for the new institution to function effectively.

The evidence seems to indicate that by and large team leaders spent insufficient time with these strategic state government officials in discussing agricultural university establishment. Most of the team leaders recognized the importance of frequent and friendly relations with state government agricultural officials, but only about half of the team leaders studied took this fact into account in planning their activities and deliberately concentrated most of their efforts on these persons. As university professors, most had never worked with politicians and technical persons in government and so felt closer ties to the colleges. Most also had not had administrative experience related to the task of developing a broad philosophy and basic groundwork for institution building.

One U.S. university seems to have recognized early the importance of state government support because, after the first group, its team leaders were stationed at the state capital. However, in general the team leaders themselves and the U.S. university home campus administrators did not give much thought at the time to the importance of team leader location in stimulating agricultural university establishment.

### **Methods of Promoting Agricultural Universities**

The methods used most often and with greatest effect by the team leaders in promoting agricultural universities can be grouped into four major categories: holding conferences and informal meetings with college and state government officials, writing memoranda or reports (both solicited and unsolicited), sponsoring seminars of various kinds, and helping the state governments in the drafting of plans and enabling legislation for the new universities. In each of these ways the team leaders and other team members continually stressed land-grant college concepts, particularly the need for integration of teaching, research, and extension. This is evident in a perusal of the periodic reports.

Innumerable conferences and informal meetings were held in the various states, both at the request of Indian officials and at the team leader's initiative, at which agricultural universities and their implications were discussed. Where formal state government committees were commissioned to investigate the possibilities of agricultural universities, the team leader was usually a member. Sometimes USAID or ICAR

representatives would also be present. Such meetings were important because they tended to bring together college and state government officials in agriculture at different levels in the administrative system who usually had few dealings with each other; they facilitated vertical communication as well as horizontal planning. Even in the absence of meetings, the team leader could provide an avenue of such communication because he was not part of the system. These meetings were generally felt to be of some real value in the discussion and clarification of land-grant college principles, and the objectives, advantages, and implications of agricultural universities.

A second important device in the Indian environment seems to have been the writing of various types of memoranda and reports, both solicited and unsolicited by the Indians to whom they were directed, on the subject of agricultural universities and land-grant college philosophy. Those team leaders who committed their ideas to paper in this manner were well rewarded by the results they reaped. While this device may seem unimportant, the author contends that these memoranda and reports served several important functions:

(a) They tended to increase the knowledge and understanding by the Indians of the land-grant college system and its possible advantages to India.

(b) They tended to facilitate communication between the team leader and state government officials. Once the subject of agricultural universities or land-grant college concepts is opened up through such a report, it provides an opportunity to broach the subject again in personal conversations.

(c) Preparing a report helped the team leader firm up his own grasp of the principles involved. Simply because a man has been a competent land-grant university staff member in his own subject field does not mean that he has given much thought to the underlying philosophy, functions, and organization of the land-grant college system.

(d) If a proposal is logically and completely outlined and submitted in writing to the responsible Indian officials, it tends to "get into the mill" and eventually reappears as an Indian idea, sometimes with modifications and sometimes not. Mention and reproduction of such memoranda and reports can be found in the periodic team reports.

A third valuable tool in promoting the agricultural universities was the use of seminars. Such seminars included postgraduate seminars conducted by the team leader in his subject-matter field, seminars open to the host institution staff dealing with teaching, research, or extension techniques, and large regional seminars held for returned participants.

Seminar discussions, particularly those held within a college, have proved to be one of the best methods a team leader or team member can employ to stimulate staff thinking on improvements in the research and teaching program of the college. In addition, if such a seminar series can be held early after the advisor first arrives, it is a useful technique in becoming acquainted with college staff and in gaining their respect for his professional competence.

Of more direct importance in terms of agricultural universities were those seminars conducted to acquaint the college staff with land-grant university operation and role, teaching methods, research methods, and improved extension methods. Such seminars were held in some regions when it became reasonably certain that an agricultural university would soon be established, and at periodic intervals after operation of the new university had begun.

Most team leaders viewed returned participants as their bulwark of support for an agricultural university. Most participants returned to India with a new awareness and understanding of land-grant college concepts and methods and an eagerness to put their new training into practice. Regional seminars open to all returned participants focused on discussion of land-grant college principles in teaching, research, and extension, and their applicability to Indian conditions.

The most direct contribution of the team leaders to the establishment of agricultural universities was their help in drafting the enabling legislation, statutes, and plans for implementation.<sup>1</sup> Team leaders generally were members of government committees charged with preparing agricultural university proposals and plans.

The first drafting of plans and legislation for an agricultural university occurred in Uttar Pradesh, the region served by the University of Illinois. As indicated earlier, the state government had specifically requested the help of a specialist, Dean H. W. Hannah, in preparing a policy blueprint for the establishment of a rural university at the Tarai State Farm (7). This *Blueprint for a Rural University in India* was published in 1956, and included a discussion of the functioning of a college of agriculture in a U.S. land-grant university; guiding principles for a rural university; suggested legislation; status of the governing board; and an organizational chart, physical layout, and cost estimates. It is generally acknowledged that the Blueprint and further recommendations by Dean Hannah had an important impact on the general plans and the nature of the final legislation for the Uttar Pradesh Agricultural University (24). The enabling legislation was

<sup>1</sup> The following discussion of legislation for agricultural universities was documented in the periodic reports of each U.S. university team and in interviews.

passed by the U.P. legislative assembly on December 20, 1958, making the new university the first of what was to be a series of agriculturally oriented universities in India modeled after U.S. land-grant institutions.

Dean Hannah's Blueprint was published by ICAR and circulated to all interested state governments in India. It was reported that the Blueprint helped to stimulate early serious consideration of the possibilities of a rural university in at least two other states, the Punjab and Andhra Pradesh. However, the Government of India Ministry of Agriculture, in consultation with the Planning Commission, decided that only one agricultural university should be set up during India's Second Five Year Plan, as an experiment before proceeding to establish other similar universities. As Uttar Pradesh was the only state to submit a concrete scheme for the establishment of an agricultural university, it would be assisted by the Government of India in this task (14, page 28).

In the other state served by the University of Illinois, Madhya Pradesh, interest in an agricultural university developed later. L. E. Card and W. D. Buddemeier provided some help in stimulating interest and developing plans. Enabling legislation for the Jawaharlal Nehru Agricultural University was passed on February 15, 1963.

In the Punjab, a committee was appointed in 1956 to investigate the possibility of a rural university and T. Scott Sutton worked closely with it. This work resulted in the presentation to the Punjab government in late 1956 of a preliminary proposal to establish a rural university. Proposed legislation was drafted in 1957 and Dr. Sutton again helped. However, the rural university proposal was abandoned at that time, apparently for lack of central government funds.

The Ohio State University team leaders who followed Dr. Sutton, Russell Olson and Raymond Cray, continued to work with the state governments in discussion of agricultural university possibilities. Each of these persons drew on the work done by preceding committees and worked with Indian college principals and state government officials in modification of the proposals. The enabling legislation for the Punjab Agricultural University was finally passed in September, 1961.

Mr. Cray and other Ohio State University team members helped draft a version of the legislation for an agricultural university in Rajasthan. The final enabling legislation for Udaipur University, passed in June, 1962, was a departure from their recommendations.

In the state of West Bengal in the University of Missouri's region, Kalyani University, an agriculturally oriented university with teaching and research functions, was established by enabling legislation in September, 1960. Arnold Klemme was asked to help in preparing plans and drafting legislation for this university. Transfer of significant

agricultural programs to the university proceeded too slowly, however, so Kalyani University was not included in the original USAID Agricultural University Development Project. Dr. Klemme also worked closely with Ide P. Trotter, Consultant in Educational Administration, in helping the government of Orissa to prepare the plans and enabling legislation for the Orissa University of Agriculture and Technology. This university's enabling legislation was passed in September, 1961.

The state government of Andhra Pradesh appointed a Rural University Committee in May, 1957, to study Dean Hannah's Blueprint and to submit a proposal for such a rural university in Andhra Pradesh. George Filinger worked closely with this committee in drawing up the initial plans, using the Blueprint as a basis. The Committee's report was submitted in September, 1957, and it was accepted in principle.

George Montgomery, William Pickett, and other Kansas State University team members continued to work with the college officials, state government officials, and the Special Officer for the Rural University in discussion of the contributions an agricultural university could make, the principles involved, the meaning and implications of land-grant college concepts, and what steps would be needed to set up an agricultural university. Enabling legislation for the Andhra Pradesh Agricultural University was passed on December 10, 1963.

The rural university concept was also considered in the state of Madras, in the region served by the University of Tennessee. The government of Madras decided that an institution with the same form as a rural university would not be feasible in Madras, but a special committee on agricultural education was appointed in 1957 to recommend needed improvements in the state's agricultural education. Erven Long, the only American member, spent a good deal of time working with the committee. The committee's report, submitted in September, 1957, recommended certain administrative changes designed to increase the effective coordination between instruction, research, and extension education functions, and between the various agricultural disciplines and secondary level agricultural training (15).

In Mysore, Dr. Long then was named as a member of a committee for agricultural research and education dealing, as did the committee in Madras, with improving the organization and coordination of the research, instruction, and extension functions and for creating a more functional relationship between the secondary and college-level agricultural training. This state did decide to set up an agricultural university, and Dr. Long was influential in working with the plans and draft legislation for the new Mysore University of Agricultural Sciences during the last months of his tour. His successor, Merton Badenhop, continued

to work with the college and state government officials. Enabling legislation for the new university was passed in April, 1963.

The degree of influence of the individual team leaders on the plans and draft legislation for agricultural universities seems to have varied with (a) the interest of the respective state governments in considering an agricultural university, (b) the period of time during which they served in India, (c) the amount of time they chose to devote or were able to devote to agricultural university development in each state, and (d) the personality, administrative experience, and ability to articulate important land-grant college concepts of each team leader. There is evidence to suggest that the location of the team leader was an important factor in determining the timing of final legislative action and in the degree of influence the team leader exerted on the product. Interest in those states without either a resident team leader or resident administrative advisor developed more slowly and with less guidance from the U.S. university team.<sup>1</sup>

In all the states mentioned, USAID and ICAR officials were involved in and supported the discussions about establishment of agricultural universities. USAID officials helped with the preparation of legislation in many states, but they usually did not visit a state for this purpose until sufficient interest was generated and enough serious planning had taken place to make the visit productive. Ephriam Hixson and Frank Parker were influential in the early years; later O. N. Liming, Raymond Davis, and Ray Johnson spent some time in the various states advising on legislation, statutes, and development plans. Out of this work, the collection of "Papers on the Formation and Organization of Agricultural Universities" was compiled by USAID/India in 1966. This collection of papers represented efforts to guide the new agricultural universities into similar paths of development (13).

However, the Government of India Agricultural University Committee (Cummings committee) was the single most influential outside advisory group in those states passing enabling legislation after 1960, because of the official nature of the committee and the stature of its members. The Agricultural University Committee will be discussed in greater detail in Section VII.

### **U.S. University Team Strategies**

Most team leaders did not articulate any sort of long-range plan for achieving the objective of agricultural university establishment in their

<sup>1</sup> Conclusions based on interviews and on review of the periodic U.S. university team reports.

regions. Most rarely took time to look at the long-range directions and implications of their team activities. It seems evident from a survey of the team reports and interviews with the team leaders that few attempts were made, jointly or individually, to study systematically the most effective and least disruptive methods of making the transition from the traditional Indian system of agricultural education to the new land-grant type universities.

The records show evidence of one organized effort being made to determine the relative importance of limiting factors in Indian agricultural education with the aim of planning more effective allocation of resources over the long run. This survey grew out of the first seminar on teaching methods held in 1957. Erven Long surveyed all U.S. university team members working in India to solicit their judgment on the relative factors limiting the effectiveness of extension, research, and teaching (11, pages 282-297). There was surprising unanimity in the response. Compilation of the results showed that the two most important limiting factors as seen by the Americans were (1) lack of a merit or incentive system of promotion and salary increments to reward good performance (of first importance in the areas of teaching and research, and of second importance in the area of extension), and (2) improper coordination of research, teaching, and extension (of first importance in extension work, and of second importance in teaching and research work). Dr. Long concluded that integration of these three major functions was identified as being necessary to the proper execution of any one of them.

A survey of Indian officials was conducted at the same time, but the results were never made public. The two surveys were discussed at the September, 1959, meeting of the Region V advisory committee, and it was agreed that the viewpoints of the Indians and Americans were quite similar. This survey of limiting factors in Indian agricultural education brought a realization of the character of the problems to the attention of Indians and Americans alike. But little evidence is available that it was specifically followed up or utilized by the U.S. university teams in other regions.<sup>1</sup>

In the absence of any long-range plans or strategies, most team leaders urged Indian adoption of land-grant college functions, organization, and methods largely without modifications. Securing Indian recognition and acceptance of the basic elements and desirability of the U.S. land-grant university system was a primary goal, although it was recognized that this process could take some time.

<sup>1</sup> Interview with Erven J. Long.

## **VI. ROCKEFELLER AND FORD FOUNDATION PROGRAMS AND AGRICULTURAL UNIVERSITY ESTABLISHMENT**

The Rockefeller and Ford Foundations have substantial agricultural programs in India. While both foundations have cooperated and coordinated with the USAID agricultural program, the relationship has been somewhat different. The Rockefeller Foundation has had closer continuing involvement with Indian agricultural education than has the Ford Foundation.

### **Rockefeller Foundation Program in India<sup>1</sup>**

The Rockefeller Foundation program in India began with the decision to assist in the development of the postgraduate school in agriculture at the Indian Agricultural Research Institute (IARI) and to assist in developing national research programs on improvement of certain cereal crops as recommended by the First Joint Indo-American Team. Ralph W. Cummings arrived in March, 1957, to direct the Rockefeller Foundation's India program. (See Section II.)

During the first three years, Dr. Cummings was closely involved, along with other Rockefeller Foundation personnel, in developing the plans, educational policy and procedures, and structure of the new postgraduate school at IARI. He served as its first dean for approximately a year up to 1960. The blueprint for the IARI organization and operation drew heavily on the U.S. experience, but with some peculiar features added to make it workable in India. By the end of 1960, IARI was turning out its first graduates, and their high quality was attracting considerable attention.

At the same time, the Rockefeller Foundation's research program in India was gaining recognition for its quality and results. As these research projects developed, they were coordinated with the agricultural colleges and later with the agricultural universities whenever possible through location of substation projects at the colleges, training grants to some college staff, and equipment grants. Through these research projects, the Foundation encouraged closer working relationships between the agricultural colleges, the state governments, and ICAR.

In the execution of its program, the Rockefeller Foundation deliberately attempted to reinforce when possible the USAID-U.S. university Agricultural Education and Research Project, which was concen-

<sup>1</sup> Much of the following sections on the Rockefeller Foundation program based on interview with Ralph W. Cummings.

trated principally on institutional development and instruction. One method of reinforcement has been through support for the research programs of some agricultural colleges and later the agricultural universities (23).

The Rockefeller Foundation also reinforced the Agricultural Education and Research Project through the funding of travel grants to top Indian state government and college administrators to visit the United States for study of the nature and operations of the land-grant university system. USAID had done some of this itself; however, the Rockefeller Foundation offered greater flexibility in terms of being able to invite the wives to accompany their husbands and in the speed with which arrangements could be completed. The value of these study tours in stimulating Indian interest and increased understanding of land-grant university functions and operations, and the resultant benefit to the Indian agricultural universities, have already been discussed (see Section IV).

### **Role of Rockefeller Foundation Director**

While the official Rockefeller Foundation Program in India has always been closely coordinated with the USAID Agricultural Education and Research Project, the individual role of its former director, Ralph W. Cummings, probably had greater and more direct impact on the establishment of agricultural universities. This individual, extra-curricular role was assumed only on request from the Government of India or state government officials involved. These activities were apart from the official Rockefeller Foundation program, any possible Foundation grants, or personal remuneration. Dr. Cummings' involvement in agricultural university development may have stemmed from his recent experience in institution building at the Indian Agricultural Research Institute.

This individual role has taken two forms, the formal and the informal. The formal role is well documented by Dr. Cummings' service as Chairman of the Government of India Agricultural University Committee (see Section VII for a more complete discussion) and by his membership on a number of other committees set up in the various states to devise detailed work plans and to select key administrators for the new agricultural universities.

The informal role is less in evidence, but nonetheless real and important. It cannot be documented, yet it is attested to by every indi-

vidual who has had firsthand connections with the agricultural university program. It is generally acknowledged that Dr. Cummings has probably been the single most important American involved with the agricultural university program; his formal role explains much but not all of this. He had extensive contacts with agricultural officials at all levels in the Indian central government, with top Indian state government officials, and with U.S. Embassy, USAID, and U.S. university personnel working in India. His advice on all phases of agricultural university development was sought and respected by Indians and Americans alike.

Some of the key factors in the acceptance and influence of Dr. Cummings in agricultural university development seem to be: (1) his personality and diplomatic, humble manner, and his lack of concern for personal credit; (2) his ten-year period of service in India, while four different USAID Chief Agriculturists served in India during the same time period; (3) his previous educational experience as Associate Dean and Director of the Experiment Station at North Carolina State University, and his more recent institution-building experience with the IARI in India; (4) his previous foreign experience in Peru under a North Carolina State University contract with AID; and (5) his association with the Rockefeller Foundation, which had done an excellent job in India, and which by its nongovernmental nature found it much easier to work in India than did an agency such as USAID representing a foreign government. These factors combined to give Dr. Cummings considerable stature in both Indian and American minds.<sup>1</sup>

### **Ford Foundation Program in India<sup>2</sup>**

While the Ford Foundation has maintained close communication and coordination with the USAID-U.S. university Agricultural Education and Research Project, its relationship to the program has been somewhat different from that of the Rockefeller Foundation. The Ford Foundation's main agricultural concern in India has been increased agricultural production, rather than university building as such. Its policy in India has been not to support those agricultural programs that USAID and others are now supporting and are able to support. Rather,

<sup>1</sup> Conclusions based on interviews with former U.S. university team leaders and USAID officials.

<sup>2</sup> Much of the following sections on the Ford Foundation program based on interview with Douglas Ensminger.

if important agricultural areas not supported by other agencies are identified, the Ford Foundation will fill the gap.

As indicated in Section II, the Ford Foundation initially concentrated on the Community Development Program, which was partly oriented toward agricultural development, and extension training activities. In 1959, an Indo-American Agricultural Production Team, sponsored by the Government of India and the Ford Foundation, was appointed to evaluate India's past attempts to increase agricultural production and to recommend measures for improvements in such programs (20). The Agricultural Production Team pointed out that most of India's food-production increase over the previous ten years had come from cultivation of new lands, but that relatively little increase had actually been made in productivity, or average yields per acre. It suggested that substantial effort be made immediately to increase production and productivity in a few pilot districts with a high production potential, where maximum returns could be obtained from the application of relatively limited resources.

Accordingly, the Government of India, assisted by the Ford Foundation, undertook the Intensive Agricultural District Program under the Third Five Year Plan, beginning in 1960. Seven districts were selected for the intensive program, and later nine more districts were partially supported (one per state). The purpose of the Intensive Agricultural District Program was to make an impact on increased agricultural production and productivity through concentration of effort and resources. It became popularly known as the "Package Program" because of its emphasis on the simultaneous use by cultivators of a "package" of related agricultural practices, including use of better seed, seed treatment, use of water and fertilizer, and plant protection. All of the essential practices and services — technical, physical, and financial — were to be made available to cultivators in these districts (25).

The U.S. universities working with agricultural colleges agreed to cooperate in assisting the colleges to train the field personnel for these district programs. It was recognized that this Package Program could perform a real service to the agricultural colleges by providing an area to demonstrate the importance of close correlation of extension with research and teaching, and by more firmly establishing the role of extension education as a process of implementing the flow of knowledge back and forth between the college and the field. However, only one of the sixteen districts chosen had an agricultural college located within it that was being assisted under the USAID Agricultural Education and

Research Project. This district was in the Punjab. There the agricultural college at Ludhiana and the Ohio State University team did work closely with the Package Program and felt the association to be beneficial to both the Ford program and the agricultural college.

The Ford Foundation has recently been coordinating its programs more closely with the new agricultural universities. Through the Intensive Agricultural District Program, three important gaps in technology and trained staff which act as serious obstacles to increased Indian agricultural production were identified in the areas of water use and management, plant protection, and farm management. As a means for the development of technology and trained staff in these three areas, the Ford Foundation is supporting the development of a college of agricultural engineering at Punjab Agricultural University, a department of plant protection at the Mysore University of Agricultural Sciences, and a department of farm management at Uttar Pradesh Agricultural University.

### **Role of Ford Foundation Director**

Douglas Ensminger has served as Director of the Ford Foundation's India program since 1951. Through Ford Foundation support of the Government of India Community Development Program and the Package Program among others, he had extensive contacts with top-level Indian central and state government officials, with the Government of India Planning Commission, with top-level U.S. Embassy and USAID personnel, and with U.S. university personnel working in India. It was reported that Dr. Ensminger's stature and influence have been considerable in regard to high-level Government of India and Planning Commission decisions in agriculture and education. His advice was sought and respected on such important matters as the relative emphasis to be accorded to agriculture and education in India's Five Year Plans and the types of programs that should be undertaken in these fields.<sup>1</sup>

<sup>1</sup> Conclusions based on interviews with former U.S. university team leaders and USAID officials.

## **VII. EVOLUTION OF THE AGRICULTURAL UNIVERSITY DEVELOPMENT PROJECT**

Beginning about 1960, the U.S. university Agricultural Education and Research Project underwent close reexamination. Experience had demonstrated that the U.S. university efforts to this point had been scattered over too wide an area and too many host institutions to have much permanent effect on the development of these institutions. There had been informal discussions of agricultural university possibilities since 1955. Experience formed the basis for a series of formal intensive discussions held over a period of several months, out of which emerged a major change in emphasis of the project. Under the Agricultural Education and Research Project, each U.S. university had worked with several colleges within a region and had carried out a number of general regional assistance activities. This change in emphasis included two major features:

1. USAID-U.S. university assistance in agricultural education was henceforth to be concentrated in those states that established agricultural universities in line with recommendations made by the Government of India Agricultural University Committee (Cummings committee).

2. In those states where no agricultural university developed, all activities under the Agricultural Education and Research Project were to be phased out with the end of current commitments.

The evolution of this USAID-U.S. university program change will be analyzed in terms of (a) its relationship to Government of India programs and policies, (b) its source and timing, (c) its effect on the rate at which agricultural universities were established, (d) American attitudes toward the change in emphasis, and (e) differences between the original Agricultural Education and Research Project and the new Agricultural University Development Project.

### **Government of India Programs and Policies**

During the Second Five Year Plan, Uttar Pradesh Agricultural University was established. Its development and the interest of some state government officials and U.S. university team leaders led to discussions of the agricultural university concept within other states and at regional meetings, as discussed earlier.

In 1959 the Second Joint Indo-American Team on Agricultural Education, Research, and Extension (18) was appointed for the purpose

of (a) surveying the progress of Indian agricultural education, research, and extension since the First Joint Team's report, (b) making further recommendations in agricultural education, research, and extension with reference to the Third Five Year Plan, and (c) reviewing the U.S. university contracts in terms of their contributions to agricultural education, research, and extension.

The Second Joint Team was composed of nine Indians and four Americans. The Indian members included M. S. Randhawa, J. S. Patel, L. Sahai, B. N. Uppal, Ibne Ali, Lal Singh, P. D. Nair, M. D. Patel, and K. C. Naik. U.S. members included Arthur D. Weber, Kansas State University, A. L. Darlow, Oklahoma State University, Arthur L. Deering, University of Maine, and Martin G. Weiss, U.S. Department of Agriculture.

The Second Joint Team strongly supported the recommendation of the First Joint Team that each state establish at least one agricultural university and went on to add that this be accomplished with as much dispatch as possible. Only those institutions that would work toward land-grant university concepts should be allowed to develop into agricultural universities. The Team felt that no financial aid should be extended by the Government of India to any state for the establishment of an agricultural university unless the prerequisites were fully understood and satisfied as determined by a competent body working under the auspices of the Indian Council on Agricultural Education. This body would examine such questions and regulate the growth and development of these institutions. The Team suggested that the U.S. university technical assistance be concentrated in fewer colleges, with special emphasis on those likely to develop into agricultural universities.

Upon the recommendation of the meeting of the Indian Council on Agricultural Education in March, 1960, the Agricultural University Committee (Cummings committee) was appointed by the Government of India (1). Its membership originally consisted of two Indians and two Americans. Ralph Cummings, Director of the Rockefeller Foundation's India program, was named chairman; other members were K. C. Naik, Indian Council of Agricultural Research, L. Sahai, Government of India Commissioner of Animal Husbandry, and Ephriam Hixson, USAID Agricultural Education Advisor.

This committee visited states only upon a request from the state forwarded through the Government of India Ministry of Agriculture. Although the committee functioned actively for about five years, the bulk of its work was carried out in the initial two-year period from

1960 to 1962.<sup>1</sup> During this period the committee visited the states of Punjab, Orissa, Rajasthan, Andhra Pradesh, Madhya Pradesh, Mysore, and Madras. Its principal charge was to review the proposals for an agricultural university in the various states with regard to the adequacy of proposed enabling legislation and the adequacy and soundness of the detailed implementation plans in terms of organizational, administrative, and educational criteria. These criteria drew heavily from land-grant concepts, including the full integration of teaching, research, and extension; orientation toward applied agricultural problems; and responsiveness and responsibility to the needs of the cultivators and the people of the state. The Government of India would approve for central support only those agricultural universities that met the criteria developed by the Agricultural University Committee.

The Government of India endorsed the principle of agricultural universities in the Third Five Year Plan, and budgeted a nominal amount of central plan funds (about \$4 million) to support their development. First priority in the Third Five Year Plan was once again upon agriculture. During the Third Five Year Plan, four to six agricultural universities, with a possible maximum of eight, were to be supported by the Government of India (27). The policy was to have eventually an agricultural university in each state.

In summary, following the report of the Second Joint Team and in the process of framing India's Third Five Year Plan, the Government of India undertook a policy of active encouragement of state agricultural universities. Thus the climate was favorable for a new look at the U.S. university Agricultural Education and Research Project.

### **Source and Timing of Contract Program Change**

The precise time at which the decision was first reached by USAID that a formal change in emphasis was desirable is not clear. Pressures had been developing for some time within the USAID Mission in India and in AID/Washington to concentrate on institution building and achieving permanent impacts on the assisted institutions. The evidence suggests that this decision to change program emphasis originated within the mission in Delhi sometime during 1960 and was supported by the USAID Mission Director and by O. N. Liming, Field Operations Officer for the U.S. university contracts. AID/Washington and U.S. Embassy officials encouraged the change. The evidence also suggests that USAID established such a policy, and then took the matter to the

<sup>1</sup> Interview with Ralph W. Cummings.

concerned U.S. universities for ratification and discussion of operational procedures.<sup>1</sup>

The first mention in the records of joint discussions between USAID officials and U.S. university team leaders and home campus administrators on the question of the proposed change in emphasis of the Agricultural Education and Research Project is found in a report of the conference held January 23-25, 1961, in New Delhi. Those present included executive visitors from each U.S. university, team leaders, and USAID officials. The change in emphasis was discussed at this meeting, and the conference directed that the following major decisions taken be discussed with ICAR officials:

- (1) New commitments for assistance by USAID and the U.S. universities will be considered only when one of the following conditions is met:
  - (a) Plans and provisions are made to develop autonomous agricultural universities and constituent colleges with the full integration of college teaching, research, and extension education *as set forth by the Cummings committee* (emphasis added);
  - (b) Colleges undertake agricultural extension education and problem solving research directly with the cultivators in the villages in a block or blocks attached to the college;
  - (c) Colleges provide technical training and advisory services to the seven original Intensive Agricultural Districts.
- (2) Work under current commitments which does not meet the above criteria will be phased out when those commitments are met.<sup>2</sup>

During April and May, 1961, each U.S. university team developed a long-range program of work extending through the Third Five Year Plan, which included the fields of specialization, locations in the states to receive emphasis, and the projected numbers of U.S. university staff and participants by year. The team leaders met in June, 1961, to consolidate and integrate the plans for presentation to the Government of India. These plans were presented and discussed at the annual meeting of campus coordinators held October 19-20, 1961, at Knoxville, Tennessee (2). The USAID country program dated December 22, 1961, which forms the official basis for country projects and funding, reiterated that in the future, resources were to be provided only to those states which had shown definite progress in developing agricultural universities. The 1962 country program indicated that USAID planned to assist a maximum of seven such universities.

<sup>1</sup> Conclusion based on interviews with former U.S. university team leaders and USAID officials. As indicated in Sections IV and V, there had been informal discussions of agricultural university possibilities for some time before the formal change in emphasis in 1960.

<sup>2</sup> Conference recommendations reproduced in Hay (9).

At the January, 1962, meeting in New Delhi of executive visitors from each U.S. university home campus, the U.S. university team leaders, and USAID representatives, a statement of overall policy and operational procedures representing areas of understanding and points of agreement was approved for transmittal to AID/Washington and to the U.S. university home campuses for their official concurrence before the plan was presented to the Government of India for formal agreement (27).

This policy statement indicated that the overall objective of the U.S. university contract program was to help India develop complete state agricultural universities comprising constituent colleges of agriculture, veterinary medicine, agricultural engineering, home science, and basic sciences and humanities. Inherent in this was the objective to assist in the development of coordinated resident instruction, research, and extension education programs within the university administrative structure.

The conference agreed that the principle of concentration and assistance in depth at selected locations should be the basic policy of operations. However, some degree of flexibility was felt to be desirable and permissible to accommodate particular situations where the opportunity presented itself to advance program interests. Thus at the discretion of the team leader, periodic informal contact could be made with other agricultural and research institutions. Any major exception was to have prior approval from USAID.

*Beginning immediately* (January, 1962) the contractors and all concerned were to adjust the program in line with the above. Points of concentration were to be definitely established by March, 1963. The target date for final adjustments, including contract amendments, was October, 1963. This target date was later moved up to 1964.

This policy statement went on to list the specific criteria to be used in appraising a state's qualifications for concentrated support by USAID in the development of an agricultural university:

- (1) Legislation acceptable to the Government of India Agricultural University Committee passed or in process with reasonable assurance of being passed;
- (2) Assurance of Government of India and state government desires for such development and their intent to pursue it, as evidenced by their providing adequate rupee funds for buildings, staffing, and other needs;
- (3) Assurance of the Indian agricultural university's ability to provide adequate technical and administrative staff;
- (4) Assured Government of India approval of U.S. technical assis-

tance in depth as deemed essential by the cooperating Indian and U.S. universities and officially requested by the Indian institution. A measurement of intent to develop a complete university was to be a demonstrated willingness to accept and to use effectively U.S. technical assistance, including top-level specialists on university organization and administration.

By 1964, on the basis of Government of India and USAID policy and funds, comprehensive assistance to develop an agricultural university was extended to the states of Punjab, Rajasthan, Orissa, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh, and Mysore. All commitments under the Agricultural Education and Research Project were met and the remaining parts of the program phased out by the end of 1964.

### **Effect of Contract Program Change on Establishment of Agricultural Universities**

In summary, it seems evident that both the Government of India policy of active encouragement to agricultural university development and the USAID policy to restrict U.S. technical assistance to selected agricultural universities developed concurrently, following the report of the Second Joint Indo-American Team. When the Government of India appointed the Agricultural University Committee, USAID recognized it as an excellent vehicle and decided that its technical assistance should be governed by the committee's recommendations. These harmonious Indian and USAID policies undoubtedly were major factors in the relative speed with which the agricultural universities were sanctioned in the remaining six states (Uttar Pradesh Agricultural University had been established in 1958). Enabling legislation for all six universities was passed between September, 1961, and December, 1963. It is unclear what importance was attached to the possibility of complete withdrawal of USAID assistance in those states not meeting the Agricultural University Committee requirements. This may have provided additional weight to the arguments used by the supporters of the agricultural universities in the undecided states, but it was probably not the deciding factor.<sup>1</sup>

### **American Attitudes Toward Contract Program Change**

Overall, there was substantial agreement among USAID officials and the U.S. university field teams that considerable emphasis should

<sup>1</sup> Conclusions based on interviews.

be placed on the development of agricultural universities. Many team leaders and U.S. university administrators had been actively promoting the concept of such universities for some time. There was, however, some disagreement with the USAID proposal to restrict its assistance entirely to such institutions, phasing out all other regional assistance not meeting these criteria.

The proponents of "concentration and assistance in depth at selected locations" were principally AID personnel. The Mission was under considerable pressure from AID/Washington to show evidence that its program was having an impact on food production. Some felt that the U.S. university contract program was too broadly conceived to provide the kind of impact on increased food production that could result from concentration of efforts in a more intensive and restricted program. While significant long-range results were desired, there was also need for some fairly immediate visible accomplishments.

There were more fundamental educational reasons for wanting to concentrate on agricultural universities. Although much equipment had been provided to the colleges and many participants had received advanced training in the United States, many college staff members found themselves unable to implement needed changes and to fully utilize their training. Many Americans felt that the change in college administrative organization from direction by state governments to autonomy in college operation would provide the way to bypass what seemed to be the principal strategic blockage point to further improvements in agricultural education, the Indian administrative organization. It was felt that moving the colleges, with some research and extension responsibilities, out from under this regulation and control would create the right environment for more fundamental changes in curricula and teaching methods, research, and extension education programs, and for integration of teaching, research, and extension education. Basic improvements in these areas had been stymied in large measure. Returned participants would be able to exercise a larger role in the affairs of the colleges. U.S. university team members would be concentrated at one location, rather than being scattered one or two at each college, thus creating an opportunity for a "team approach" and a "critical mass" in moving the institution forward. With this increased opportunity to function as a team, could come increased wisdom in equipment purchases and in selection of participants in those priority subject-matter fields where the college most badly needed improved competency.

The opponents of the proposal to restrict assistance solely to agricultural universities were some U.S. university team members and home

campus administrators. They felt it to be a genuine mistake not to continue at least minimal assistance in participant training on a regional basis. In some states there was movement under way toward an agricultural university, and in others existing institutions were already functioning effectively on the basis of land-grant concepts although their organizational structure was not exactly similar. Contacts and acceptance had been achieved in these states; to pull out completely would mean perhaps starting all over again at a later date, with considerable loss of momentum and resentment by the concerned state governments and colleges. In addition, some felt that the regional advisory committee meetings were valuable in bringing together college and state government officials within a region to discuss their common problems in agriculture and agricultural education and cooperative ways of solving them. A thoughtful and well-articulated defense of the regional approach can be found in the records of a University of Tennessee field team conference September 16-18, 1957, in Bangalore (26, page 22). Hart also endorses the regional approach (8, page 90).

The opponents of discontinuing regional assistance point now to USAID's decision to support an agricultural university in each Indian state that decides to establish one, and the Government of India Education Commission Report of 1966 (16) which reiterates the policy that an agricultural university should be established in each state.

### **Relationship Between Old and New Contract Programs**

What did the new policy of concentration at selected agricultural universities mean for the several agricultural and veterinary colleges being assisted in the Agricultural Education and Research Project?

In those states where an agricultural university was established and became eligible for USAID assistance, *only* Uttar Pradesh set up a brand new institution apart from existing agricultural and veterinary colleges. In *every* other state, *all* those colleges that had been assisted under the Agricultural Education and Research Project became constituent colleges under the new administrative framework of an agricultural university. There are movements in Uttar Pradesh currently (1968) to incorporate the government agricultural and veterinary colleges into the Uttar Pradesh Agricultural University.

Of course, by 1964 new universities were sanctioned in only seven of the fourteen states that had colleges aided under the Agricultural Education and Research Project. Altogether 44 percent of the colleges assisted under the Agricultural Education and Research Project are now part of one of the seven agricultural universities; the remaining

56 percent are no longer assisted by USAID. This change affected some regions, and therefore some U.S. university programs, more than others. Region II (Northwest), assisted by Ohio State University, experienced few changes, while the University of Missouri in Region III (Northeast) continued to assist only two of the original nine colleges.

For those colleges that became part of an agricultural university, it is obvious that the equipment and books purchased and the participant training to enhance professional competency of the staff under the Agricultural Education and Research Project helped to provide a firm foundation for the current program. The U.S. university team members had regularly stressed land-grant college methods and concepts when working on improvements in teaching, research, or extension training programs in their respective subject matter fields, although not all of them may have promoted an agricultural university *per se*. Thus this new phase of assistance does not represent a sharp break from the original program, but rather an evolution of the program to meet changing needs.

## **VIII. CONCLUSIONS: U.S. TECHNICAL ASSISTANCE AND AGRICULTURAL UNIVERSITY ESTABLISHMENT**

### **Indian Commitment**

One fact is overwhelmingly clear when one studies the history of the movement toward agricultural universities in India. The major reason for the development of India's agricultural universities was the determination and commitment on the part of some key Government of India officials, state government officials, and college officials. American assistance was secondary to the success of the movement.<sup>1</sup>

Given the existence of commitment to the land-grant college philosophy on the part of certain key Indians, first at the central government level and gradually at the state government and college levels, American assistance then became important in helping this commitment to materialize.

### **Influence of U.S. Technical Assistance**

It is extremely difficult to assess the precise degree of influence exerted by the key Americans in the establishment of the first seven

<sup>1</sup> Conclusions in this section are those of the author, based on the evidence cited in preceding sections, the interviews, and the records cited in the bibliography.

agricultural universities in India. Certain generalizations have been postulated on the basis of available evidence. One can pinpoint those ways in which the Americans contributed, and this has been the purpose of this study. But once these ways are identified, their relative importance *vis-a-vis* efforts by the Indians themselves to establish agricultural universities cannot be documented.

After the University Education Commission recommendation in 1950 that rural universities be established, nothing was done on an all-India basis to study the concept further until the First Joint Indo-American Team in 1955. Interest in Uttar Pradesh in a land-grant type university was developing separately, and perhaps if U.S. assistance had not been available, those supporting an agricultural university in Uttar Pradesh would have found eventually another way to establish one.

Yet the evidence points to the conclusion that U.S. assistance was an important factor in making the University Education Commission vision of rural universities a reality in seven states fourteen years after the Commission's report was published. Outside assistance was probably the catalyst necessary for the jelling of Indian interest in and support for land-grant type universities after the University Education Commission legitimized the concept. While the basic elements of change were present at the time U.S. assistance began, India's limited funds and the natural inertia of a well-established traditional educational system would probably have delayed realization of agricultural universities for some time. Outside assistance provided a nucleus around which the Indian proponents of change could rally, because it was not part of the established system. Thus U.S. technical assistance provided a means for promoting changes desired by many Indians themselves — a source of funds and a spokesman for the proposed new system that could reach all levels of Indian officialdom.

What were the key factors in the effectiveness of this U.S. assistance? First, on the whole, the key Americans involved were regarded by their peers as very capable individuals. Without such outstanding personalities as Frank Parker, Ralph Cummings, Douglas Ensminger, many other USAID and Foundation officials, and many of the U.S. university team leaders, the program might have been less adequately conceived and lacking in broad, long-range guidelines keyed to India's agricultural education, research, and extension needs.

Second, one cannot help but be impressed with the closeness of formal and informal working relationships between the Rockefeller and Ford Foundation agricultural programs and the USAID agricultural

program in India. The close cooperation and coordination between key officials of these three major U.S. agencies seems to have been an important component in the effectiveness of American assistance in agricultural university establishment. Both the official Rockefeller Foundation program and the individual activities of its former director, Ralph Cummings, were complementary and reinforcing to the USAID-U.S. university Agricultural Education and Research Project and later to the Agricultural University Development Project. The Ford Foundation program served a supplementary and gap-filling role in relation to the USAID-U.S. university program. While the Ford Foundation was not concerned with the details of agricultural university development *per se*, it was closely involved with India's general agricultural and educational programs and planning at the all-India level and with programs to help solve India's more immediately pressing needs for increased food production.

Third, each of the key U.S. groups involved in agricultural university development — the U.S. university team leaders, USAID officials, and Foundation personnel — served somewhat different functions and operated in a somewhat different role. No one group can claim most of the credit where credit is due. It was the combination of these groups each working at different levels and in different ways that resulted in some U.S. influence in the establishment of agricultural universities.

### **U.S. University Team Leader Role**

The U.S. university team leaders identified and worked with strategic Indian decision makers at the upper levels of the host institutions and the lower and middle echelons (more rarely at the top levels) of the state government ministries of agriculture. They exerted more influence within the states where they were located than they did in other states in their region. Team leaders had essentially no influence on Government of India officials except for those in the Indian Council of Agricultural Research.

Since the state governments were the agencies that would make the ultimate decision to establish an agricultural university, the team leaders were in the best position of any Americans to continually advise and guide at the level where action was most essential. However, the degree of influence actually exerted by the individual team leaders at the state government level varied widely. The principal factors influencing this variation seem to be:

- (a) The desire by the key state government officials to make appro-

priate changes in agricultural education, research, and extension based on land-grant concepts, and their willingness to accept and utilize advice from an outsider experienced in the land-grant university system. This was probably the single most important factor.

(b) The personality, professional competence, administrative experience, and ability to articulate important land-grant college concepts on the part of each team leader.

(c) The location of the team leader within the state and the region, those Indians with whom he worked most, his conception of his proper role relative to agricultural university establishment, and the amount of time he either chose to devote or was able to devote to agricultural university development.<sup>1</sup>

Where individual team leaders were able to exert some influence on Indian state government officials, they did so in similar ways. In some cases, the Indians were either acquainted with the land-grant college system or even fairly knowledgeable about it through having studied or visited in the United States. In other cases, the Indians simply had not had any experience with this new system, and so could not be expected to embrace it and discard the traditional Indian system. A key function of the team leaders, then, was to provide the Indians with adequate knowledge of the land-grant college philosophy, functions, structure, and operating procedures; the system's possible advantages to India over current methods; and the steps necessary to establish an agricultural university in that Indian state. Some team leaders probably stimulated the interest of key state government officials in the land-grant colleges and thereby influenced their desire for and support of an agricultural university.

Team leaders generally had little direct part in the actual decisions to establish agricultural universities in the various states. Most were asked to help in preparing at least the first draft of proposed enabling legislation and some advised in the preparation of the final drafts submitted to the legislative assemblies for consideration. Recommendations made by some team leaders on the nature of the final enabling legislation for the agricultural universities had a greater impact than those made by other team leaders, but this seems to reflect the concurrence of views between the team leader and important Indian state government officials rather than the actual participation by the team leader in the decision-making process.

<sup>1</sup>Remember that prior to 1961, agricultural university development was not an overt official USAID objective.

## **USAID Role**

USAID agricultural officials worked with strategic Indian decision makers at the upper echelons of state governments and at the lower, middle, and upper levels of the Government of India Ministry of Agriculture. The Chief Agriculturists had considerable contact with top-echelon officials of the Ministry, while most contacts by other USAID agricultural officials were with ICAR. The principal influence of these USAID officials was on Government of India officials and to a lesser extent on state government officials. The USAID personnel provided some supplementary help to the team leaders in that they stimulated the interest of Indian officials through discussion of the basic elements of the land-grant college system and steps necessary to achieve establishment of agricultural universities in India. Prior to 1960, USAID felt that land-grant type institutions were an essential part of the agricultural development of India, but apparently had no detailed strategy for the establishment of those agricultural universities that had emerged by 1964. Even after agricultural university development became an important objective of the USAID-U.S. university contract program, Dr. Hixson, Dr. Liming, and the Chief Agriculturists had too many pressing duties in Delhi to be able to spend more than 20 percent of their time out in various states helping with legislation and plans.

The principal USAID influence in agricultural university establishment appears not to have been in education of key Indians in land-grant college concepts, but rather in its control over the U.S. university contract assistance. USAID, principally Frank Parker, was partly responsible, working with various Government of India officials, for conceiving the Agricultural Education and Research Project and the First Joint Indo-American Team on Agricultural Research and Education in the early 1950's. Again in 1959, USAID and ICAR were responsible for initiating a thorough review of the program through the Second Joint Indo-American Team on Agricultural Education, Research, and Extension. A series of discussions followed the Second Joint Team's report and culminated in the decision that thereafter U.S. university contract assistance was to be concentrated on selected agricultural universities. The possibility of withdrawal of substantial USAID assistance to agricultural education and research from those states without an agricultural university probably was an important consideration in the rate with which agricultural universities were established after 1961, although not the principal consideration.

### **Foundation Directors' Roles**

The Ford and Rockefeller Foundation program directors in India, Douglas Ensminger and Ralph Cummings, were important through their relative proximity to high-level Indian center and state government decision-making processes.

Dr. Ensminger worked with strategic Indian decision makers at the top echelons of the Government of India, the state governments, and the Planning Commission. His influence was apparently considerable on such important overall national policies as the relative emphasis to be accorded to agriculture and education in India's Five-Year Plans and the types of programs to be undertaken in these fields.

Dr. Cummings worked with strategic Indian decision makers in agriculture at the top and middle echelons of the Government of India and with top state government officials. Primarily through his experience with developing a postgraduate school in agriculture at the Indian Agricultural Research Institute, he did have some influence in education of key Indians in land-grant college concepts. However, his primary influence in agricultural university establishment came in his proximity to the actual decision-making process. Through his chairmanship of the Government of India Agricultural University Committee, he had as much influence as any American in the all-India and individual state planning for agricultural universities. He participated in the development of the criteria for their establishment, consulted on their legislation and statutes, and aided in formulating the committee's decision as to which state universities met these criteria. His advice was respected and sought on many other aspects of agricultural university development by Indian center and state government officials and Americans alike.

Legislative establishment of seven agricultural universities in India based on the U.S. land-grant university pattern was only the beginning. While they have achieved some successes, these agricultural universities have also met with some opposition. The story of the universities' progress and problems of development in terms of implementation plans, organization and administration, curricula, research and extension programs, faculty, students, and public support, is more crucial and still unfolding.

## **Appendix A: HOST INSTITUTIONS ASSISTED UNDER AGRICULTURAL EDUCATION AND RESEARCH PROJECT<sup>1</sup>**

### **Region I (University of Illinois)**

#### **Uttar Pradesh**

Allahabad Agricultural Institute, Allahabad.  
Balwant Rajput College, Agra-Bichpuri.  
College of Agriculture, Banaras Hindu University, Varanasi.  
Government Agricultural College, Kanpur.  
U. P. College of Veterinary Science and Animal Husbandry, Mathura.

#### **Madhya Pradesh**

M. P. College of Agriculture and Research Institute, Gwalior.  
M. P. College of Agriculture, Jabalpur.  
Government Agriculture College, Rewa.  
Rafi Ahmed Kidwai Agricultural Institute, Sehore.  
M. P. Veterinary College, Jabalpur.  
M. P. College of Veterinary Science and Animal Husbandry, Mhow.

### **Region II (Ohio State University)**

#### **Punjab**

Government Agricultural College, Ludhiana.  
College of Animal Husbandry and Veterinary Medicine, Hissar.  
National Dairy Research Institute, Karnal.

#### **Rajasthan**

Rajasthan College of Agriculture, Udaipur.  
College of Veterinary Science and Animal Husbandry, Bikaner.

### **Region III (University of Missouri)**

#### **Assam**

Assam Agricultural College, Jorhat.  
Assam Veterinary College, Gauhati.

#### **Bihar**

Bihar Agricultural College, Sabour.  
Ranchi Agricultural College, Kanke.  
Bihar Veterinary College, Patna.

#### **Orissa**

Orissa Agricultural College, Bhubaneswar.  
Orissa Veterinary College, Bhubaneswar.

<sup>1</sup> Source: Periodic U.S. university field team reports between 1955 and 1961.

**West Bengal**

Birla College of Agriculture, Haringhata.  
Bengal Veterinary College, Calcutta.

**Region IV (Kansas State University)****Andhra Pradesh**

College of Agriculture, Osmania University, Hyderabad.  
College of Veterinary Science and Animal Husbandry, Osmania University, Hyderabad.  
College of Agriculture, Bapatla.  
Andhra Veterinary College, Tirupati.

**Maharashtra**

College of Agriculture, Akola.  
College of Agriculture, Poona.  
College of Agriculture, Nagpur.  
Bombay Veterinary College, Bombay.  
Nagpur Veterinary College, Nagpur.

**Gujarat**

Institute of Agriculture, Anand.

**Uttar Pradesh**

Indian Veterinary Research Institute, Izatnagar.

**Region V (University of Tennessee)****Mysore**

Agricultural College, Hebbal.  
Agricultural College, Dharwar.  
Mysore State Veterinary College, Hebbal.

**Kerala**

Agricultural College, Trivandrum.  
Kerala Veterinary College, Trichur.

**Madras**

Agricultural College, Coimbatore.  
Department of Agriculture, Annamalai University, Annamalainagar.  
Madras Veterinary College, Madras.  
Sri Avinashilingam Home Science College, Coimbatore.

**Appendix B: HOST INSTITUTIONS (AND CONSTITUENT COLLEGES) ASSISTED UNDER AGRICULTURAL UNIVERSITY DEVELOPMENT PROJECT<sup>1</sup>**

**Uttar Pradesh Agricultural University (University of Illinois)**

College of Agriculture, Pant Nagar.  
College of Veterinary Medicine, Pant Nagar.  
College of Agricultural Engineering and Technology, Pant Nagar.

**Jawaharlal Nehru Agricultural University, Madhya Pradesh (University of Illinois)**

Agricultural College, Gwalior.  
Agricultural College, Indore.  
Agricultural College, Jabalpur (main campus).  
Agricultural College, Raipur.  
Agricultural College, Rewa.  
Agricultural College, Sehore.  
Veterinary College, Jabalpur (main campus).  
Veterinary College, Mhow.

**Punjab Agricultural University (Ohio State University)**

College of Agriculture, Ludhiana (main campus).  
College of Agriculture, Hissar.  
College of Veterinary and Animal Science, Hissar.

**Udaipur University, Rajasthan (Ohio State University)**

College of Agriculture, Udaipur (main campus).  
College of Agriculture, Jobner.  
College of Veterinary Science and Animal Husbandry, Bikaner.

**Orissa University of Agriculture and Technology (University of Missouri)**

Agricultural College, Bhubaneswar.  
Veterinary College, Bhubaneswar.

**Andhra Pradesh Agricultural University (Kansas State University)**

Agricultural College, Rajendranagar (main campus).  
Agricultural College, Bapatla.  
Sri Venkateswara Agricultural College, Tirupati.  
Veterinary College, Tirupati.  
Veterinary College, Hyderabad.  
Home Science College, Hyderabad.

<sup>1</sup> Source: Marvel L. Baker, Report of Consultant on Agricultural Universities Development (New Delhi: Agriculture Division, U.S. Agency for International Development Mission to India, June 23, 1964).

**Mysore University of Agricultural Sciences (University of Tennessee)**  
Agricultural College, Hebbal (main campus).  
Agricultural College, Dharwar.  
Veterinary College, Hebbal (main campus).

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