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A HISTORY OF AGRICULTURAL UNIVERSITIES

K. C. Naik



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**A HISTORY OF
AGRICULTURAL
UNIVERSITIES**

**Educational, Research and Extension
Concepts for Indian Agriculture**

**K. C. NAIK
Vice-Chancellor, University of
Agricultural Sciences,
Bangalore**

**A Committee on Institutional Cooperation
(CIC)—U.S. Agency for International
Development Project
1968**

**“Agriculture constitutes the very
foundation of the economy.
We cannot fail or
falter here.”**

***India's Prime Minister Mrs. Indira Gandhi
in a broadcast to the nation.***

CORRECTIONS

<i>Page</i>	<i>Para</i>	<i>Line</i>	<i>As printed</i>	<i>As desired</i>
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xi	2	13	No can	Nor can
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6	3	1	Dr. Zakir Hussain	Dr. Zakir Husain
7	3	3	different set-up	different setup
8	2	15	receiving the necessary	receiving necessary
16	4	8	scinces	sciences
16	4	14	enroling	enrolling
16	4	17	develped	developed
17	1	9	phychology	psychology
20	1	7	extension. and	extension, and
20	3	6	many states	many States
21	2	1	research. the	research, the
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28	2	16	excepts	expects
29	2	9	present foods supplies	present food supplies
29	2	11	country'	country's
31	1	10	on other	or other
38	3	9	under this University	under his University
70	2	4	better-type	better type
70	5	5	corporation	cooperation
71	4	5	Dr. Zakir Hussain	Dr. Zakir Husain
73	2	4	badly-needed	badly needed
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147	2	5	hybrides	hybrids
148	2	1	or danger that	or dangers that
148	2	2	scientisis	scientists
149	2	6	signifiance	significance

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FOREWORD

India has always placed a high value on higher education. All of India's major religions shared this goal and developed universities. The British, during the colonial period, gave a great impetus to higher education including agricultural education and research.

Indians and the Government of India recognised that Independence and Economic Development called for major changes in higher education and research. They turned largely to the United States for advice and assistance in agricultural education and research because the U.S. Land Grant Colleges and Universities and the U.S. Department of Agriculture had played such an important role in the development of American agriculture. Furthermore, the two countries had similar agricultural problems arising from the size of the country and dual responsibility of the state and central governments for agricultural development.

In this book, Dr. Naik analyses the development of Indian agricultural, educational and research institutions, primarily since Independence. He describes in some detail the way in which the United States Government, Universities and Foundations have collaborated with India in this important work. It is recognized that while great progress has been made, much remains to be done. Therefore, the collaboration of the two governments and the Indian and American institutions organizations continues. Both India and America can take pride in the accomplishments of the past twenty years and the promise of the future.

Dr. K.C. Naik is peculiarly suited to write this book because of his depth of background and experience which gives him a balanced understanding of the potential role of Agricultural Universities in India. Dr. Naik's educational background is in agricultural science and technology and he has worked as a researcher and teacher in the field of Horticulture for over thirty (30) years. He has studied agricultural institutions abroad, and has brought this perspective to bear on the deliberations of various commissions and committees that were responsible for planning and guiding the development of agricultural education in India. He served as Secretary

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of the Second Indo-American Team which reviewed India's Agricultural Research and Education in 1960, and made recommendations for the third Five Year Plan. He has served as the top administrator of important agricultural education institutions, and is currently Vice-Chancellor of the University of Agricultural Sciences in the State of Mysore. Thus Dr. Naik has had not only the opportunity of understanding the importance of agricultural education, but he has participated intimately in the political activities required to generate and maintain public support for this important aspect of public life.

Frank W. Parker

PREFACE

India is presently in an age of increasing interest in modernising agricultural production with the aid of science and technology. If the large number of commissions and committees, which have studied the subject were an indication, the interest in new concepts of resident instruction, research and extension education to the farmers and farming communities has already reached unprecedented levels. Simultaneously, India has embarked on a reform of her educational, research and extension organisations on a scale never attempted before anywhere in the world. The establishment of seven universities modelled roughly on the Land-Grant pattern within the course of about half-a-dozen years with plans to establish ten more such institutions in the next five years, provides some indication of the unparalleled magnitude of the revolution for accelerating progress in agricultural sciences in this country. The change assumes even greater significance when we consider that the reform from a traditional and British-conceived system to a new concept, more or less in harmony with the modern U.S. system, was effected in a phenomenally short period. All these are suggestive of the vast changes that have occurred in the minds of people and Government in the largest democracy of the world during less than two decades, which constitute the post-independence period.

The realisation of the fact that in agriculture, unlike in non-agricultural sectors, there is a possibility for very substantial increase in efficiency in the use of existing capital is dawning on India. Increased resources are also undoubtedly necessary, but the proper utilisation of the available resources is no less important. To produce more food with better use of existing resources and to secure additional resources needed for modern technology is only possible with increased education and skills, which become available under a reorganised set up where efficiency of operation is as important as the know-how. The elimination of numerous defects associated with primitive farming practices that have descended from father to son over many centuries cannot be done away by administrative fiat or by proliferation of the staff at the Centre, State, or field level. No dramatic results can be expected through a few massive irrigation

projects, outsized State Farms, or larger imports of fertilizers. Even these can make the expected impacts on production only when adequate and efficient extension education programmes are available and are backed by a regular flow of findings from problem-oriented research. In the final analysis, therefore, lasting results can be expected through educational processes designed to improve the level of farming practices, provided these are closely intertwined with research.

The anomaly of the general reader having presently an easier access to the history of almost any minor event of numerous wars within and outside India than to the history of agricultural education in India is patent. The need for an anthology of discussion about education in agricultural sciences in India throughout the recorded history is also manifest.

Under the CIC-USAID Rural Development Research Project* it was felt that the demand for such a book has been augmented by the necessity of explaining the rapid and revolutionary change in the Indian system of agricultural education to the rest of the world, which may also stand to benefit from the Indian experiences to shape its own destinies. Technical assistance in which one government attempts to assist another nation in the building of institutions necessary for servicing its agricultural development is a venture for which both the procedures and the basic operating principles have to be developed. Many different approaches have been tried and the problems and obstacles encountered have been legion. The most massive and, in many respects, perhaps the most successful of these ventures has been the effort in India. A description of this history which could be read and understood by nationals in other developing nations who have started along this line but who have yet to conquer many of the problems already confronted in India, would no doubt be of value. Educational and political leaders of countries with problems very similar to those in India may in particular be able to profit from the Indian experience.

In order to aid the cause of international understanding by the provisions of information in this important aspect of nation's growth

* Committee on Institutional Cooperation (CIC) was formed in 1958 by 11 American Universities to improve the quality of higher education. AID has contracted with CIC to undertake a worldwide study of U.S. experience in providing technical assistance for developing agricultural education and research institutions abroad through contracts with American Land-Grant Universities.

through education and research in agricultural sector which effects the largest number of people in every country, Mr. J.A. Rigney and Dr. I.L. Baldwin of the CIC-USAID Rural Development Research Project invited the author to analyse the history of the development of agricultural universities in India, to look closely at institution building projects across cultural, political, and personality configurations in order to distill basic principles, experiences, and important insights that cut across these constraints and, thereby, become useful in planning future activities. It was expected that such an analysis would be a real contribution to the research efforts of CIC-USAID and also to the U.S. assistance to the building of agricultural institutions in India.

This work was commenced towards the close of March 1967. Dr. R.O. Olson, Chief, Agricultural Division, USAID, American Embassy, New Delhi, readily consented to spare the services of Mr. S.E. Subramaniam for digging out information and collecting published reports and other allied literature. The Communication Media Branch of AID, New Delhi, offered to make the services of Mr. Y.T. Shetty available for the project on a part-time basis. With such valuable assistance the project was able to go into a flying start.

The object of this work is to make available a history of education in agricultural sciences in India with special reference to the origin, development and functions of agricultural universities. The book is intended to chart the currents and cross-currents which have marked the development of higher education in agricultural sciences since the days the British ruled India. The traditional university idea did not just suddenly give way to the Land-Grant system in India but was the final outcome of considerable criticism, agitation, and hard work by a large number of persons and agencies. The story of this transformation may also have many lessons of considerable interest and value to educationists in the same field in all parts of the globe.

The history of higher education cannot, however, stand aloof from the social and intellectual history of the same period. Concurrent events in Indian thought and politics have to come within the scope of such a book. The march of science and agriculture, the increase in the educational level of the farming community, the changing habits, outlook, and standard of life will all have a bearing on the activities and procedures of the agencies serving agriculture, so that a panoramic picture of the progress of the nation as a whole

could be gleaned even while the focus is converging on higher education in a particular field.

This book is, therefore, intended to encompass over a century the literature of the controversy and discussions reflecting the social and material hopes of the farmers, administrators, educators and planners. It attempts to give a review of the major trends in the history of higher education in agricultural sciences in the country, the legal and institutional origins of the institutions, changes in tradition and philosophies, and similar other significant developments.

A work such as this depends upon the close cooperation of many persons—Vice-Chancellors, Deans, Registrars, other key officers of agricultural universities and also the officers connected with the Indian Council of Agricultural Research, the Indian Agricultural Research Institute, U.S. Agricultural Universities, staff of many affiliated and constituent colleges of agricultural sciences. The Rockefeller and Ford Foundation offices in New Delhi have supplied material relating to their varieties in India. The author is indebted to all those who assisted in various ways and in providing information.

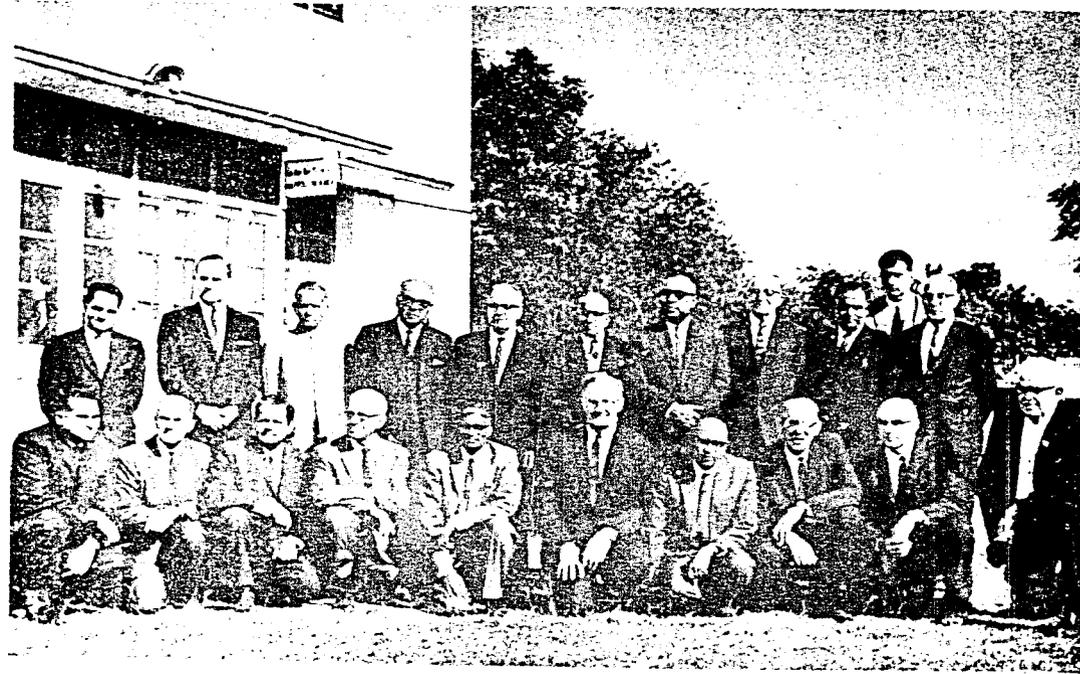
The author owes a particular debt of gratitude to Messrs Y.T. Shetty and S.E. Subramaniam, but for whose earnest and dedicated help this book would never have seen the light of day.

To Mr. J.A. Rigney and Dr. I.L. Baldwin the author's warm thanks are due for making this project possible and for their continued support. Above all, is the inspiration received from these two men and also from Dr. Frank W. Parker and Dr. Ralph W. Cummings, all of whom have offered most useful and valuable editorial comments.

The author is aware of the shortcomings of any study that proposes to encompass in time, physical area, and the numbers what is suggested by the subject. The author desires to make clear that he has not tried to account in depth for every aspect of the history of education in agriculture or related fields.

Bangalore
February 28 1968.

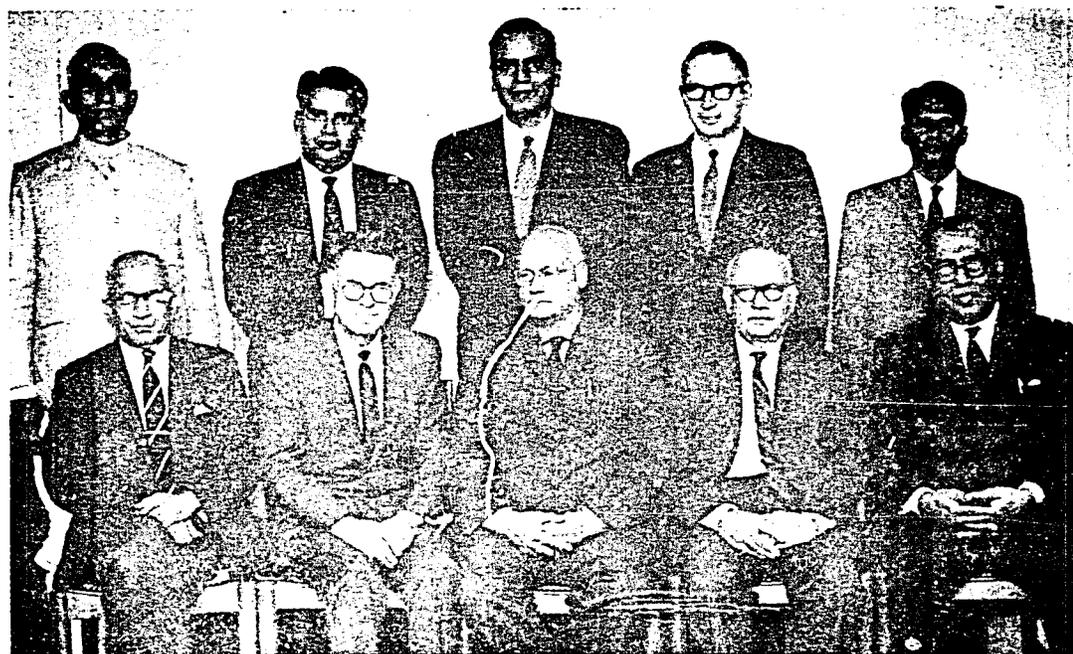
K.C. Naik



The Vice-Chancellors and other officials of Indian agricultural universities, Chiefs of Party of U.S. contracting universities and officials of the Indian Council of Agricultural Research, USAID and Rockefeller Foundation—July 1965

Front left to right : Dr. R.N. Mehrotra, (Rajasthan); Dr. J.M. Pohlman, (Orissa); Mr. S.K. Mukerjee, (ICAR); Dr. William F. Pickett, (A.P.); Mr. M. Sriramulu, (A.P.); Dr. W.D. Buddemeier, (M.P.); Dr. J.S. Patel, (M.P.); Mr. Ray G. Johnson, (USAID); Dr. Ralph W. Cummings, (Rockefeller); Dr. O.N. Liming, (USAID).

Second Row : Mr. S.D. Sharma, (USAID); Prof. J. Wendell McKinsey, (Orissa); Mr. M.C. Pradhan, (Orissa); Mr. P.N. Thapar, (Punjab); Prof. Wilbur B. Wood, (Punjab); Dr. G.S. Mahajani, (Rajasthan); Dr. K.C. Naik, (Mysore); Dr. T.F. Buehrer, (Mysore); Dr. N.K. Anant Rao, (U.P.); Mr. Dave Warner, (USAID); and Dr. William V. Lambert, (U.P.).



The Vice-Chancellors of Indian agricultural universities and officials of the Indian Council of Agricultural Research and USAID Agricultural Universities Development Division—November 1968
Front left to right : Dr. G.S. Mahajani, (Rajasthan); Dr. Glenn C. Holm, (USAID);
Dr. M.S. Randhawa, (Punjab); Dr. B.P. Pal, (ICAR); Dr. K.C. Naik, (Mysore).
Second Row : Padma Shree H.G. Patel, (Maharashtra); Dr. O.P. Gautam, (ICAR);
Padma Shree D.P. Singh, (U.P.); Dr. R.H. Pollock, (USAID); Dr. B. Samantrai, (Orissa).
Not present in the picture: Mr. O. Pulla Reddi, (A.P.) and Dr. L.S. Negi, (Jabalpur).

INTRODUCTION

Ancient and Mediaeval Colleges and Universities

The report of the University Education Commission (1948-1949) headed by Dr. S. Radhakrishnan, who later became the President of India, contains a vivid account of higher education in India up to 1857¹. These ancient and mediaeval centres of learning, says the Commission, contributed very little to the universities of modern India. It is, however, recorded in the report that Taksasila University had a curriculum which included eighteen arts, including medicine, surgery, astronomy, agriculture, accountancy, archery, astrology and snake charming. This University flourished as an educational centre till the fifth century A.D., while Nalanda University was destroyed towards the close of the twelfth century.

The mediaeval colleges and Universities established by Mohammedan rulers were mainly concerned with the teaching of Arabic and Persian literature and the curriculum paralleled, according to the University Education Commission, the *trivium* and *quadrivium* of the European institutions and included grammar, rhetoric, logic and law, geometry and astronomy, natural philosophy, metaphysics and theology. Most of these institutions have disappeared, although some still carry on the traditions of these colleges, and are better known as Madrasahs.

Early British Attempts

One of the noteworthy acts of Warren Hastings, the first Governor-General of British India, was to establish the Calcutta Madrasah intended "to qualify the sons of Mohammedan gentlemen for responsible and lucrative offices in the State." The next important educational institution established by the British was at Banaras "for the preservation and cultivation of Laws, Literature and Religion of the nation, to accomplish the same purpose for the Hindus as the

1. The Report of the University Education Commission: (1951), Manager of Publications, Government of India, New Delhi,

Madrasah for the Mohammedans and specially to supply qualified Hindu assistants to European Judges." In 1792-93 the British Parliament debated on a resolution to send out to India school masters and missionaries, but this is reported to have been opposed by one of the Directors of the East India Company with the argument that "they had just lost America from their folly in having allowed the establishment of schools and colleges and it would not do for them to repeat the same act of folly in regard to India." In 1811, Lord Minto's Minute regretted the neglect of literature and science in India and two years later a clause was inserted in the charter of the East India Company stipulating that "a sum of not less than one lakh of rupees in each year shall be set apart and applied to the revival and improvement of literature and for the introduction and promotion of knowledge of the sciences among the inhabitants of the British territories in India." In a few years, the Court of Directors of the Company approved the efforts to raise a class of persons qualified for high employment in the civil administration of India.

Founding of Colleges

This objective of "preparing natives for public employment" continued to be the motive force leading to the founding of colleges. This was followed by the establishment of colleges by various Christian Missions. The Serampore College established in 1818 obtained a charter from the Danish King (it being a product of the work of Danish Missionaries) in 1827 raising it to the status of a University and giving it the power to confer degrees. But it was only towards the end of 1856 that the Government of India approved the general plan for the establishment of three universities at Calcutta, Madras and Bombay from 1857.

Although the Government had intended a gradual withdrawal of its management of colleges, this was found impracticable for many years; and, in fact, new Government colleges had to be established. The Universities thus remained purely affiliating bodies on the model of London University. The Commission, however, remarks that "it is ironical that soon after the establishment of Indian Universities, London itself gave up 'affiliation' and substituted for it constituent Colleges and a system of open examinations without regard to the candidates' place of education." The Commission proceeds to remark that "As affiliating bodies the Universities made it their sole function

to conduct examinations and to regulate the admission of candidates to these through a supervision of the places of instruction. Elaborate regulations were framed and the freedom of the teacher consequently curtailed.”

A Government Resolution on educational policy in 1913 indicated that India would not be able to dispense altogether with the affiliating universities for a long time, but it was found necessary to restrict the area over which such universities would have control and secondly, “to create new teaching and residential universities.” The later type of universities were established at Decca, Aligarh and Banaras.

Condition in 1920s

Reviewing the conditions prevailing in India during 1920s, the Royal Commission on Agriculture in India concluded in 1928 that “however efficient an organisation might be built up for demonstration and propaganda, unless it was based on the solid foundations provided by research, it was merely a house built on sand.”² Even as recently as in 1936 and 1937 when Sir John Russel, Director of Rothamsted Experimental Station, visited India to review the condition of Indian agriculture, he reported that “in general, the men who actually till the soil are scarcely touched by the national programme of agricultural education.”

Agricultural Colleges and Enrolment and Research Position in 1947

The development of education and research facilities in agriculture and related fields advanced rapidly in spite of the Depression and war, so that by 1947 India had 17 colleges of agriculture with an annual enrolment of about 1500 students. In the case of research, its influence was felt up to 1947 largely in fields where industry directly infringed on agriculture, such as in cotton, through the activities of the Indian Central Cotton Committee, and in jute, sugar, lac, coffee, tea, rubber and tobacco. Particularly in sugar the progress was spectacular, and no less than 80 per cent of the sugarcane grown in India by 1947 was claimed to be under improved varieties, for which sugarcane research could claim credit. Improved varieties of

2. Report: Royal Commission on Agriculture in India, (1928) Government of India Central Publication Branch, Calcutta.

wheat and rice were also released but had not made as much progress.

The major institutions functioning by 1947, besides the Indian (formerly Imperial) Council of Agricultural Research, were the Indian Institute of Fruit Technology in Lyallpur established in 1945, the Central Agricultural Marketing Department organised in 1934, the imperial (now Indian) Bacteriological Laboratory founded in 1890 as the Indian Veterinary Research Institute, the Indian Dairy Research Institute started in 1923 and the Central Rice Research Institute founded in 1946. This list excludes the earlier research centres like the Pusa Institute and the Sugarcane Breeding Institute, Coimbatore.

Among the colleges of agriculture functioning by 1947, mention may be made of that at Coimbatore which was started in 1868 near Madras as a farm and raised to the status of a college in 1878 in its new location at Coimbatore to offer a diploma course, and to offer a degree course in 1920. The College of Agriculture, Poona, was started in 1879 as a branch of the College of Science, developed in 1890 to offer a diploma course, and in 1909 to offer a degree course. The Allahabad Agricultural Institute was founded in 1910 and was sponsored cooperatively by a number of churches and missions and currently prepares students for degree courses in agriculture, agricultural engineering and dairying.

Indian Examination System

The University Education Commission after reviewing the examination system in India has stated: "For nearly half a century, examinations, as they have been functioning, have been recognised as one of the worst features of Indian education." Among the many defects associated with the external examination system of traditional universities are: it is not reliable; it does not efficiently measure what it does measure; it is not adequate; it does not sample sufficiently widely; it is not objective and does not effectively eliminate the bias or subjective opinion of the person who marks it; it has subjected teaching to the examination, made it almost impossible to provide true education and to develop wider interests, and has created temptation of cheating, corruption and favouritism. To sum up, the chief purpose of the examinations conducted under the traditional university is not organically related to the actual process of education. A University degree is the minimum requirement even for posts of minor officials and clerks and this fact has put a premium on a

number of evils which have come to be associated with such a traditional system of examination.

In this context, it is now found that the introduction of valid, reliable, adequate, objective examinations is the hallmark of the new concept that is now being followed by the agricultural universities following broadly the pattern of the U.S. Land-Grant system.

Other Defects of Indian Education System

Lack of high standards in education results in inordinately large annual wastage of public funds year after year, besides a terrible waste of time, energy and funds of students and their parents as well as considerable frustration. Under the affiliated system, the standards of teaching vary greatly from college to college as also the qualifications and competence of teachers, their salary scales and the interest, enthusiasm or dedication to teaching. Overcrowding in colleges, the mass lecture method of instruction with no provision for preparation for the lecture or by library work after the lecture, and which soon deteriorates to a mere dictation of notes, excessive dependence on text-books, which are not always prepared with care, but which are sometimes prescribed on considerations other than academic, provision for certain categories of students to appear at public examinations without attending lectures at recognised institutions, tutorials whose main function is coaching for examinations, absence of seminars—these are some of the large number of evils associated with the type of education inherited from pre-independence era.

Comparison with the New Concept

The new concept that is followed in agricultural universities is what has been evolved over a period of years in the hard school of experience and on the basis of a wealth of scientific work. The evaluation, testing, measurement and appraisal are all devised to be objective. The foundation for this new system of education and evaluation was laid in 1862 in the U.S. by an act of the Congress (Morrill Act) during a period when that nation was engaged in a bitter struggle. When Abraham Lincoln signed the Act on July 2, 1862, it contained provision of grants of land in the public domain to all the States of the Union for the establishment of colleges to teach agriculture, mechanic arts and military training without excluding humanities or classics. These land grants became the permanent

endowments of what is now known as "Land-Grant Colleges." They "constituted a programme of complete democratization of higher education for the masses, the introduction of science into the curriculum, with its applications, principally in agriculture." In the years that followed agricultural experiment stations were established within the Land-Grant colleges, and later the Federal-State Extension system was added. The adult educational system reaching the farmers and their families from the laboratories, classrooms and experiment stations has made Norris E. Dodd, former Director-General of the Food and Agricultural Organisation, designate the U.S.A. as having the largest rural education agency in the world.³

The integration of resident teaching, research and extension education, the method of teaching to enable the students to solve problems rather than merely to acquire a degree as passport for a position, the internal, verifiable and continuous evaluation which prevents the need for memorization by students, are some of the characteristics that stand out in the U.S. Land-Grant system, which the agricultural universities in India are endeavouring to adopt.

How the New System Came to be Introduced to India

Dr. Zakir Hussain, currently the President of India, in a very illuminating talk delivered in August 1964 at Bangalore revealed for the first time as to how the Radhakrishnan Commission came to recommend a far-reaching change in our education system.⁴ He declared that the entire credit for introducing the new system into the exclusive and forbidding precincts of Indian higher education goes to Dr. Arthur E. Morgan of Tennessee Valley Authority fame. Dr. Morgan was well aware of Gandhiji's approach to place the neglected village at the centre of developmental thinking. He was aware of Tagore's village reconstruction work, and he had known the deep attachment of Nehru to modern science and his anxiety to transform the traditional to a rational outlook, and from empirical to scientific technology. With all this background, Dr. Morgan was able to persuade the Commission to accept his proposal for the establishment of Rural Universities in India. Many expert committees, subsequently, elaborated this concept, which is now well-known

3. Vaidyanathan, P.P.I. and Naik, K.C. *Agricultural Institutions in The United States of America, (1958)*—Superintendent, Government Press, Madras.

4. *First Annual Report of the University of Agricultural Sciences : (1964-65)* Bangalore.

as the concept of Agricultural Universities, the most singular feature of which is a complete break-away from the traditional University system.

These new Agricultural Universities have now been established with the approval of the Planning Commission and on the Central Government's initiative and sponsorship in seven States of India—Uttar Pradesh, Punjab, Rajasthan, Madhya Pradesh, Andhra Pradesh, Orissa and Mysore. The recent Education Commission has recommended the establishment of at least one Agricultural University in every State, and it is likely, therefore, that Agricultural Universities will soon be working in all States, with Statewide responsibilities for teaching, research and extension in all agricultural sciences.

Opposition to the New System

A far-reaching deviation from the traditional system, for which the agricultural university concept stands, was not expected to be welcomed by those long accustomed to a different set-up. Some of the administrators, legislators and public men advanced the facile argument that a system need not necessarily succeed in India merely because it has been a success in a different society and environment. The Inter-University Board, which represents the voice of the Indian educationists, passed a resolution in its meeting held at Dharwar on February 3, 1961, questioning the wisdom of starting what it designated as single-faculty universities of the type of agricultural universities. The votaries of traditional system, oblivious of the recommendations of the Radhakrishnan Commission, and of the First and Second Joint Indo-American Teams, were clearly not in a mood to permit a new concept to invade the precincts of their traditional stronghold. This resistance to the new concept from entrenched academic circles was very patiently and cogently argued by the Committee on Agricultural Universities headed by Dr. Ralph W. Cummings with the following words:⁵ "It is clear to the Committee that this Resolution has been the result of a lack of full and clear understanding of the proposals, their objectives and implications." Proceeding, the Committee concluded: "On a most careful consideration of the matters, together with the pronouncements of several eminent educational and expert committees, which have examined

5. Progress Report of Committee on Agricultural Universities; Manuscript (1962) Rockefeller Foundation, New Delhi.

agricultural education with great care, this Committee is fully convinced that India can ill-afford to defer the application of those principles and procedures of proven value, which have proved so effective in other countries in transforming their agricultural education to be a real and dynamic force for progressive and rapid improvement in the economic, no less than in the education status of the people."

Government of India's Decision

The Government of India in a communication dated August 22, 1961, addressed to all State Governments stated that under the existing system of agricultural education in India, Education, Research and Extension were completely divorced from each other and the training imparted to the agricultural graduates was mostly theoretical. The Government of India also pointed out that the Planning Commission had also examined this question carefully and had accepted the need for the setting up of a few more such Universities in addition to the Agricultural University at Rudrapur (U.P.) for which a proposal was received from the Government of Uttar Pradesh in September 1956. Later the University Grants Commission stressed that immediate and effective steps should be taken to improve the quality of agricultural education. With that end in view, the Commission suggested that since agriculture and allied subjects were not receiving the necessary attention in a University imparting instruction in a large variety of subjects, it was desirable to have universities where agriculture was the central and primary subject of study and research.

Further Support

A decade of opposition to agricultural universities was thus showing signs of crumbling. The report of the Education Commission (1964-1966) headed by Dr. D.S. Kothari, who is also the Chairman of the University Grants Commission and, therefore, the accredited spokesman of the traditional universities, contains the following weighty judgement:⁶ "The central point in the programme we are recommending is the establishment of at least one agricultural university in each State."

6. Report of The Education Commission (1964-66), Manager of Publications, (1966), Delhi.

The latest high-level body of the Government of India which is also concerned with education in agricultural sciences is the Administrative Reforms Commission. Its Agricultural Study Team has given considerable thought and attention to the role of agricultural universities.⁷ Quoting Cato's words in the 2nd Century B.C., "If you are late in doing one thing in agriculture, you are late in all things," the Report makes a strong plea for more realistic policies and an efficient administrative machinery to enable the country to increase production by harnessing the resources and all the knowledge of science and technology. Some of the important recommendations made by the Team in so far as they lie within the scope of this book are reproduced below :

- (1) Agricultural Universities should be started in all the remaining States as quickly as possible, and towards this end, the Central Government should take necessary steps ;
- (2) All aspects of research on agriculture should be the concern of the Agricultural Universities ;
- (3) The Constitution of a National Council of Education in Agricultural Sciences with the responsibility to regulate, foster and maintain high standards in agricultural universities is recommended; and
- (4) The subject-matter specialists at the State and District levels should be under the administrative and technical control of the Agricultural Universities.

Establishment of Agricultural Universities and the need for a review

From 1949, when the University Education Commission first extolled the Land-Grant system as an epoch-making contribution to agriculture and agricultural education and recommended that agricultural education be recognised as a major national issue and that new agricultural colleges, where possible, be associated with new rural universities, to 1960, when the first Agricultural University was established, there lies a decade of intense and searching enquiries from dozens of Committees, Teams and Commissions. Despite controversy and opposition, there was no looking back since 1949. The establishment of the Uttar Pradesh Agricultural University in 1960

7. Report of Study Team on Agricultural Administration, (August, 1967) Administrative Reforms Commission, New Delhi.

gave a practical shape to the thinking of the best brains of India and from that year to 1966, no less than six Agricultural Universities began to function, excluding the Indian Agricultural Research Institute and Kalyani University which also have some of the Land-Grant concepts integrated into their set up.

Before the next advance of establishing at least one Agricultural University in each State materialises, it would seem opportune to review the origin, development and achievements of these agricultural universities, so that the next batch of universities that are now on the Indian horizon and many others that may be conceived in the developing countries of the world, may be in a position to profit by the struggles, achievements, mistakes and successes of the agricultural universities already established. This is considered to be an ample justification for the present book.

It is not generally known or it is a fact often overlooked that India is not only the largest democracy in the world in terms of population, but it is also one of the largest countries in Asia. If we exclude the area of the Phillipines and Indo-China from the total area of South East Asia, it would be equal to India. But the total population of South East Asia is only half that of India. Next to China in size and population, but as the largest democratic country in Asia and the world, its experiences in all fields of human endeavour are bound to be of value and interest not only to all other countries in the region but also to all the developing countries in all parts of the globe.

INDIAN AGRICULTURE UNDER BRITISH RULE

Famines in India and the Early Empirical Methods

In his book "Famines in India," B.M. Bhatia says that "India has suffered from famines since time immemorial."¹ According to him, the available evidence suggests that in the pre-British period a major famine occurred once in every 50 years, and "From the beginning of the eleventh century to the end of the seventeenth, there were fourteen famines almost all of which were confined to small local areas." From 1765, when the British East India Company took over the Diwani of Bengal, to 1858, "the country experienced twelve famines and four severe scarcities." "Between 1860 and 1908, famine or scarcity prevailed in one part of the country or the other, in twenty out of the total of forty nine years."

Agriculture was based on empirical methods in all parts of the world till about the middle of the nineteenth century. The application of chemistry to soils in 1840 and the establishment of the Rothamsted Research Station in 1843, followed by the opening of the first agricultural college in England at Cirencester in 1845 are termed as the landmarks of development of agricultural science and education in the Report of the Royal Commission on Agriculture in India.²

Early Attempts to Organise Agricultural Improvement

The first proposal for a special Department of Agriculture in India originated from the Commission appointed after the Great Famine in Bengal and Orissa in 1866. The Cotton trade which exercised considerable influence at the time in moulding the policy of the Government of India, suggested in 1869 the revival of the above proposal and urged, at the same time, that steps be taken for the improvement of cotton, and a separate Department of Agriculture be established in each Province. The first evidence of action on

1. B.M. Bhatia: *Famines in India* (1963); Asia Publishing House, Bombay.

2. *Ibid*, p. 5

this was visible only in 1871 when the Department of Revenue, Agriculture and Commerce of the Government of India began to function. This was followed by the formation of a Department of Agriculture in what is now known as Uttar Pradesh. The report of the Famine Commission of 1880 again revived the interest. Incidentally, this Commission stressed on the development of irrigation, the necessity for extension of the railway system and the means of communication, and measures for increased thrift and resourcefulness, along with the revival of the Department of Agriculture under the Government of India and the simultaneous formation of similar Departments in the Provinces.

For nearly ten years, no definite action appears to have been taken. In 1889, the Secretary of State for India in London sent out Dr. J.A. Voeleker, Consulting Chemist to the Royal Agricultural Society, to advise on the matter. From the end of 1889 to the beginning of 1891, Dr. Voeleker was in India and his recommendations led to the appointment of an agricultural chemist in 1892 which post after five years was replaced by that of Inspector-General of Agriculture.³ An Imperial Mycologist was appointed in 1901 and an Imperial Entomologist, in 1903.

The Famine Commission of 1901 recommended strengthening the expert staff of all agricultural departments in all Provinces, and these were quickly implemented by Lord Curzon's Government and the Imperial and provincial departments of agriculture.

Agricultural Situation at the Beginning of the Century

Mr. J.W. Mollison, Inspector-General of Agriculture in India, compiled the material for the chapter on Agriculture for the Imperial Gazetteer of India published in 1907.⁴ Considered as the most authoritative publication of the times, this book gives a graphic account of the agricultural situation in the country in the beginning of the Twentieth century along with the cultural practices in vogue, principal crops, livestock position, dairying, research, agricultural education and administration. Citing Dr. Voeleker's Report on the Improvement of Indian Agriculture, it is recorded that the Indian cultivator at his best was quite as good in those days as, and in some respects the superior of, the average British farmer, while at his worst

3. Voeleker: Report on Improvement of Indian Agriculture, (1893).

4. Imperial Gazetteer of India (1907), Clarendon Press, Oxford.

it is alleged that this state is brought about largely by an absence of facilities for improvement which is probably unequalled in any other country, and that the ryot will struggle on patiently and uncomplainingly in the face of difficulties in a way that no one else would.

Referring to crop yields and food position at that period it is interesting to note that in good soil an average transplanted crop of rice yields about 2,400 lbs. of paddy per acre in a favourable season, while during the ten years ending with 1899-1900, the exports averaged 31.5 million cwt. valued at Rs. 19 crores.⁵ But the bulk of this exported rice came from Burma, which was then a Province of India. The exports of wheat, on the other hand, fluctuated with good and bad seasons, averaging during 1899-1900, 12.5 million cwt., but declining in 1900-1901 after a serious famine to only 5 lakh cwt., and rising in 1903-1904 to 26.0 million cwt., valued at Rs. 11 crores. In 1903, out of about 60.0 million cwt. of wheat imported into the U.K., 17.0 million cwt., were from India, the only countries which sent larger amounts being the U.S. (24.0 million cwt.) and Russia (a little over 17.0 million cwt.) Exports in Sorghum (jowar) and *Pennisetum* (bajra) amounted to 2.0 million cwt. in 1903-1904, valued at 7.1 million rupees, while the pulse exports amounted to 2.5 million cwt. in the same year, valued at 9.15 million rupees, and exports of oil-seeds were 24.5 million cwt., valued at Rs. 14.5 crores, of cotton 8.0 million cwt., valued at Rs. 24 crores, mainly to Japan and Germany.

The Imperial Gazetteer records that the problem of improving the breed of cattle in India is very difficult. The practice of keeping alive maimed, old and worthless cattle until they die naturally, even if they give no return, except manure, for the food they consume, and the scarcity of fodder from natural grazing or cultivation, which keeps the cows and young stock semi-starved in the hot weather, is a widespread practice or phenomenon.

The Gazetteer also mentions that research and experiments in India were still in their infancy.

Although from 1905 onwards, under the stimulus and direction furnished by the Government of India and with the assistance of grants from Imperial revenues, all Provinces undertook the development of agricultural departments, progress was not everywhere equally rapid, says the Royal Commission.⁶ The outbreak of the war

5. A crore is ten million, and a million is ten Lakhs.

6. Ibid, P.5.

(I World War) led to a suspension of activity. When hostilities ceased, a new spurt of activity developed from 1920, activated partly by the constitutional changes which followed the passing of the Government of India Act of 1919, following the Montagu-Chelmsford Report of 1918. This Act transferred the administration of all departments which were closely connected with rural welfare to the Governor acting with a Minister.

Recommendations of the Royal Commission on Agriculture

At the time these changes were taking place, the Royal Commission observed the lack of sufficiently close touch not only between Pusa⁷ and the Provincial departments but also between the Provincial departments themselves, and that it was unfortunate that Pusa was not, from the outset, an educational as well as a research institute. Having regard to these and other matters, the Commission recommended *inter alia* the establishment of an Imperial Council of Agricultural Research.

A direct outcome of the work of the Royal Commission on Agriculture was the establishment of the Imperial Council of Agricultural Research in 1929. Almost immediately afterwards, there was the Great Depression, during which agricultural income in India was reduced by about half, with the result that the farmers' plight became steadily worse. The recovery began by the end of the thirties, but then came World War II and the Government's attention was centered on military considerations.

However, it is clear up to the end of the British period, agricultural scarcities and famines were largely man-made. Although, with the separation of Burma, the rice position was very adversely affected, and exports of rice ceased, the food position remained a problem of primarily the administrators and less of the producers.

7. Pusa was the location for the Indian Agricultural Research Institute till it was shifted to new Delhi after the earthquake in 1936.

POST—INDEPENDENCE PERIOD

University Education Commission

India won independence on August 15, 1947. The importance attached by the new nation to education is reflected in the Government of India resolution of November 4, 1948, setting up the Indian University Education Commission. The Commission was asked to report on University Education and suggest improvements and extensions desirable to suit present and future requirements of the country. Dr. S. Radhakrishnan, then Spalding Professor of Eastern Regions and Ethics at the University of Oxford who later became the President of India (1956-1967), was the Chairman. Members included Dr. (later Sir) James F. Duff, Dr. Arthur E. Morgan, Dr. John J. Tigert and six eminent Indian educationists, Dr. Zakir Husain, Dr. Tara Chand, Dr. A. Lakshmanswami Mudaliar, Dr. Meghnad Saha, Dr. Karm Narayan Bahl and Mr. Nirmal Kumar Sidhanta. The Commission's report in three volumes was published in August 1949. Monumental as this report was, its recommendations helped greatly to shape the destinies of higher education in India.

The Commission recorded deep general awareness of the importance of higher education for national welfare, uneasy sense of inadequacy of the prevailing pattern, serious shortcomings in the functioning of the Universities, marked deterioration of standards in teaching and examinations and increasing dissatisfaction with the conduct of university administration and elections of university authorities.

Number of Universities in 1949

By the time the Commission began to work, India had over 20 Universities, of which three (Calcutta, Bombay and Madras) were founded in 1857, One (Allahabad) in 1887, Two (Banaras and Mysore) in 1916, One (Patna) in 1917, One (Osmania) in 1918, Two (Aligarh and Lucknow) in 1926, One (Agra) in 1927, One (Annamalai) in 1929, One (Travancore) in 1937, One (Utkal) in 1943, One (Saugor) in 1946, Three (Rajputana, East Punjab and Gauhati) in

1947, Three (Poona, Roorkee and Kashmir) in 1948 and One (Baroda) in 1949.

Commission's Views and Recommendations

Referring to agriculture, the Commission remarked that the country's position in regard to food production was pathetic. India with 70 per cent of the people engaged in agriculture, yet imported 1.5 million tons of foodgrains in 1946, 2 million tons in 1947, 3 million tons in 1948 and nearly 4.5 million tons in 1949 at a cost of 200 crores of rupees.

The Commission bemoaned the lack of a respectable amount of research of good quality. Citing the Scientific Manpower Committee, it states that the number of Ph.D. and D.Sc. degrees in six Basic Sciences, awarded by the Universities of India during 1938-1948 totalled only 260, an average of 26 per year. On top of this, there were signs of a steady decline in the quality and quantity of research. Since science is indispensable to civilized existence and a main factor in determining the direction of progress, the Commission urged that the country needed a constant flow not only of trained scientific workers but also of scientific leaders filled with the spirit of research.

The developments during the half century preceding the work of this Commission led to the establishment of 21 institutions for higher education in agriculture. The number of enrolments to 17 agricultural colleges rose steadily from 30 in 1924 to 1448 in 1948. The number of M.Sc's and doctorates turned out from these colleges during 1946-47 was 74, while 156 candidates received post-graduate diplomas in agriculture, veterinary, forestry, dairying, and allied sciences in the same year. Facilities for training in post-graduate research work in agricultural sciences was available in India in 1948 for only 166 students. The Commission compared this situation in India with that in the U.S., where there was no agricultural education previous to 1862. After July 1862, when the Morrill Act was passed, as many as 70 Land-Grant Universities and Colleges were established until 1949, enrolling approximately about a million students, besides reaching a large section of the adult population through extension educational services. As an indication of how fast the economic structure in the U.S. was being developed, the Commission has pointed out that "the total agricultural income of Florida was \$97,980,000 in 1935, \$115,009,000 in 1940 and \$413,071,000 in 1946."

Rural Universities

For Rural Universities the Commission devoted one whole chapter. The Commission specifically recommended that "a rural university should include a ring of small, resident, undergraduate colleges, with specialised and university facilities at the centre." A common core of liberal education was recommended for the rural university as for other universities, though the methods used in teaching and learning may be different. This common core should include substantial introduction to the fields of mathematics, chemistry, physics, geology, astronomy, biology, physical education, psychology, the social sciences, philosophy, and language and literature. As to advanced and specialised subjects, the Commission recommended that no field of human concern should be foreign to the rural university. The curriculum should be made to fit the needs of individuals, and not the students made to conform to an arbitrary curriculum.

Community Development and National Extension Service

In 1952 a Grow More Food Enquiry Committee came to the conclusion that the lesson to be derived was that all aspects of rural life were interrelated and that no lasting results could be achieved if aspects of it were dealt with in isolation. These views and recommendations led the Government of India to set up a National Extension Service and a new unit of development administration known as the Community Development Block. The size of the block and its resources varied from time to time, though the central purpose of the block concept remained. This is to bring the development administration as near to the village as the country's resources can afford and to equip it with a team for coordinated and integrated field extension work in all the interrelated sectors of agriculture, animal husbandry, rural industries, cooperatives, health and sanitation, rural communications, social, educational and allied activities.

By 1963, a decade after the inception of the programme, the whole country was covered by Community Development Blocks and the National Extension agency which went with them. A measure of experimentation and improvization was inherent in the process.

A Committee which went into the working of these Community Development blocks after they were in existence for five years, found that the programme had remained largely under official leadership and had not evoked popular enthusiasm to the desired extent. It con-

cluded that it was very necessary that there should be devolution of power and decentralization of machinery and that such power should be exercised and such machinery controlled and directed by popular representatives of the local area.

A Working Group again reviewed the progress of this programme in 1963. Among the important recommendations of the Group was the merger at the secretariat level of the States departments concerned with agriculture and other sectors of rural development.

The contours of policy on Community Development have continued to be under discussion since then. A nationwide programme of this nature involving no less than about 60,000 Village-Level Workers with a hierarchy of other staff has necessarily to justify itself by results and accomplishments. A Press statement made on December 27, 1967, by the Union Minister of State for Community Development indicates that the achievements made so far have not been unimpressive and it would be suicidal to give up the programme.

Rural Institutes

While no action was taken to implement the recommendation of the Royal Commission on Agriculture to set up Rural Universities, the Government of India in the Ministry of Education set up a Committee in 1955, which recommended the establishment of a series of so-called "Rural Institutes." Little attention was paid to the pattern proposed by the Commission for the formation of Rural Universities. The term "Rural Institutes," for an analogous institution with a different series of objectives was adopted. The rural institutes have had a chequed career, neither becoming popular with the public, nor developing a capacity to render effective service, so that they never counted as centres of higher education in agricultural sciences.

First Joint Indo-American Team

Meanwhile, the Ministry of Food and Agriculture was having its own ideas on the needs of the situation. The importance of breaking new ground on the lines indicated by the Commission was recognised. At this time Dr. Frank W. Parker came on the scene as T.C.M. Advisor to the Ministry and his advice and efforts culminated in the setting up of a Joint Indo-American Team.

In a Resolution of November 24, 1954, the Indian Ministry of Food and Agriculture made special reference to the experience of the

institutions in the U.S.A., particularly the Land-Grant Colleges, and hoped that these Colleges would provide some useful guidelines for strengthening Agricultural Colleges in India and for promoting Centre-State cooperation and coordination in the field of agricultural research. Accordingly, that Resolution contained the decision of the Government of India to constitute a joint Team of Indian and American Specialists to make a comparative study of the institutions in the U.S.A. and India and make recommendations. This Team had Mr. K.R. Damle, then Vice-President of Indian Council of Agricultural Research, as the Chairman, with three Indian Specialists and three Specialists from the U.S.A., besides the Secretary, who was also the Secretary of the Indian Council of Agricultural Research. The three American Specialists were Dr. A.H. Moseman, Dean R.E. Buchanan and Dr. E.E. Leasure, while the Indian counterparts were Dr. B.N. Uppal, Dr. L. Sahai, and Dr. H.K. Nandi with Mr. J.V.A. Nehemia as Secretary.

The Indian representatives on the Team visited the U.S. for about three months in 1955 to study research and educational institutions and their activities, while the American members of the Team reviewed the research and educational progress in India. The Team report submitted in September, 1955, contained 118 recommendations, which together laid the true foundation for all the subsequent developments in India leading to the establishment of Agricultural Universities and enhancing the value of research work in agricultural sciences in India.¹

Endorsing the recommendation of the University Education Commission that a Rural University should include a ring of small resident, under graduate colleges with specialised and university facilities in the centre, the Team spelled out in detail what should be the constituent colleges of such a university.

Operational Agreement No. 28

While the Team was engaged in its work consultations were going on between TCM (now AID) and Government of India representatives about an inter-institutional programme. On the basis of these discussions, the original Operational Agreement Number 28, "Project for Assistance to Agricultural Research, Education and

1. Report of the Joint Indo-American Team on Agricultural Research and Education (1955)—I.C.A.R. (New Delhi).

Extension Organizations," was signed on April 30, 1954. The purpose of this agreement was to strengthen institutions in the field of agriculture, engaged in instruction, research, extension, through provision of (a) laboratory and classroom equipment for programmes of a practical and applied nature; (b) books and journals; (c) interchange of staff and possibly advanced students between agricultural institutions in the U.S. and India in research, instruction, extension, and administration; and (d) additional specialists outside India as needed for training and observation outside India. The first authorization provided for five U.S. University contracts with T.C.M. to strengthen agricultural institutions in India and to increase cooperation and coordination in the field of research and education.

Second Joint Indo-American Team

Although most of the Team's recommendations were accepted by the Government of India and steps taken to implement them to the extent funds were available during the Second Five Year Plan (1956-1961), the Government of India felt the need to have specific proposals for Third Five-Year Plan (1961-1966). The Second Joint Indo-American Team on Agricultural Education, Research and Extension was thus constituted following a Resolution dated 12th September 1959. This Second Joint Indo-American Team was headed by Dr. M.S. Randhawa, then Vice-President of Indian Council of Agricultural Research, and had three representatives of Land-Grant Universities in Dean Arthur D. Weber, Dean A.E. Darlow and Dean Arthur L. Deering, with Dr. Martin G. Weiss representing the U.S. Department of Agriculture. The Indian members of the Team were Dr. B.N. Uppal, Dr. L. Sahai, Mr. Lal Singh, Mr. P.D. Nair, Dr. M.D. Patel, Dr. K.C. Naik, (Secretary) Dr. J.S. Patel and Mr. Ibne Ali.

This Team reviewed the progress of the work done in the preceding five years and made supplementary recommendations designed to strengthen agricultural education, research and extension. The summary of the Team's recommendations submitted on July 11, 1960, included 67 items.² On agricultural university, the Team recorded that there was widespread demand from many states for the establishment of agricultural universities. But in some cases demands were

2. Report of the Second Joint Indo-American Team on Agricultural Education, Research and Extension, (1960) I.C.A.R., New Delhi.

being made without even understanding all the goals and objectives of the agricultural universities and without any awareness of the needs of such university. The Team, therefore, recommended that assistance to establish an agricultural university should not be granted unless there is adherence to basic principles such as (i) autonomous status, (ii) location of Agricultural, Veterinary/Animal Husbandry, Home Science, Technological and Science Colleges on the same campus, (iii) integration of teaching by offering courses in any of these institutions to provide a composite course, and (iv) integration of education, research and extension.

Referring to research, the Team recommended among others that all the Central Research Institutes be brought under the full technical and administrative control of the Indian Council of Agricultural Research and that all the Commodity Committees, including the Central Sugarcane Committee, be brought also under the full control of the Indian Council of Agricultural Research.

The Team further recommended that USAID technical assistance under the Inter-University Contract Programme should largely be concentrated in fewer colleges with special emphasis on those institutions which are likely to develop into agricultural universities.

Most of the foregoing recommendations, as further amplified by subsequent reviewing Committees, have been accepted and implemented.

Meanwhile, encouraged by USAID Advisors and the Rockefeller Foundation, some of the State representatives were deputed to the U.S.A. for a study of the Land-Grant institutions. Two of these study reports have been published, one entitled "A New University"³ by Mr. K.A.P. Stevenson and Dr. Y.R. Mehta and the second by Mr. P.P.I. Vaidyanathan and Dr. K.C. Naik entitled "Agricultural Institutions in the United States of America."⁴ These studies were of help in planning the agricultural universities in India.

High Level Committee

Soon after the Second Joint Indo-American Team's report was published a high-level Committee of the Indian Council of Agricultural Research made a subject-wise review of the reports by (i) First

3. K.A.P. Stevenson and Y.R. Mehta; *A New University* (1960), Superintendent, Printing and Stationery, Lucknow.

4. *Ibid*: p. 10.

Joint Indo-American Team, (ii) Second Joint Indo-American Team, and (iii) Agricultural Administration Committee. The last, more popularly known as the Nalagarh Committee report after its chairman the Raja of Nalagarh (Raja Surendra Singh) also contained recommendations touching upon the general field of research, education and extension. The high-level committee's effort was more of a stock-taking exercise to determine further progress and practices. It was presided by Dr. Punjab Rao Deshmukh, then Minister of Agriculture and the members were Rajah of Bhadri, Lt. Governor, Himachal Pradesh; Mr. M.V. Krisnappa, Union Deputy Minister for Agriculture; Mr. Avinashilingam Chettiar, M.P.; Mr. V. Shankar, Vice-President, Indian Council of Agricultural Research; Dr. J.S. Patel, Agricultural Commissioner with the Government of India; and Dr. K.C. Naik, Chief of Agricultural Education.

Agricultural Research Review Team

Towards the end of 1963, another Committee known as the Agricultural Research Review Team was appointed. This was an attempt to remedy the situation on the organisational side. The First and Second Joint Indo-American Teams did not have the time to go into the organisational structure and suggest a pattern to get the best out of the money spent on research. Among other things, this Research Review Team was to: (i) suggest changes in the organisation and administration of research, greater co-ordination between Centre and the States, (ii) prepare detailed proposals for improving effectiveness of research so as to meet the real needs for substantial and sustained improvement in agricultural production and progress, (iii) suggest steps to ensure an adequate contact with the agricultural extension worker to bring about a two-way traffic between the farmer and the research institution.

The Chairman of this Agricultural Research Review Team was Dr. Marion Wesley Parker of USDA. The other members were: Dr. Roy Lee Lovvorn, Dr. Oscar Burr Ross, Dr. E.E. Cheesman, Mr. L. Sahai, Dr. K. Ramiah and Prof. P. Maheshwari. Dr. S.K. Mukerjee, Deputy Agricultural Commissioner (Education), Indian Council of Agricultural Research, was appointed the Liaison Officer.

This Team's report was submitted on March 19, 1964.⁵ Its

5. Report of the Agricultural Research Review Team, New Delhi, March, 19, 1964—Manuscript.

twenty recommendations cover the conditions under which research is prosecuted, the organisation for coordinating effort and the organisation for ensuring full utilisation of the results of research. It made a bold suggestion to abolish I.C.A.R. and replace it by a new Council for Agricultural and Food Research in order to develop and administer a national programme commensurate with the country's needs. The new Council is to assume full technical and administrative control of all Central Research Institutes, all Commodity Committees and certain other research organisations financed by the Government of India through various channels. The Team affirmed that an agricultural university provides a better environment for research than a State Department of Agriculture and that the Universities should, therefore, be given full support in every State. The Team also noted that some means of encouraging cooperation between Centre and States in the sphere of agricultural research are imperative. Well-equipped research centres to accommodate teams of research specialists were suggested as essential for work which falls between that of the Central Institutes and of the local experiment stations, or which needs joint participation of both. The Team considered that agricultural universities provide the most favourable locations for such teams.

Many of the recommendations of this Team have been accepted and implemented. The reorganisation of the Indian Council of Agricultural Research is largely the outcome of above recommendations. Commodity Committees have now been abolished. Most Central agricultural research institutions have now been put under the Council. Recruitment rules have been changed. The Council is itself now headed by a scientist, rather than an administrator. In fact, the Council is about all set now to assume its proper role. One would hope it does. Much will depend upon the purposefulness and tenacity with which it pursues its objectives.

According to Dr. Ensminger, none of the agricultural inputs is more important in the long run than new knowledge resulting from research. India is to be commended for having taken bold, imaginative and urgently needed steps in administratively restructuring Central Government sponsored agricultural research, streamlining the determination of research priorities and giving leadership to the development of a national network of agricultural universities and research institutions. The intensive agricultural programme^a is now drawing on this refocussed and revitalised research to assure that its

package of practices represents the last available technology.⁷

Cummings Committee

By the beginning of 1961, as a sequel to the recommendations of the First and Second Joint Indo-American Teams, actively stimulated by the sustained efforts of many American advisors, interest in establishing agricultural universities grew to become a movement, particularly in those States where well-informed opinion on the potentialities of the Land-Grant system was available at the institutional and administrative levels. The Government of India, therefore, felt the need to appoint a Committee to examine the proposals received from the State Governments to establish Agricultural Universities from the point of view of prerequisites for the integration of teaching, research and extension and the evolution of a workable relationship between the existing institutions and departments. This Committee was headed by Dr. Ralph W. Cummings, Field Director, the Rockefeller Foundation, who was to play for many years a dominant role in shaping the course of development of many agricultural universities in India, continuing the valuable role played earlier by Dr. Frank W. Parker in guiding the thinking of the administrators both at the Central and State Governments' levels. Dr. Cummings had Dr. Ephriam Hixon of USAID, Dr. L. Sahai, Animal Husbandry Commissioner, and Dr. K.C. Naik (Convenor) as the members of his Committee to start with. This Committee has since become widely known in the country as the Cummings Committee.

At the instance of the Government of India and at times on the specific requests of State Governments, the Cummings Committee visited several States and helped them draw up their proposals and also scrutinise the draft bills prepared by them in this connection. Earlier, a blueprint of an agricultural university had been prepared by Dean H.W. Hannah and circulated to all the State Governments in 1956. It was largely on the basis of this blueprint some of the

6. The reference here is to the Intensive Agriculture District Programme, more popularly known as the Package Districts. There is one package district in each State. Besides, there is also the Intensive Agricultural Area Programme (IAA) at selected areas all over the country. These two activities together are called the intensive agriculture programmes. The basic idea here is the 'Package approach' and a concentration of efforts.
7. Dr. Douglas Ensminger—Strategy for Action in Agricultural Development. Address at the Central Conference of Key Personnel connected with Intensive Agricultural Programmes. New Delhi, December 6, 1966

State Governments were tempted to develop their proposals, with such modifications they considered necessary to suit their respective peculiarities. It was specifically on the basis of this blueprint that the U.P. Government submitted a proposal to the Government of India in September, 1956, to establish an agricultural university near Rudrapur in Terai, U.P.

Establishment of the first agricultural universities

After discussing with the Planning Commission the Government of India decided, however, that during the Second Five-Year Plan only one Agricultural University be established (U.P.) as an experimental measure but, in view of the wide-spread demand from many States for such Universities, the Government of India accepted in 1961 the need for setting up a few more such universities during the Third Plan Period. Both the Planning Commission and the Government of India, however, felt that preference should be given at that stage for establishing Agricultural Universities at the existing Colleges or Institutions which possess strong departments for teaching and research and have already shown a rural bias in the course of their development. The Government of India also indicated to the State Governments that it was not likely that the special assistance available from the Government of India to the States for the purpose would exceed at the outset Rs. 25 lakhs in any individual case. On this basis and with certain broad directions, the Government of India requested all State Governments in August 1961 to intimate as soon as possible and in any case not later than September 30, 1961, their programme of setting up an Agricultural University during the Third Plan, whether consultations have been held with the Cummings Committee and if so with what result, how they propose to adjust their Plan and the extent of Central assistance required, whether any draft bill has been prepared after consultation with the Committee and if so to what extent the conditions are satisfied and whether in the light of the views of the Planning Commission their proposals for the entrustment of extension and research work to these institutions would require modifications and if so to what extent and in what respect.

The Cummings Committee notes that the traditional Universities have handled the training of agricultural graduates and the departments of Agriculture and Community Development have the programmes of research and extension activities. While they have

maintained some liaison with one another, the relationship has not been close enough to ensure maximum transfer of information and practices from one to the other. There are 53 agricultural colleges, and 17 veterinary colleges in the country. These are either under State management or in the case of some of the agricultural colleges under private management. Divorced as they are from experiment stations and extension organisations, the agricultural training programmes under the universities have elicited a substantial amount of criticism. Unless and until the programmes are overhauled and reorganised, it would not be possible to meet the needs of the actual cultivator and to attain the country's goals for considerable increase in agricultural production.

The Cummings Committee visited several of the States upon invitation, conferred with State Governmental officials with respect to draft legislation, and offered suggestions as to the pattern of development of institutions and services for agriculture within the States in relation to the agricultural university development.

The offshoot of the work of this Committee is reflected in the establishment of six Agricultural Universities during the Third Plan period at Ludhiana, Udaipur, Jabalpur, Hyderabad, Bangalore and Bhubaneswar, excluding the one at Kalyani accepted by the Government of India as equivalent to an Agricultural University and the Indian Agricultural Research Institute, New Delhi, which has a big post-graduate training programme more or less on the Land-Grant pattern.

The University of Kalyani is located in West Bengal and was established in 1960 under the Kalyani University Act, 1960, to provide for instruction and training in the humanities and sciences generally, and agriculture, veterinary and allied sciences in particular. There is not much in common between the seven agricultural universities and Kalyani and, so far as this book is concerned, no particulars have been gathered nor furnished relative to Kalyani.

Education Commission

By 1966, while the seven infant institutions were finding their feet, and fresh developments for establishing new Agricultural Universities in other States were taking shape, the Government of India set up another important body known as the Education Commission. This was appointed in a Resolution dated 14th July 1964, and the report of the Commission was submitted in June, 1966. Dr. D.S.

Kothari, Chairman, the University Grants Commission, headed this Education Commission. The foreign members included: Mr. H.L. Elvin from the U.K., Prof. Sadatoshi Ihara from Japan, Prof. Roger Revelle from the U.S., Prof. S.A. Shumovsky from the U.S.S.R., Mon. Jean Thomas from UNESCO and J.F. McDougall from UNESCO as Associate Secretary. The Indian members were: Mr. A.R. Dawood, Mr. R.A. Gopalswami, Dr. V.S. Jha, Mr. P.N. Kirpal, Prof. M.V. Mathur, Dr. B.P. Pal, Miss S. Panandikar, Dr. K.G. Saiyidain, Dr. T. Sen, and Mr. J.P. Naik as Member-Secretary.

This Commission covered the entire field of education in India and devoted one chapter of 20 pages to "Education for Agriculture." Affirming that recent events have dramatised the backward state of agricultural development in India, the Commission was definite that the goals can only be achieved through the application of science and technology to the problems of agricultural production and rural betterment.

Specifically, the Commission supported the establishment of at least one agricultural university in each State. The Commission desired that these universities should have the following features:

- (1) Their concern with all aspects of increasing, disseminating, and supplying knowledge related to agriculture, including basic and applied research;
- (2) Their primary emphasis on teaching and research directly and immediately related to the solution of the social and economic problems of the countryside;
- (3) Their readiness to develop and teach the wide range of applied sciences and technologies needed to build up the rural economy;
- (4) Their readiness, not only to teach undergraduates, post-graduates and research students, but also to give specialised technical training to young people who are not candidates for degrees; and
- (5) Their emphasis on adult and continuing education side by side with teaching regularly enrolled students.

The salient features of all the recommendations made by several expert bodies of educationists, scientists and the best thinking minds are, therefore, in favour of developing agricultural universities as instruments for progress of agriculture in India. The Fourth Plan will be the crucial period when these widely accepted concepts will be implemented.

Increase in Agricultural Production in Post-Independence Period

While several Commissions and Committees were engaged in the task of modernising the educational, research and extension patterns, pressure increased on food supplies, necessitating the Central and State Governments to look for fresh methods and means to increase food production.

India has only 2.4 per cent of the world's land area but as much as 14 per cent of the population. Her population is currently around 510 millions and is increasing at a rate of 2.4 per cent a year. Prior to 1950, the average agricultural growth rate was 0.5 per cent, but during the first 15 years of planning increased to 3.9 per cent. From 54.9 million tons of foodgrains in 1950-51 the production rose to 89.0 million tons in 1964-65. Because of extensive drought, production fell to 72.3 million tons in 1965-66, but picked up the following year to touch 75.9 million tons. On per acre basis, the yield of foodgrains was 1,219 lbs. in 1949-50 but it rose to 1,669 lbs. in 1964-65—a 37 per cent increase. By bringing down the birth rate from the present 41 per 1000 to 25 per 1000 by the end of 1976, so that it does not cut into per capita availability of foodgrains, which is now 16.7 oz. per day (to be raised to 18.5 oz. by 1970-71), and by increasing food production to 120 million tons per year, the country expects to move toward food self-sufficiency in 1970-71, according to India's planners.

Lessons from the Performance of Agriculture

The National Plans formulated with high priority for agriculture provided for increase in production primarily by adding inputs to the agricultural sector, rather than by improving input-output ratio within agriculture through improved farming methods. A rather low priority towards measures designed to make more efficient use of existing resources through the infusion of science and technology resulted in an insignificant increase in efficiency of agriculture, while the bulk of increase in food production was obtained from additional capital inputs such as through major and minor irrigation, land reclamation, flood control, fertilisers, soil conservation, drainage, etc. Many economists have expressed the view that the foregoing facts have had profound implications for the long-range prospects for Indian economic development. In the final analysis, it is recognised that lasting results can only accrue with education processes, but such processes require not only to be intensified and

organisationally improved, but they have also to be closely intertwined with research, if it is to confer benefits.

Foundation for Rapid and Sustained Progress

The major findings of a study on the performance of agriculture in 26 developing nations, including India, from 1948 to 1963 have several lessons of interest and value.⁸ This study affirms that rapid rates of increase in crop output have not happened just as a consequence of normal economic and social processes in societies organised on a laissez-faire basis. Rather, they have been undergirded by aggressive group action, generally national in scope, directed specifically to improving production conditions. Referring to food supplies, the study has brought out that, if present food supplies of India were distributed as far as they would go at the rate of 2,300 calories per person per day, 48 million out of that country's 480 million people would be left totally without food. If the same food supplies were distributed at the U.S. consumption rate of 3,190 calories per person per day, 153 million of India's people would be without food.

Available data indicate that agricultural technologies of underdeveloped countries are still highly rudimentary, and that countries that have made the most of rapid technological progress are generally those that have achieved the most rapid increases in crop yields.

The report emphasises the role of science and technology in strengthening a country's foundation for rapid and sustained progress. Given these, there will yet be the basic need for development of human skills as an essential component of economic progress. High priority to increasing knowledge through research and to increasing the level of education and skills of people becomes, therefore, the prerequisite of sustained growth.

One measure of effort being made by Governments to improve research and education is per capita expenditure on them. This is admittedly low in most developing countries. Research and extension programmes are also most effective when they are closely linked with education and are further supported by a large fund without which a constantly increasing stock of improved technologies is impossible.

8. Changes in Agriculture in 26 Developing Nations: 1948 to 1963: Foreign Agricultural Economic Report No. 27: Economic Research Service, U.S. Department of Agriculture, Washington, D.C. (November 1965).

Agricultural teaching institutions of the post-independence era, having been designed for formal education, were following a curriculum which placed a premium on bookish knowledge and rote learning rather than on developing ability and competence to solve the immense problems of Indian agriculture. The curriculum was out of step with modern knowledge, as it was subject to change only infrequently and was isolated from research. It was also out of time with the life of the people as the institutions had no role to play in the extension education of the farming communities. The development of useful skills and the inculcation of the right kind of interests and attitudes and values could not be given sufficient emphasis in these institutions which were developed in the essentially static past of the colonial era.

With no reformation of the basic concepts in the physical, biological and social sciences with the rapid advance of science, the inadequacies of the existing methods and procedures in higher education in agricultural sciences were brought into sharper focus. Consequently, the gulf between the College or the University and Indian agriculture became increasingly wider. A revolution in higher education does not mean a mere change in curriculum, a little tinkering with procedures and pay scales, but a continuing, planned reformation towards specific goals. The aim of the many recommendations by Commissions and Committees was, therefore, to enable India to travel in a few years on the road, over which the United States had to labour for over one hundred years.

Qualitative improvement in University education has been considered difficult in an affiliating type of university. What is good for all colleges can alone be good for anyone of the affiliated colleges, and reforms or improvements can only be possible when the poorest college finds it possible to implement them, says Parikh.⁹ Even when improvements are made, they are hardly uniform or satisfactory in a good many institutions. In effect, the University tends to become a largely administrative body, concerned merely with laying down courses, examining students and conferring degrees.

A trend of the post-independence era in particular, is the establishment of scientific laboratories outside the Universities. About 30 national laboratories have been established since 1947 in different

9. G.D. Parikh—Higher Education and Economic Development. *Quest*, Special Number (March 1967).

parts of the country under the Council of Scientific and Industrial Research (C.S.I.R.), ostensibly for dealing with practical problems of industry. These include the Botanical Survey of India, the Zoological Survey of India, the National Botanical Gardens at Lucknow, the Central Food and Technological Research Institute at Mysore, and the Central Indian Medicinal Plants Organisation, all of which, being isolated and independent of the Indian Council of Agricultural Research and the Universities, tend to function as units carrying on, sometimes, the same kind of research as the universities, I.C.A.R. Coordinated Research Centres on other State research centres do. Some of these C.S.I.R. national laboratories have also demanded recognition by universities and have prepared students for research degrees. The development of scientific research outside the universities tends to impoverish the research talents and facilities in the latter.

The National laboratories under the C.S.I.R. and the I.C.A.R. are more or less under the control of the Central Government, and the autonomy enjoyed by the two bodies is subject largely to the rules and regulations laid down by the Government. When educational and research institutions do not enjoy full autonomy, they have necessarily to function under the considerable power of scrutiny and surveillance vested with the Government, with the result that there is almost a pathological insistence on a single line of authority and an exaggerated emphasis on the administration wing of the institution. This casts its shadow over the academic and research functions, the bunches of rules and regulation leading to redtape, and unimaginative rules of audit and accounting severely restricting the operational freedom of the teachers and scientists. This is also the hallmark of traditional universities which are mere examining bodies and which have inherited their administrative system from the British period. Neither dynamism nor motivation could be conspicuous in such institutions over which are clamped an outmoded administrative structure or pattern.

A characteristic of such administration is authoritarianism, which is the enemy of creativity. Administrators who are power and prestige-conscious succeed in creating a climate in which any change or reform is snuffed out and the ideas of the university are betrayed. A University can, therefore, symbolise its creativity or intellectual or professional leadership only when thorough-going transformations are effected from the traditional and outmoded administrative struc-

tures and procedures.

The culmination of all the deliberations, dialogues and discussions in the field of agricultural education, research and extension in the past two decades is the urge for a change in which the agricultural universities aspire to be more than a mere self-sustaining academic community. Rather their aim is to assume leadership in effecting improvement in agriculture and to train for the higher cadres of leadership in the line. Operating democratically, decisions are not to be left in these new institutions to the intuition of one decision maker, but are to be based on expertise of a high order. It is only then could these universities move beyond the pulls between expansion and quality or the maintenance of *status quo* and progress or a comfortable mediocrity and dedicated leadership.

USAID AND U.S. FOUNDATIONS ROLE

Contributions of Activities Under O.A. 28

The Government of India and the United States of America have many common interests. They are both democratic countries and have large geographical space. Both recognize mutual interests in many important problems. Through the Technical Co-operation Mission, the United States has been cooperating with the Government of India since 1952. In 1955 an addition to the programme was made through Operational Agreement 28 described on page 19.

Survey teams of the 5 U.S. Universities visited the Indian institutions and had discussions with members of the Central and State Governments and representatives of Indian institutions. These meetings helped the U.S. teams to assess the progress made, recognize some of the major problems and understand something of the planning for the future. On their return, the teams reported their observations to their home campuses with suggestions on how best mutual benefits could be realised from a cooperative programme.

As a sequel to these survey team reports and recommendations, the five U.S. Universities entered into contract early in 1956 to provide the services.

Each of the five Universities in the U.S. agreed to send selected staff members to India. Each staff member, in his respective field of competence, was to be available to contribute to the teaching and research programmes of all agricultural institutions in the cooperating States. But this was later amended to restrict their activities to only those States which decided to develop an agricultural university.

The U.S. Universities also offered training facilities for a number of Indian students in order that they may be better prepared for responsible positions in the Indian programme.

Operational Agreement No. 28 between the Government of India and the U.S. Government provided as one major phase of the project the constitution of a joint team consisting of the representatives of the Indian Government and three American specialists in agricultural research and education to make a comparative study of

the organisation, functions and operation of Indian and American agricultural research and educational institutions as a basis for developing recommendations for strengthening the programme of research and education in India. This was the first Joint Indo-American Team whose review on agricultural research and education has been dealt with elsewhere in this book.

The paths of the University Survey teams crisscrossed with those of the First Joint Indo-American Team and this must have resulted in a certain amount of cross-fertilisation of enthusiasm and ideas.

The period of the programme of the five U.S. Universities in India unquestionably coincided with a period of tremendous and unprecedented institution-building in India. Many new institutions were started and several developed rapidly, and a few were transferred from mere colleges to universities more or less on the model of Land-Grant Universities of the U.S. New libraries, widespread adoption of the open shelf-system, new and greatly expanded post-graduate training facilities, improvements in teaching, research and extension, new University campuses dotted all over the Indian scene, are the developments which reflect the progress made after April 1954, when the cooperative programme was signed as OA No. 28. By any standards, this progress during a period of a dozen years is phenomenal and the person who, as an individual, had much to do in conceiving the programme was Dr. Frank W. Parker.

Rockefeller Foundation's Indian Programme

The Rockefeller Foundation accepted agricultural sciences as a part of the Foundation's programme only in 1943. In these sciences the Foundation's Indian programme commenced in April 1956. The agreement signed at that time provided for cooperative efforts in developing a post-graduate agricultural training centre at the Indian Agricultural Research Institute, New Delhi, and for cereal improvement research work with particular emphasis on hybrid corn, sorghum and other millets, wheat and rice.

Among the sizeable grants made to Agricultural Universities in India is the one to Punjab Agricultural University to meet the cost of laboratory equipment, books and periodicals, as well as for development of architectural and structural plans for construction of the Home Science College. Another grant was given to Uttar Pradesh Agricultural University for development of an agricultural experiment

station at the University.

The Rockefeller Foundation's contributions to agricultural education through the work of the Cummings' Committee was, therefore, only a small part of its totality of assistance. The active leadership which the Foundation took to help completely reorganise agricultural education at the post-graduate level at the Indian Agricultural Research Institute, New Delhi, was an achievement which perhaps did far more than any other single act to convince the Central Government and top educationists in India of the need and value of a change in traditional teaching and examination methods.

The teaching and examination system now adopted in the Indian Agricultural Research Institute is the same as in the agricultural universities or Land-Grant Universities of the U.S. The Rockefeller Foundation also gave substantial aid and provided the leadership in the evolution of several crop hybrids with high yield potentials such as hybrid maize, hybrid sorghum and other hybrid millets, all of which brought dramatic yield increases, which impressed the Governments and the public, and increased their faith in science and technology for solving the food problem in India.

The Rockefeller Foundation's programme on the improvement of the quality and quantity of the basic crops is based on the assumption that the stalemate of deficit agricultural systems can be broken firstly, by the adaptation and breeding of better seed for basic food crops, and, with such built-in genetic potential for higher yields, convince the farmer the justification for using more fertiliser and for protecting the crops against insects and plant diseases; and secondly, by training young men and women in the many skills necessary to provide farmers with the varieties, and starting educational services basic to modern agricultural systems. This was the approach initiated by the Foundation over 20 years ago in Mexico, but later adopted around the world in cooperative programmes between the Foundation and governments. As a result of such a procedure, very impressive improvements have been achieved in India, for example, through hybrid corn (maize), hybrid sorghum and hybrid bajra (*Pennisetum*). The real breakthrough in Indian agriculture occurred with the first release of double-cross corn hybrids in 1961. This was followed by hybrid sorghum in 1964 and hybrid *Pennisetum* in 1965. During this period, the introduction of high-yielding paddies such as IR-8 from the International Rice Research Institute, Los Banos, and of several dwarf Mexican wheats contributed rapidly to the changing

agricultural scene of India.

Ford Foundation's Contributions

The Ford Foundation's contributions also extended over a wide area. A team of Ford Foundation Specialists surveyed in 1959 India's food situation and reported that an immediate and drastic increase in food production is India's primary problem of the next seven years.¹ Since late 1960 the Ford Foundation has been providing assistance to India to increase her food production and the Foundation-supported programmes are opening the gates to the additional overall production that is required.² The Intensive Agricultural District Programme (Package Programme) begun in 1961-62 with the Foundation's support, is designed to demonstrate how Indian farmers can use a combination of modern agricultural technology to increase their production and incomes, thereby adding to national food supplies and, at the same time, enabling wider improvement in rural living conditions.

To strengthen India's capacity to achieve a long-term solution to her needs for better agricultural engineering services, including attention to irrigation and drainage, it is found necessary to strengthen programmes to educate and train agricultural engineers, particularly in applied irrigation and drainage. Lack of technical production skills in these three areas help keep Indian agricultural production far below its potential. The Ford Foundation has, therefore, supported the development and production of prototype agricultural implements, another important need of Indian agriculture. A grant has been made to help the Indian Institute of Technology at Kharagpur to strengthen a Ph.D. Programme in agricultural engineering for the long-run advancement of engineering as applied to agriculture. Another grant was made to Punjab Agricultural University, Ludhiana, through the Ohio State University in July 1964 to make rapid progress in supplying agricultural engineers for practical work, particularly in irrigation and drainage, and implement and power design.

To promote the development of a strong department of agricultural economics with a programme of research, teaching and extension oriented and responsive to the needs of India's Intensive

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1. "India's Food Crisis and Steps to Meet It"—A Team of Ford Foundation Specialists and Government of India officials (1959).
 2. Dr. Douglas Ensminger—Programme Letter 134, July 10, 1964.

Agricultural District Programme (IADP) and to other problems arising from the transition from traditional to modern agricultural practices, the Ford Foundation sanctioned a grant to Uttar Pradesh Agricultural University on June 10, 1963.

Yet another grant made by the Ford Foundation was to the University of Agricultural Sciences in Bangalore on January 26, 1966, to help the University strengthen and coordinate teaching, research, and extension work in all disciplines involved in the field of plant protection. Plant protection is as important to the farmer as the use of chemical fertilizers and improved seeds; and with the increased crop yields from the use of the latter, the necessity of effective plant protection becomes greater. So central is plant protection to food production that it has been stated that if it were possible to wipe out all pests and plant diseases in a single effort, this alone would erase India's food shortages and push food production well beyond present Plan targets. These three massive grants have been of real help to strengthen the three universities to serve Indian agriculture efficiently and effectively.

The Ford Foundation has been helping India explore new approaches to age-old problems and find new ways of developing its economy and its society from the beginning of India's first Five-Year Plan in 1957. The grants mentioned above are only those relating to Agricultural Universities in particular and to some aspects of agricultural improvement in general.

The USAID, the Rockefeller Foundation and the Ford Foundation have thus been closely associated with Indian agriculture for over a decade now, very actively identifying themselves in all major undertakings in the post-independent era for reorienting Indian agriculture.

Appraisal of Accomplishments Under O.A. 28 Programme

After about three years (1956-59) of work under O.A. No. 28 programme, Dr. Erven J. Long, Group Leader of the Tennessee Team, attempted an appraisal of its accomplishments, to find out if the programme was moving in the right direction, and to emphasize the right factors in the development of the institutions.³ His appraisal, however, covered only the southern region where he worked, but his remarks and views are broadly applicable to India as a whole, for

3. Erven J. Long: Terminal Report (Manuscript), (October 15, 1960).

his judgement is based on the replies he obtained to a questionnaire from 19 American technicians working at that time in India under the programme.

Among the things to which Dr. Long suggested priority attention, are those limiting factors which can be removed with the expenditure of little or no funds. All these have fortunately been given adequate attention in the agricultural universities, more in some and less in others. For instance, the merit system for promotions and salary increases has been adopted or proposed to be adopted in the Indian Council of Agricultural Research, National Institutes and the Agricultural Universities in the Punjab, Jabalpur and Bangalore. The reorganisation of research, extension and training functions and their integration has been attempted more thoroughly in some agricultural universities and are contemplated in others; the outmoded examination system has been corrected in all agricultural universities, except where it is incumbent under the Act for students enrolled earlier; measures to develop better work habits have been instituted in some universities with an appreciable measure of success; changes in administrative patterns, procedures and policies have been done in the University of Agricultural Sciences at Bangalore and to a greater or lesser extent perhaps in other universities also.

Dr. Long had also recommended that Operation Agreement 28 Programme should allocate resources in such a way as to accomplish as much as possible, and this would imply that in giving assistance, institutions which will use it to remove these major limiting factors should have the first priority. The author is glad to acknowledge that such assistance has indeed been forthcoming in an abundant measure from the AID/Tennessee group and it is because of this spontaneous support and assistance some of the rapid improvements under this University have been possible. The almost unanimous opinions of 19 American Advisors that the factors which will do most to improve Indian agriculture pertain to Government and institutional policy and practice, and are within the power of resources, human and material, primarily to help bring these improved policies and practices into being, appear to be fully justified by the events that followed in the years after Dr. Long left India.

The participant's programme can be very valuable or end up in waste, depending upon the use to which the acquired knowledge, skill or competence of the participant is put. The genuine feeling of apprehension entertained by some Americans that the mere acquisi-

tion of technical competence in the U.S. might be quickly dissipated if the participant merely comes back to the same slot in which he worked before, has unfortunately been proved to be correct in many cases until agricultural universities came into existence. But, after these institutions were established, almost everyone who had any merit among the participants gained wider opportunities for utilising their specialised training with higher emoluments and better facilities.

Others have suggested that it is of the utmost importance that some provision for contact with the returning participants be made, and fundamentally this would be the central character of any long-range programme. Many seminars of participants have been held, but these could not compensate for the opportunities made available to the participant to work with freedom in the field of his own specialisation. AID could perhaps activate the plan of assistance to participants by focussing attention to the provision of facilities for work by participants while engaged in teaching, research or extension under agricultural universities.

Considering that Indian agricultural universities are expanding in size, in the number of subjects being covered and in their importance to the overall development of the country's agriculture, there is need and scope for continuing the participant training programme. Such a form of assistance can be more meaningful when it is backed by assistance to supply funds for acquisition of commodities necessary for the successful utilisation of the returned participants' services in agricultural universities.

Indian Council of Agricultural Education

One of the programmes of the Indian Council of Agricultural Research with which the U.S. technicians, were closely connected was the activities of the Indian Council of Agricultural Education. The first meeting of the Indian Council of Agricultural Education was held in Lucknow in August 1956. In this meeting, need was expressed for a seminar or conference designed to improve teaching in agricultural and veterinary colleges in India. At a planning session held in Bangalore in February 1957, an organising committee was formed. The seminar was held in Trivandrum for the southern half of India from May 14 to May 18, 1957, when discussion centered round six topics: Purposes and methods of teaching; teaching aids; tests and examinations; students' field studies and tours; student teacher relationship; and teacher evaluation. The participants were

divided into six work groups, each to work on one of these topics. The final sessions were devoted to open discussion of the recommendations of the work groups. This was a very successful seminar.

Somewhat similar seminars were later held in the individual institutions in Madras, Kerala and Mysore States with the cooperation of USAID/Tennessee Team members. In these, attention was also focussed to consider ways of implementing the recommendations of the Trivandrum Seminar. All these helped a great deal in making teachers understand their responsibilities and duties in the right perspective.

In addition to several such seminars held in different parts of the country, Regional Advisory Committee meetings were held once or twice a year under the auspices of the Indian Council of Agricultural Education.

Ends of Fraternal Relationship Between Universities

Participating American Universities may well ask, "To what ends do we foster this fraternal relationship between two Universities on opposite sides of the globe?" President James A. McCain of Kansas State University answered it with these words of great import: "To ends as varied as the worthy activities in which men everywhere engage in meeting human needs for food, clothing, and shelter, the prevention and cure of diseases, the education of the youth, the security of old age; to ends as lofty and compelling as the nourishment of the human spirit, the preservation of peace and the Universal Brotherhood of Man."⁴

Support to a Changing Situation

It is much easier to introduce improvements in a situation where a great deal of change is taking place than to introduce desirable changes in an essentially static situation. Thus, a substantial change and growth are possible in a university which is in the process of making important adjustments. Influence of U.S. AID Advisors will be negligible if the institution feels no compulsion for change. It is presumed that the decision to concentrate the AID programme in seven agricultural universities was based on this philosophy. Even after this programme centered around the seven universities, it

4. James A. McCain—A Fraternal Message from Kansas State University at the Andhra Pradesh Agricultural University Convocation—January 28, 1967.

appears that the form of assistance to the universities has been more or less on the basis of the foregoing argument in favour of supporting a changing situation rather than a static one. In other words, a "leadership" or a pioneering institution received or ought to receive more help than others.

Impact of TCM/AID and U.S. Foundations' Efforts

The efforts of TCM/AID and U.S. Foundations had no doubt a very significant impact on the establishment and development of the seven universities. Although credit for planting the idea in Indian mind for reorienting institutional changes to meet the needs of Indian agriculture cannot be given to these agencies, it has to be admitted that but for the continued and persistent efforts of TCM/AID officials and Foundation leaders at New Delhi, the molding of the minds of Indian officials at the Union Government and State Government levels would have been impossible. Dr. Parker's efforts to persuade the Union Government to set up two Indo-American Teams and Dr. Cummings' initiative in setting up Dr. Marion Parker's Team succeeded in a continuous process of examination of the agricultural university concept step by step at the Union Government level in New Delhi and also at State Government and institutional levels. The Group Leaders of the five contracting universities—Ohio, Illinois, Tennessee, Missouri and Kansas exerted similar pressure at the State Government level with their personal and persuasive efforts as well as through participation in committees set up mainly on their suggestions or at their initiative by State Governments. They and the other U.S. technicians continued all the time the task of educating the faculties of the colleges through personal contacts and through seminars, advisory committee meetings and lectures, notes and memoranda. This continuous and multi-faceted educative process, first covering the whole country, and later concentrated in the seven States which indicated interest in moving along the line, laid the foundation for rapid transformation in the agricultural institutions of these seven States.

The returned participants numbering over 425 until the close of 1967 from the seven States had an equally important influence in accelerating the process of change. Having been fully convinced of the effectiveness of Land-Grant institutions in the U.S., it is not possible for the returned participant to reconcile himself to a condition where he has neither any prospect of utilising his newly-acquired

knowledge or skill nor any bright prospects of earning a just reward on the basis of his accomplishments. These men could not hope to influence the minds and actions of a bureaucracy which has not been exposed to the type of knowledge the participants had acquired. The key officials, on the other hand, after having the privilege to benefit from short-term travel grants, were more effective, since their reports and recommendations carried weight with the officialdom at higher level also.

If the returned participant could not influence policies, he had a positive and effective role to play in molding opinion and procedures in his campus. In fact, but for these men the successful introduction of the semester or trimester system with its internal evaluation would have been a problem of great magnitude. Some of the traditional universities which had pioneered in these directions found to their cost that where a full understanding of these systems was lacking, failure was inevitable. Even among agricultural universities, those which had suddenly plunged in favour of these reforms without adequate preparation, had to run into many difficulties. Where the returned participants were available in large numbers and where adequate orientation was arranged for the benefit of others who had not been previously exposed to these systems, either through frequent seminars prior and subsequent to the introduction of these new systems, or through periodic subsequent assessment and analysis, the change from traditional to newer ways was a smooth-going affair.

Balance of Improvements Between Advisors, Participant Training and Commodity Purchases

How effective were the improvements due to the U.S. advisors, participant training and commodity purchase is a question that comes to the mind when one reviews this programme. From the recent figures obtained from USAID, New Delhi, the massive nature of the programme is evident from the following figures relating to the seven Agricultural Universities.

Number of U.S. Advisors or Technicians

For less than two years	37
For two years or over	61
Short-term consultants	41
	<hr/>
Total	139
	<hr/>

Number of Participants

For M.S. degree	152
For Ph.D. degree	142
For non-degree programme	133
Total	<u>427</u>

Commodity Purchases

Books	\$ 223,786
Equipment	\$ 1,420,215
Total	\$ <u>1,644,001</u>

PL-480-USDA/ARS Rs. 2,263,187 @ Rs. 7.50/\$1 = \$301,758

U.S. Foundations

1. Ford Foundation	\$ 1,057,677
2. Rockefeller Foundation	\$ 541,725
Total	\$ <u>1,599,402</u>

The advisors or technicians had an unenviable time at the beginning. At that time, bulk of the officials in India, both in the fields of administration and in the institutions, were those who had received their education outside the U.S. and had, therefore, no understanding of the U.S. Land-Grant System. When the U.S. personnel endeavoured to stimulate upgrading teaching, research and extension in the existing colleges bound to the traditional system, there was some veiled resistance or indifference, which, however, gradually disappeared when the value of their efforts became known. The process of change was strengthened by the three seminars organised on teaching methods referred to above and the Regional Advisory Committees which were organised in each of the five regions of India and met once or twice annually.

The Agricultural Education Advisor to the Union Ministry of Agriculture and the Field Operations Officer with USAID, New Delhi, coordinated these activities at different levels. As a measure of progress toward the ultimate acceptance by the seven States, these early efforts were valuable and essential. So were the efforts of the early group leaders.

The work of the technicians or Advisors, however, suffered at times due to their shortage or lack of experience or insight into the art of dealing with Indian bureaucracy, and sometimes because of the inexperience or indifference of their counterparts. The specific contribution of each Advisor is also not of the same order or degree in quality or effectiveness. Limiting their attention mainly to advice instead of active participation in the work of their counterparts, a few of the Advisors were unable to make impressionably tangible improvement. As against these few, there were many outstanding Advisors who have left indelible impressions of dedicated work and significant accomplishments.

The participant training programme is undoubtedly one of the most significant and most lasting contributions to the Indian agricultural programmes made by ICMAID. The participants were generally chosen very carefully with reference to institutional needs. Thorough discussions and analysis of the needs of each participant preceded the actual selection, and the selection process was such as to provide, generally speaking, an exceptionally fine group of participants. This has been evidenced by their high level of academic performance in the American Universities. With very few exceptions, they also conducted themselves extremely well in the U.S., evidencing a full realization of their responsibilities under the programme. In general, the participant's programme was worked out in detail to serve his specific needs.

The commodities programme was quite large in the early years but gradually became relatively a small part of the total programme. Until the agricultural universities were established, there was considerable disappointment in finding many items of equipment not in use, and in finding little concern on the part of the institutions about putting those items to use. The State Governments also were not eager to provide better housing, better electrical and gas connections and similar supporting facilities, so that the equipment could be effectively used. This problem existed because the equipment was ordered in many cases with the expectation that additional buildings would be completed sooner than was the case. The State Governments were not delegating to the Heads of institutions the necessary funds and authority to make immediate local repairs, installations and replacement of parts—these constraints do not generally operate in agricultural universities.

The equipment programme has gone a long way toward remov-

ing a major limiting factor to the growth of the institutions. One shortcoming noticed, however, is the failure in too many cases to make institutionwise use of the expensive equipment items. Intelligent use of scarce resources dictates the necessity for sharing such items by all persons needing them, instead of restricting the use to individual section staff. In spite of such limitations, the equipment programme has contributed greatly to the potentialities of the institutions for research and educational work of significance in agriculture.

Continuity of Assistance

U.S. support for institutional development in agricultural sciences in India has varied in character, quantum and duration according to the nature and importance of projects and the needs of the situation. To be of lasting value, a programme of assistance has to be so conceived that the institution is able to grow by its own strength and move forward on its own momentum. An assistance programme is likely to be ineffective in the ultimate analysis if it does not enjoy flexibility to adjust the quantum and nature of assistance to direct the course of institutional development on the lines most desired.

During the years after the first Indian Agricultural University was established toward the close of 1960, there were opportunities for feelings of despondency as well as for rising optimism. With the seed sown in 1951 with the publication of the report of the University Education Commission, the sapling grew for four years when the report of the First Joint Indo-American Team was released. By 1960 when the report of the Second Joint Indo-American Team came to light, the sapling attained the bearing age and the first fruit was the dedication of U.P. Agricultural University in that year. Six more harvests have been gathered and the stage is set to record two or three more harvests. It looks as if the time is ripe for the Third Joint Indo-American Team to appraise the progress made and determine what regulatory training practices are needed to maintain an optimum balance between the growth and bearing, so that an irreparable damage does not result by the excess of vigour or performance in undesirable directions.

The closure of the Indian Council of Agricultural Education, of the Regional Advisory Committees and of the Cummings Committee have all resulted in eliminating from the Indian scene the benefits of

a sustaining educative process that is inherent in such frequent joint sessions of Indian and U.S. educationists and scientists. In the absence of the guiding and corrective influences from such well-informed bodies, a tendency to take risks with ill-conceived projects and programmes is not uncommon. Disturbing reports are current that some of the State enactments for setting up new agricultural universities have been conceived on lines at variance with the agricultural university concepts as developed by the two Joint Indo-American Teams. From the accounts of progress of the seven universities outlined in the following Chapter, there is enough evidence to show that in some instances at least the course adopted by a few universities could have been different. To bring back all who stray in wrong directions to a position of self-generated growth and stability, patience and expertise are both essential. The time for a careful stocktaking seems ripe, as also for reshaping the course of future U.S. programmes of assistance to Indian institutional development, based on such appraisal of the current situation. The annual visits of University Executives and their discussions with the I.C.A.R. and Agricultural University executives have been useful to an extent, but these cannot be a substitute for an evaluation of the type which the two Joint Indo-American Teams have recommended in 1955 and 1960.

AGRICULTURAL UNIVERSITIES

Government of India's Initiative

In a letter of August 22, 1961, to the State Governments, the Government of India mentioned the origin of the new concepts in education, research and extension in agricultural sciences in so far as they relate to the establishment of agricultural universities in India. The relevant portions of the letter read as follows:

"The establishment of Rural (Agricultural) Universities was originally suggested by the University Education Commission. . . which visualised a Rural University as a 'Ring of small, resident under-graduate Colleges with specialised and University facilities in the centre'. The First Joint Indo-American Team. . . in 1954 further clarified this recommendation and made practical suggestions for its implementation. The Team recommended as a first step, setting up of a nucleus comprising a College of Agriculture, and a College of Veterinary Science to which, in due course, could be added a College of Home Science and a College of Agricultural Engineering and Technology."

The development of Agricultural Universities could not, however, be expected to proceed on any rigid pattern. Subject to the will of the people as expressed in the State Legislature and to the administrative policies and procedures prevailing in each State, the development has necessarily to be on dissimilar lines, even though the goals remain the same. In fact, no two agricultural universities in India were conceived, established or operated on a standardised pattern. Such a dissimilarity is indeed an advantage, so long as the basic concept, philosophy and objectives are not compromised, for the diverse experiences gained by the adoption of different approaches and procedures could convey valuable lessons to the future.

In the following accounts of each of the seven agricultural universities established in the country to date, the salient features of each are highlighted with the hope that in planning new universities of this type in the remaining States of India, the experiences already gained would provide useful guidelines.

1. Uttar Pradesh Agricultural University, Pantnagar

Located in Nainital District on an area of about 16,000 acres which comprised the Tarai State Farm of the Uttar Pradesh Government, this University has the distinction of possessing the largest farm operated by a single institution. Originally, this area formed part of a thick, impenetrable jungle, noted for wild animals. Soon after India won its independence, the Government of India decided to clear and reclaim this area for colonising the refugees from Pakistan, the veterans of World War II, the political sufferers of the freedom struggle and the landless labourers of the State. Dean Hannah has shown how the operation was organised on a war basis against malignant malaria, inhospitable jungle and the wild animals in Tarai.¹ Referring to this, Mr. C. Subramaniam, former Central Minister for Food, Agriculture, Community Development and Cooperation, has said that the story of the development of the Tarai Farm is an epic of man's conquest of untamed nature and that the Tarai Farm is a monument to the spirit of adventure in man, his never-ending battle against the vagaries of nature, and it is a beacon light to the farming community in the country.²

The University of Illinois entered into a contract with AID in October 1959 to assist the Uttar Pradesh Government in setting up a University in the State. Earlier, Dean Hannah came to India in 1955 and spent two years in developing a "Blue-Print for an Agricultural University." His report and recommendations were accepted as the basis for the development of the University and the U.P. Government set up a "Development Committee" to prepare plans and estimates. This Committee had the State Chief Secretary as Chairman and the members included the Secretary to the U.P. Department of Agriculture, who later became the first Vice-Chancellor; one representative each of USAID and of the Rockefeller Foundation. A small sub-committee was designated to visit the U.S. to study the Land-Grant Universities and to bring back suggestions.³ Two members of this Sub-Committee were Mr. K.A.P. Stevenson and Dr. Y.R. Mehta and their report has been published under the

1. Hannah, H.W. (1957) *The State Farm, Tarai—Its Progress and Possibilities as a Rural University in India*, Uttar Pradesh Agricultural University.
2. Annual Convocation of the U.P. Agricultural University, 1966, Ministry of Food and Agriculture, New Delhi.
3. *Ibid.* P. 97

title, "The U.P. Agricultural University. A new type of University in India."⁴ The third member prepared plans for the campus, following many of the plans prepared earlier by Dean Hannah.

The U.P. Agricultural University Act (U.P. Act XLV of 1958) was passed by the State Legislature on December 20, 1958, and received the assent of the Governor on December 25, 1958. It provided for the establishment of the University on the Tarai State Farm, but did not include provisions for transferring research and extension activities in U.P. to the University. Nor were the many other institutions devoted to higher education in agricultural sciences in U.P. brought under the coordinating authority of the Agricultural University. In effect, the University has remained to date as just one among the scores of institutions in U.P. and thus has been deprived of direct relationship or association with other agricultural and veterinary colleges and research stations in the State. But one far-reaching decision taken by this University was to assign teaching and research activities to Animal Husbandry in the College of Agriculture instead of to the Veterinary College as was the erstwhile practice in India.

Mr. K.A.P. Stevenson was named the first Vice-Chancellor for a four-year term, while the Board of Management elected Mr. Ajit Prasad Jain as Chairman for four years.

The Statutes were soon prepared but, due to some error, these were approved by the State Government only in March 1961. The first registration of the University, however, was held on July 9, 1960, and classwork began on July 11 with an enrolment of 246 (145 in College of Agriculture and 101 in College of Veterinary Science). Both the staff and students had to live and work under trying circumstances, for want of adequate housing and other facilities. The University was later dedicated on November 17, 1960, by Pandit Jawaharlal Nehru, Prime Minister of India.

The College of Agriculture offered a three-year undergraduate course after Intermediate examination. Selected Village Level Workers⁵ could get the B.Sc. (Honours) degree in Agriculture and Animal Husbandry in two years if they had passed Intermediate and had undergone training in an Extension Training Centre and possessed five years of field experience.

4. Ibid. P. 54

5. These are persons trained in institutions below the College level for performing extension duties at village level.

Undergraduate students are required to conduct work projects as credit courses. Groups of students are permitted to grow crops or livestock. They must do the planning and all the work. Income in excess of operational costs is divided among the individuals in the group. This is termed as "learn while you work project". It provides a practical application of newly acquired technical knowledge, gives the student confidence and demonstrates that there is dignity in work. The engineering students are required to develop a working model or machine through what is termed a "dirty hands" project. A part of the success in UPAU graduates finding employment on farms, in banks, service and supply companies, and cooperative business is attributed to the emphasis given to the "earn while you learn" programme. Some other Agricultural Universities have this same practical approach to learning.

The College of Veterinary Science and the School of Basic Sciences and Humanities opened in July 1960, while the College of Agricultural Engineering and Technology was opened in July 1962, the Post-graduate College in July 1963, and the Home Science College in July 1967.

In July 1964 operation of the International Maize Centre was undertaken as a part of the Experiment Station activities, in collaboration with the Rockefeller Foundation. Earlier, in 1961, the Foundation made a grant of Rs. 1,200,000 to the University for the development of the Experiment Station and to support research activities. The grant of the Government of India for the development of the University was made late in 1959 and constituted a total of Rs. 1.9 crores (19 million). This sum was allocated for the development of site, of needed structures, furniture, equipment and books. This financial assistance was provided under terms of Agreement No. 79, entered into between the Technical Cooperation Mission of the U.S. Government and the Government of India on January 5, 1952, and supplementary agreements entered into later. Later the Central and State Governments together with a contribution of Rs. 10 lakhs (1 million) raised by the Pant Memorial Society, provided a total sum of Rs. 160 lakhs (16 millions) towards the establishment of the College of Agricultural Engineering and Technology.

The USAID/Illinois Team has assisted the University by locating 19 staff members as Advisors and Consultants for varying periods of time, sent to the U.S. universities 28 persons from among the University staff as participants and supplied equipment of numerous

types and books, thus contributing valuable support at the difficult formative stage. Taking all such forms of assistance from different sources, this first Agricultural University should be considered the most fortunate. None of the other Universities established subsequently excepting perhaps that in the Punjab, have been able to receive support to an equal degree.

The first Vice-Chancellor vacated the office on the completion of his term. In about a year the Board Chairmanship also changed hands. Personal rivalries and inadequate understanding of the needs of the institution created a difficult situation. Ultimately, things came to a head, and on January 17, 1966, the Governor of the State in his capacity as the Chancellor of the University, on advice from the State Government, issued an ordinance terminating the services of all members of the Board and the Vice-Chancellor. A fresh start was made with the third Vice-Chancellor.

Since this is the only one of the Agricultural Universities to have been started as a completely new institution, all its campus facilities have been newly constructed. Particularly, in respect of hostel space and staff housing, the position is difficult, since there are no nearby towns of adequate size to offer even a temporary alternative to the University facilities. The community support facilities such as shopping centre, hospital, and school for children are other facilities lacking.

The characteristic feature of this first University is that it does not enjoy Statewide jurisdiction. It necessarily, therefore, has limited goals. The multiplicity of Agricultural Colleges in U.P. numbering over 20 perhaps rendered it necessary to start the U.P. Agricultural University with a limited objective. But these very limitations have generated a number of problems, so that the opinion is growing for an amendment of the Act to confer Statewide jurisdiction at least in certain respects.

Notwithstanding all such initial difficulties, this university has pioneered in many fields of activity to set a shining example to those who followed later. In reforming the curricula and teaching methods, in introducing work experience to students in a big way and giving a practical bias to agricultural education, and more recently in focusing attention on commercial farm production in an unprecedented manner such as to strike the attention of farmers not only in the Tarai area but far beyond the region and the State, this University has virtually set the pace for the other Indian agricultural universities

in several directions. Its experiment station which includes 500 acres for crop research and 380 acres for livestock research, is impressive. Its participation in several All-India co-ordinated schemes and Inter-Asian Corn Improvement programmes as well as integrated Soyabean Research Programme is of great value to this young institution. In extension also it is seeking to enlarge the range of its activities. An expansion of its role to cover the entire State would be amply justified.

2. University of Udaipur

With the passing of the Rajasthan Agricultural University Bill by the State legislature, the Bill received the assent of the Governor on June 6, 1962. Mr. G.B.K. Hooja joined on July 5, 1962 as the first Vice-Chancellor of the Rajasthan Agricultural University. The Rajasthan Agricultural University (Amendment) Act of 1963 was passed by the legislature and received the assent of the Governor on October 28, 1963. The Amended Act limited the jurisdiction of the University to the boundaries of Udaipur Municipality and campuses at Jobner and Bikaner, at the same time changing the name of the University to the University of Udaipur. Dr. G.S. Mahajani assumed the responsibilities of the first Vice-Chancellor under the Amended Act on November 20, 1963.

While introducing the Rajasthan Agricultural University Bill in the State Legislature, the then Minister for Agriculture had declared that there was a need for establishing closer interrelationship between research, teaching and extension programmes.⁶ This ideal has been rendered difficult attainment with the amendment of the Act restricting the operation only to a Municipal area and two small campuses in the State. The circumstances which led this University to currently pride itself with a name unconnected with agriculture are manifold. Perhaps, the inspiration for the change came originally from the notion that a University could fulfill its role suitably only if it was "a multifaculty University". Traditional University experience of the leadership would urge for a change which would remove many features of the system which is unfamiliar. Clash among the personalities representing the superior staff of the University and manoeuvring by politicians engendered by personal, regional or institutional loyalties may have also claimed a large share of the responsibility

⁶, Rajasthan Agricultural University, Udaipur, First Annual Report, 1962-63,

for the rather unusual present set up at Udaipur.

The State Government transferred the Colleges of Agriculture at Udaipur and Jobner and the College of Veterinary Science and Animal Husbandry at Bikaner to the University on August 1, 1962, on a 20 year lease on an annual rent of rupee one. The agricultural land attached to the three Colleges was also given to the University on lease on payment of the usual land revenue by the University to the Government.

In 1963-1964, the State Government transferred 'fundamental research' and handed over to the University two laboratories in Agricultural Chemistry and Plant Pathology in Udaipur and the laboratory in Entomology in Jobner.

Same year, with the aid of Ohio State University which supplied \$82,000 worth of dairy equipment, and of State Government's grant of Rs. 4 lakhs, the University launched what it called as an "educational and commercial" project to supply up to about 5000 litres of milk to the public and sell ice-cream, butter and ghee.

In July 1964, the following institutions also came within the purview of the University:

- (1) Maharana Bhupal College—as a constituent college to serve as school of Basic Sciences and Humanities;
- (2) Rajasthan Mahila Vidyalaya—Home Science College as affiliated institution;
- (3) School of Social Work (Post-Graduate) as affiliated institution;
- (4) Teachers' Training Colleges (Post-Graduate) as affiliated institutions;
- (5) Meera Girls' College as affiliated institution and belonging to Government;
- (6) Shramjeevi College (Evening College) as affiliated institution; and
- (7) Bhupal Nobles' College as affiliated institution.

A College of Agricultural Engineering was started in July 1964 as a constituent institution but it was to operate in cooperation with the Udaipur Polytechnic—employing the part-time services of its teaching staff as well as utilising its facilities.

In 1966, the University College of Home Science was added to the University as a constituent College.

This coexistence of the traditional affiliating system with the modern land-grant system of constituent colleges is undoubtedly

strange, and its possible implications are yet to be fully understood. Neither the U.S. Advisors nor any one among the faculty members seemed enthusiastic of this curious combination. The impression that one gathers is that the institutions functioning as constituent components of the University are not receiving adequate attention and this may be mainly due to the lack of conviction among some of the key officers. The utilisation of staff from a polytechnic to teach at the under-graduate level is also a venture on which opinions may differ.

The training of students in basic sciences and humanities is done in the professional colleges, even though the Maharana Bhupal College which is a constituent college is close to the College of Agriculture in Udaipur and is continuing on the traditional pattern, partly due to a strong tendency among the existing staff of this college to maintain the *status quo*.

In July 1964, the semester and internal grading systems were introduced in some of the colleges, but with a difference. This consisted of the introduction of a final examination at the end of each semester with 50% of the total weightage to the final examination. An even more curious fact is that the new systems were introduced simultaneously in all classes, which meant the abrupt switching over from a traditional system to the new one after varying periods of exposure of the students to the former system. These facts must have obviously caused many academic problems. To what extent the recurring student strikes were symptomatic of these and other problems arising from the peculiar set up, it has not been possible to determine.

In 1963-64, 19 students appeared for M.Sc. (Ag) final examination in three subjects, but in 1967-68 the University admitted eight students each for 12 subjects bringing the total to 96. This steep rise in post-graduate training programmes must have strained the resources of the University to a considerable extent.

One feature of post-graduate programmes undertaken in this University and also at the U.P. Agricultural University is of some interest. Both these universities are presently offering post-graduate courses in subjects outside the scope of Agricultural Sciences such as in pure Botany, Chemistry, Physics and Zoology in Udaipur and in Civil, Mechanical and Electrical Engineering in Pantnagar.

In 1965-66 a further step, which adds to the innovations made by this University, was taken by adding to the group of institutions

—constituent and affiliated—yet another in the form of a Rural Institute, located outside Udaipur Municipality. The Udaipur Rural Institute is one of 13 Institutes controlled by the National Council of Higher Rural Education. It is reported that this Institute will have to maintain its special features and functions according to the concept of “autonomous Colleges”. Indeed, this is an example of a collection of several autonomous institutions with widely differing objectives and philosophies. Notwithstanding these features, it was found possible for this University to appoint the Director of the Rural Institute as Director of Student Welfare of the University on a part-time basis.

A site of 7,000 acres lying as “agricultural waste and pasture” was selected about 23 miles from Udaipur and was transferred by the State Government in 1965-1966 for establishing an experimental farm.

The constituent professional Colleges enrolled in 1967-68 160 students for the Agricultural College at Udaipur and the same number for the College at Jobner, while the number admitted at Bikaner was only 80, and at the College of Agricultural Engineering and Technology 40.

Dr. Leonard D. Baver, Chief of Party, Ohio State University team at Udaipur, has recorded in his report for 1965-66, “Although this highly qualified College (M.B. College) with its basic sciences and humanities is part of the University, there is no integration of its teaching with that of the Colleges of Agriculture.”⁷ He further adds that the integration of M.B. College with the College of Agriculture is one of the internal problems of the developing University that must be solved before there can be a strong institution. The fact that M.B. College functions under the traditional system of external grading while the College of Agriculture is using internal grading adds to the complexity of the problems. Referring to research, Dr. Baver says that whatever research the Departments are doing is not coordinated with the Director of Research. The few resources that the University possesses for research will be largely wasted unless integration of research with teaching and extension takes place. He also proceeds to add that unless there is greater cooperation between the State Government and the University in sharing research and extension responsibilities, there cannot be a strong Agricultural University in Rajasthan.

7. Annual Report The OSU/AID November 1, 1965—October 31, 1966.

The Udaipur experiment may be justified by some who may be new to the concept of agricultural university as a multifaculty venture. The accession of Colleges of many other disciplines from July 1964 and later of the Rural Institute may also be supported by the argument that similar grouping of autonomous institutions is not unknown. As Dr. R.O. Olson points out the "central objective (is) to improve the structure and quality of Indian institutions for agricultural education and research, in order that they will better serve the needs of developing Indian agriculture. The success of this programme does not necessarily call for the transfer of all features of the American system; but acceptance of the basic concept of the University as an institution integrating the functions of teaching, research and public service, which has characterized the American Land-Grant University, does seem to be important. It is this concept that each of the three functions strengthen and reinforce each other—in fact, are dependent on each other—that has provided the dynamism of the system. It is this concept that is transferable to the developing countries."⁸

Perhaps a good example of understanding and optimism about the future is reflected in the following words of Dr. Bayer which the author has tried to reproduce to the best of his memory: "Some monuments of achievement have been possible; some are under construction; much more await the monsoon of new ideas and collective efforts to soften the hard soil of traditional agricultural education."

3. Orissa University of Agriculture and Technology

This University was inaugurated on August 24, 1962, by Prof. John Kenneth Galbraith, then U.S. Ambassador in India. It was established under the Orissa Act 20 of 1961. In 1965 this Act was repealed and the Orissa Act 17 of 1965 came into force.

The two Colleges of Agriculture and Veterinary Science and Animal Husbandry were transferred to the University with effect from February 1, 1963, along with the State Agricultural Research Station. Since all these are in Bhubaneswar, this University enjoys a single campus, as the U.P. Agricultural University. Subsequently, however, the outlying research stations at Berhampur and Jeypore

8. Returned Participants' Seminar. University of Udaipur and the OSU/AID Contract 148 Cooperating April 9-10, 1967 and April 21-22, 1967.

were also transferred on October 1, 1963. In the first year itself, the Board of Management sanctioned three additional faculties, i.e., Agricultural Engineering, Home Science, and Basic Sciences and Humanities. Of these, the faculty of Home Science has not been started even up to the 1967 academic year. Integration of Basic Sciences and Humanities taught in the Agricultural and Veterinary Colleges with the Basic Sciences College became effective by the close of the second year. The College of Agricultural Engineering began to make enrolments only in the 1966-67 academic year, although it is still to be housed in its own building.

When the new Orissa Act 17 of 1965 came into force on November 3, 1965, several changes were introduced under this new Act. The Chairmanship of the Board of Management went to the Pro-Chancellor, an administrative official in the State Government; the office of President was re-designated as Vice-Chancellor, and he was also made for the first time a member of the Board and was empowered to act as the Chairman in the absence of the Pro-Chancellor; and the post of Vice-President which existed under the old Act was abolished, and the Board was enlarged to have 21 members. Also under the new Act, Forestry was included under "Agriculture", and an annual grant of not less than Rs. 25 lakhs was assured to the University from the State Government.

The Government formulated the new Statutes under the new Act, and these came into force from November 1966. Both the Act and the Statutes contain several features not found in other Acts and Statutes.

The present position in Orissa is that there are two parallel organisations with responsibilities for research, one under the State Department and the other under the University. The former has more farms, and its research activities are larger in scope and magnitude since they cover many more experimental farms and schemes financed by Indian Council of Agricultural Research and the erstwhile Commodity Committees. The State Department of Agriculture has also a Joint Director in charge of research. Coordination between the two organisations is either non-existent or loose.

In the extension educational field, the University has undertaken responsibilities in three extension blocks from one District, leaving all the rest of the State for the State Department to cover. The lack of coordination in this sphere is also patent.

The Inter-University Board set up a Committee to visit this

University and report on its suitability to be enrolled as a member of the Board. This Committee found that the autonomy enjoyed by the University was unreal and that it operated more as a department of the Government rather than as an autonomous body. In fact, its autonomy seems to be far less than that enjoyed by the neighbouring Utkal University. Even the selection committees for choosing the personnel and the participants chosen by the University require to be approved by the Government. The grants made by the Central Government or I.C.A.R. require to be routed through the State Government.

Since about 80 per cent of the present employees of the University are employees of the State Departments and deputed by the Government, even grant of leave to such employees has to be done by the parent departments. None of such transferred employees can be deputed for foreign training without the Government sanction. This is the only Agricultural University which is yet to enjoy University Grants Commission pay-scales, for the lack of Government sanction. Buildings for the University are all to be built by the Public Works Department of the State Government. Key positions like that of the Registrar and Comptroller are held by persons deputed by the Government. All these denote that this University is only a subordinate branch of the Government, perhaps enjoying even less autonomy in some respects than the State Department of Agriculture or Veterinary. The Board of Management is also so strongly official-ridden that apart from the Minister of Agriculture as Chairman, no less than 10 members are officials, and these include the heads of Departments who run parallel research and extension organisations. Besides, even the funds to be granted to the University are included in the budgets of these Departments. Even the schemes approved by the Government of India or I.C.A.R. are first received by the State Government who have to decide whether to accept it or not, in the same manner as was the practice before the institutions were transferred to the University. The University under such a series of disabilities can render no effective service to the State's agriculture. Indeed, it could perhaps do less than what could have been possible under the erstwhile traditional set up. The effectiveness of 80 per cent of the Departmental staff working temporarily under the University and, in part, duplicating the work done by the State Departments could never be an asset.

Mainly due to the inadequacy of funds, the University had to

phase its programmes of development over a long period. For instance, the posts of Director of Physical Plant and Director of Student Welfare were not filled up till the commencement of 1967-68 academic year. The construction of a five-storey library building, begun in the second year, is yet to reach the second-floor stage.

The Government of Orissa stands out among the State Governments in providing liberal support to students of professional colleges. Every student of the Agricultural and Veterinary Colleges is eligible to receive loans at the rate of about Rs. 90 p.m. or a little over Rs. 1,000/- per year, and this he need repay only after he secures employment. A great sum of money has thus been expended on spreading professional education, but the recovery of the loans is reported to be not satisfactory. How, inspite of such benevolence, the State Government has not been able to provide adequate grants to these institutions, is an anomaly for which no satisfactory answer is available.

The system of administration in the University has continued in the same shape as was inherited from the pre-University days, but it is understood that proposals are under contemplation to reform this. The Deans, for instance, are currently burdened with routine administrative drudgery for about 50 per cent of the working time, so that the best in them is lost to that extent from contribution to teaching and research. Since working conditions have not altered even a bit and prospects are better under the State Departments, it is not surprising that almost all the transferred personnel opted to the Departments when an opportunity was given to them to express their intents. As a result, the State withdraws persons as and when it finds the need to do so, and such withdrawal is not subject to the University's concurrence. Yet another distressing feature, which under Indian conditions has already proved to be tragic in its consequences, is that the Dean's posts are made tenure posts under the new Statutes, to last for a period of 5 years. The selection is made from among the Heads of Departments. How a Dean can revert to a subordinate position after five years and yet be content to work with dedication under Indian conditions, it is difficult to imagine.

With 10 members out of 21 in the Board of Management being State Government officials and seven more being nominated by the State Government, and with the Minister for Agriculture as Chairman, the Board is in effect a voice of the Government.

4. Punjab Agricultural University, Ludhiana

This University came into existence in October 1962, although the actual implementation of positive measures to improve the pattern of education, research and extension education were adopted after June 1963.

This University had certain benefits which promoted its development speedily and on acceptable lines. With Sardar Pratap Singh Kairon as the Chief Minister, Punjab did a great deal to preserve the main features of the University as conceived by the Cummings Committee intact. He was also responsible for allocating initially Rs. 80 lakhs (8 millions) for the Third Plan period and later an additional sum of Rs. 1.75 crores (17.5 millions) for the University. The second noteworthy feature is the fact that its Board of Management had some men of eminence who took great interest in shaping the course with their mature advice and moral support. Above all, it had as its first Vice-Chancellor one of the ablest and most experienced administrators in Mr. P.N. Thapar, who had previously worked as the Secretary for the Government of India in Food and Agricultural Departments and was, therefore, personally conversant with all the recommendations made by the First Joint Indo-American Team which he himself was responsible to set up. Under such favourable auspices, it was to be expected that the Rockefeller Foundation, the Ford Foundation, USAID and ARS Group in charge of PL-480 supported research were all willing to assist this new University with funds and technical support in a massive way.

The proposal to set up an Agricultural University in the Punjab was first mooted in 1956. As a result of the determination shown by the Chief Minister to go ahead with the establishment of the University on his own, if necessary, the Government of India responded with a commitment of Rs. 25 lakhs (2.5 millions), to support the grant of Rs. 80 lakhs (8 millions) by the State Government during the Third Five-Year Plan. The Punjab Agricultural University Act was passed in October 1961 and the first Statutes were made by the State Government. Mr. P.N. Thapar became the Vice-Chancellor in March 1962 and functioned in that capacity up to June 1967, when sudden illness incapacitated this doyen of Agricultural University Vice-Chancellors. He, more than any other Indian, personally spear-headed the movement of Agricultural Universities and showed by single minded efforts and devotion that the salvation for Indian agriculture lies through integrated efforts in the fields of teaching,

research and extension. The role played by Mr. Thapar for the improvement of agriculture through institutional reorganisation is bound to be remembered with gratitude and appreciation, long after his rather rigorous and somewhat authoritarian regime, which was perhaps justifiable under prevailing circumstances, is forgotten.

In the first year itself, a grant-in-aid of Rs. 220,000 for University Administration and Rs. 2,041,172 for the implementation of the Research and Teaching Schemes of the Departments of Agriculture and Animal Husbandry transferred to the University, was placed at the disposal of the University up to the end of March 1963.

In its second year (1963-64), this University got financial assistance from the Rockefeller Foundation to the extent of Rs. 15 lakhs (1.5 million) in addition to a promise of \$15,000 for designing of the Home Science College.

The Punjab Government transferred to the University all the research activities of the Departments of Agriculture and Animal Husbandry and also assigned to the University a key role in the field of extension education. The University seized upon this opportunity to reorganize its departments and to integrate their working with the needs of the farming community.

Apart from the Colleges of Agriculture at Ludhiana and Hissar and the College of Veterinary Science in Hissar, the College of Agricultural Engineering was started in Ludhiana in July 1965, a College of Animal Sciences at Hissar in 1966, and a College of Home Science in Ludhiana in 1966. Also a Ph.D. programme was started in 1964-65 in Agronomy, Biochemistry, Economics and Sociology, Genetics, Horticulture, Plant Breeding, Soils, Animal Husbandry and Surgery, while the M.Sc. programme was expanded to include more subjects.

One more stride in the expansion programme was the opening of a Junior College of Agriculture at Palampur in July 1966, thus increasing the number of campuses to three, Palampur being in the hilly area. Later experience proved that this was a premature step, which did not seem to satisfy the small State of Himachal Pradesh, to which the Palampur area was ceded, since Himachal had already another College of Agriculture at Solan. Planning on a State basis rather than on all-India basis is bound to lead to such disappointments through unproductive or ineffective ventures.

Unfortunately the splitting up of the erstwhile Punjab into

Punjab and Hariyana States, with some portions going to Himachal Pradesh brought in certain complicating factors. Although the ill-effects of this were scotched for the time being by the decision to retain the University as one unit, it is difficult to foresee how the shape will be transformed by political exigencies. If the University is split up, it will greatly undo the splendid pioneering efforts of Mr. Thapar, at the same time detracting greatly from the benefit of a series of excellent programmes the University initiated and sponsored.

The administrative and financial procedures followed for a time in this University were those inherited from the Government and known as the double-file system. Since these resulted often in unnecessary delays and led to duplication of work, it was replaced in 1965-66 by another system which simplified procedures. The new procedure comprised of: (i) introduction of Single-File System, (ii) delegation of powers to certain classes of officers, (iii) reduction of certain supervisory posts in the higher offices, and (iv) provision of such posts for the Heads of Departments. This new system, may have made some reduction in delays, but it has certainly left still a good deal of office and routine drudgery with the scientists. In the Department of Plant Breeding, for instance, about 50 per cent of the time of the Head of the Department is generally earmarked for such non-technical duties. Others in the Department have also to spend as much time on routine administrative matters. If our most productive scientists are freed from this drudgery, it would go a long way in making their research more fruitful. It is not clear why all the drudgery that is now assigned to them cannot be shared by the Comptroller, Estate Officer, Stores Purchase Officer and Registrar, as has been done in the University of Agricultural Sciences at Bangalore.

In spite of the ardent advocacy of the Land-Grant concept, the British-conceived bureaucratic system had manifestly become too strong and inalienable part to enable the new University to shake off the clerical and peon ridden hierarchy even in a service-oriented, academic and scientific institution. It had the supporting staff of Deputy Secretaries and Accounts Officers from the State Government who were deputed to the University to duplicate in the University the bureaucratic framework of the Secretariat in Chandigarh.

To add to these, the Vice-Chancellor's office was established in Chandigarh, about 60 miles away from Ludhiana. Although this may not have had an appreciable detrimental effect, it is difficult to accept that this distance between the Campus and the Vice-Chancellor's

office is to the good of either of these.

The admission of candidates is being done both after passing High School and Higher Secondary examinations. The admission is done separately for Hissar, Ludhiana and Palampur. Since the University has identical provisions for admissions, this system of admitting students from different areas for specified institutions may appear perpetuating the regional loyalties. Greater mobility would be for the benefit of students and for the State's agriculture. Since the University has Statewide jurisdiction, there can be no advantage in restricting admissions to colleges on a regional basis. This also leads to disparity in standards, since the minimum marks which provide the basis for admission vary between the two colleges. In effect, therefore, this system is not dissimilar to that adopted by the University of Udaipur for enrolling students to Udaipur and Jobner Agricultural Colleges.

Like the U.P. Agricultural University, this University in the Punjab has blazed a trail in many fields. Its contribution to the agricultural prosperity of the State has been unexcelled. In the fields of resident instruction, it has introduced many innovations like the U.P. University. Its achievement by evolving hybrid *Pennisetum* (bajra) has been acclaimed all over the country. It has also evolved an extension education programme enlisting the active cooperation of the State agencies, while its farmer training programmes are perhaps the most active in the country.

5. Andhra Pradesh Agricultural University

This University has three campuses; the main campus is at Rajendranagar near Hyderabad, the State Capital; and the other constituent colleges are at Bapatla in Guntur District, and Tirupati in Chittoor District. The Andhra Pradesh Agricultural University Act, 1963, received the assent of the Governor on December 27, 1963, and came into force from May 4, 1964. The Act provided for the transfer of the following colleges to the University and the transfer was actually effected on July 10, 1964, although the first Vice-Chancellor assumed charge on June 12, 1964.

- | | | |
|-----------------------------|---|-------------------------|
| (1) College of Agriculture, |) | |
| Rajendranagar |) | Colleges of the Osmania |
| (2) College of Veterinary |) | University. |
| Science and Animal Husban- |) | |
| dry, Hyderabad. |) | |

- (3) College of Home Science,) A Government College
Hyderabad.) affiliated to Osmania
University.
- (4) Agricultural College,) A Government College
Bapatla.) affiliated to Andhra
University.
- (5) Sree Venkateswara)
Agricultural College,) Government Colleges -
Tirupati.) affiliated to Sree
- (6) Andhra Veterinary College,) Venkateswara University.
Tirupati.)

The main campus at Rajendranagar located about 11 miles from Hyderabad City, has an estate of about 2,500 acres which includes a State Agricultural Research Institute, a Research Farm and a Dairy Farm. On July 1, 1966, the State Government transferred to the University 41 Research Stations and 104 Research Schemes functioning under the Department of Agriculture and five research centres under the Animal Husbandry Department.

The draft Bill introduced in the State Legislature of Andhra Pradesh in 1961 for establishing the Agricultural University was modelled in the light of recommendations made by the Cummings Committee, which visited the State in September—December, 1960. The one material change made by the State Government, however, was to phase the implementation of the integration of teaching, research and extension on a Statewide basis.

The phasing of the transfer of research and extension functions, although perhaps inevitable, created a few problems. For instance, the University Grants Commission's scales of pay were sanctioned to the teachers of all faculties of the University with effect from January 1, 1966, but those scales are yet to be sanctioned for the research personnel transferred on July 1, 1966.

The Act also provides for the establishment of an Agricultural and Home Science Extension Service for undertaking extension programmes in the entire State.

Until the Board of Management was constituted, a Committee of Management with the Vice-Chancellor as Chairman and seven officers of the State Government, was constituted and this Committee functioned till March 8, 1965, when the Board of Management took over the functions. The Board had its first meeting on March 3, 1965,

and elected a non-official, who is also a member of the Legislative Assembly, as the first Chairman. The experience of the University, and the members of the Kansas/USAID Team seems to be that, however competent and suitable a non-official Chairman may be, he cannot be a good substitute to the Vice-Chancellor for occupying the Chair. This was also the bitter experience at Pantnagar, although at Rajendranagar the Vice-Chancellor and the Chairman of the Board seem to have hit off well, denoting their capacity for adjustment.

Although the University started functioning from June 12, 1964, it was formally inaugurated by the Prime Minister of India on March 20, 1965.

At the instance of the University, it is reported that the Ford Foundation is considering a scheme for the establishment of an All-India Agricultural Communication Centre at the Rajendranagar Campus.⁹ The landshaping of the entire University campus has been taken up with the help of the Rockefeller Foundation. The Government of India has decided to set up an All-India Training Institute for Plant Protection at Hyderabad and the Vice-Chancellor has stated that the University has agreed to place the necessary buildings and land at the disposal of the new Institute.

Owing to the distance between Rajendranagar and Hyderabad, the offices of the Vice-Chancellor, Dean, Director of Research, Director of Extension and of the Registrar are all functioning in Hyderabad in buildings made available by the State Government. The working of the key academic, research and technical officers at such a distance cannot be a happy feature and the University is, therefore, considering the putting up of a self-contained administrative building at the Rajendranagar campus itself, though this item of work has been deferred till quarters are provided for a majority of the staff.

The immediate task of the University is the construction of a College of Agriculture, a hostel and residential quarters for junior staff. The building programme was formally inaugurated by the Prime Minister of India on June 23, 1966.

As resources become available, the plan provides for constructing at the main campus a College of Veterinary Science, a College of Home Science, a College of Agricultural Engineering and an

9. Report of the Vice-Chancellor, Second Convocation on the 28th January 1967, Hyderabad.

administrative building, a Central Library, Museums and residential quarters for all the staff. At Tirupati, a new building for the College of Agriculture was recently completed along with a hostel building for 100 students; another hostel has been sanctioned for 250 students. Construction of quarters for the staff at Tirupati is also in progress. In a multiple-campus situation, available resources inevitably tend to spread thin.

Recognising that the Home Science College cannot be shifted in the near future from Hyderabad to Rajendranagar, several improvements have had to be made on the existing premises. This again is an inevitable additional expenditure dictated by the peculiar circumstances relating to the development of this University.

This is one of the few Universities which benefitted greatly by the stature, administrative acumen and wide contacts enjoyed by its first Vice-Chancellor, thus matching in these respects with Punjab Agricultural University and, to an extent, with U.P. Agricultural University. Mainly, if not entirely, due to his efforts, the State Government sanctioned Rs. 150 lakhs (inclusive of Rs. 25 lakhs under centrally-sponsored schemes) during the Third Five-Year Plan period towards the establishment of this University. This amount includes expenditure of Rs. 140 lakhs on College/hostel buildings and development of the Campus at Rajendranagar. The Vice-Chancellor had an additional advantage in having to work with him for some years one of the most sagacious and experienced Group Leaders of the Kansas/USAID Team in Dean A.D. Weber.

6. Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur

The Madhya Pradesh Legislative Assembly passed an Act for "establishing and incorporating a *Krishi Vidyalaya* (Agricultural University) for education" in 1963. It was on the suggestion of the Corporation of Jabalpur, the University was named after Pandit Jawaharlal Nehru. The University was inaugurated on October 2, 1964, (birthday of Mahatma Gandhi, Father of Indian Nation) by the Prime Minister of India.

On December 1, 1964, the State Government transferred all the six Agricultural Colleges and two Veterinary Colleges together with the 18 research farms and the research establishments and farms attached to the Colleges.

The State Government has since agreed to the introduction of U.G.C. scales of pay for the University employees but with effect

from only January 1, 1967. The University has also adopted a scheme of merit promotions and advanced increments based on outstanding accomplishments more or less on the lines adopted by Punjab Agricultural University and proposed to be adopted by the University of Agricultural Sciences, Bangalore.

The University adopted the trimester system and internal evaluation right from its inception. This must have created a number of problems, so that the University decided not to reckon the 1964-65 evaluation or grading for the purpose of overall grade point average. The grading is not yet uniform in all campuses and there is an impression as if the University has fallen short of its goals in internal evaluation and grading and terms of standards. A disinclination to fail the students or enforce drop outs seems patent.

The first Convocation was held on January 10, 1967, that is, over two years after the University was established.

The first Vice-Chancellor, Dr. J.S. Patel, assumed his responsibilities on June 17, 1964. Coming as he did from the Government of India, where he had worked as Agricultural Commissioner with the Government of India, Dr. Patel was able to bring to bear on his new assignment his rich experience in agricultural research, education and extension, which must have proved an asset to this University. Until the institutions were transferred to the control of the University, Dr. Patel had a very useful period for preparatory work and planning, which augured well for the future.

Among the institutions transferred to the University are (1) the College of Veterinary Science and Animal Husbandry at Jabalpur, (2) College of Veterinary Science and Animal Husbandry at Mhow, the Agricultural Colleges at Jabalpur, Raipur, Rewa, Indore, Gwalior and Sehore, making a total of eight colleges in seven campuses. All these six agricultural colleges were established between 1955 and 1961, with cultivated areas ranging from 55 acres in Rewa to 418 acres in Jabalpur. On August 17, 1966, the faculty of agricultural engineering came into existence in Jabalpur, but the enrolment for engineering courses commenced actually in August 1967 with a class of 35 students for the first year. Buildings for the engineering college are yet to be erected.

Like other agricultural universities in India, this University offers a four-year degree course in agriculture and a five-year degree course in Veterinary and Agricultural Engineering, after Higher Secondary examinations. The number of seats filled up in 1966 were

50 at Raipur, 60 at Rewa, 77 each at Sehore and Gwalior and 150 at Jabalpur agricultural colleges, while for veterinary faculty the number is 60 each for Jabalpur and Mhow. Post-graduate courses are also being offered leading to M.V.Sc. and M.Sc. (Agri.), the former in Jabalpur and Mhow, and the latter in five subjects in the various Agricultural Colleges. Nearly 12 per cent of some 2,300 students currently on the rolls (1967) of the University are in post-graduate courses.

Village-Level Workers with three years or more of experience are granted exemption up to a maximum of one year (three trimesters) after examining the previous courses taken and the results obtained at the examination. This concession of one year is not available for other courses such as B.V.Sc. and A.H.

An amendment to the Act in November 1965 enabled the transferred State Government employees to opt to the State Government, if they so choose. Only about five per cent opted to Government service and some of them are yet to be repatriated. The belated sanction of the U.G.C. pay scales and the failure to settle the terms of transfer of employees at the very outset have created, however, a feeling of uncertainty which is not conducive to the morale of the University.

Basic Sciences and Humanities do not yet enjoy the status of a faculty in this University. It is now functioning under the agricultural faculty. Not a single post of Professor has been created and even the few posts of Associate Professors are yet to be filled. Teaching of basic sciences and humanities in several campuses and only for one year appears to have been responsible for relegating these subjects into a relatively insignificant corner.

The Principals or Associate Deans in respect of Colleges and Crop Specialists and Super-intendents in respect of research centres are the drawing and disbursing officers. All these features have served to create a large account and ministerial staff, detracting from the value of teaching, research and other technical functions of the persons concerned to a certain extent.

Uniformity in the standard of teaching and grading presents a problem vastly more complicated in a University with seven campuses than in others with far less commitments. This University with a Statewide jurisdiction has obviously neither the justification nor the need to hold on to what was found necessary under a previous set up. With the greatly mounting unemployment among agricultural

graduates, the need for contracting the number of campuses has now been forcefully brought to the fore. In the current year (1967), for instance, for 100 seats in the Jabalpur Agricultural College there were only about 120 applicants and, even among them, only 25 boys registered themselves up to July 24, 1967.

A major and perhaps vital change spearheaded by this University is the introduction of Hindi medium from the current year in four out of its six agricultural colleges, namely, Raipur, Gwalior, Rewa and Sehore. There will be, however, provision for teaching of English in all the four years as an optional subject. As if it is a preparation for this momentous change, all students of Higher Secondary who had failed in English in the last examination in M.P. were declared as passed, it is understood, at the instance of the M.P. Government.

A Governmental directive to promote students as mentioned above to the academic bodies, if correct, would reduce the autonomy of such bodies. It is also a very big question if India is at all ready at this moment to switch over from the English medium to Hindi, when textbooks and even appropriate equivalents for technical terms are so inadequate.

The research and experiment stations are largely concentrated in the farms attached to the six campuses, while the remaining 12 farms operating under Crop Specialists are utilised largely as testing centres and for multiplication and supply of nucleus and foundation seeds as well as for providing the venues for I.C.A.R.—supported co-ordinated research schemes.

In the field of extension education, a vigorous publicity campaign has been undertaken through fortnightly circulars on "Research and Information Service", circulars to Village Level Workers, Home Science Circulars with the aid of a neighbouring Home Science College affiliated to a different University, a weekly broadcast service with quizzes, for the successful reply of which a weekly award of Rs. 20/- is made. About 25 teachers and researchers also act part-time as subject matter specialists for rendering service in extension education. Besides, the University has on its staff at the University level two full-time subject matter specialists in Entomology and Horticulture.

The relationship between the State Government and the University has been as cordial as could be expected. The relationship between the State Departments and the University could be more

harmonious and productive, but such a happy position may have to await some years of adjustment.

A lasting solution to problems of student indiscipline may lie in devising a mechanism to maintain uniform standards of evaluation and grading, reducing or bridging the gap between students and teachers, and at the same time attracting better-type of students to the institutions. Lack of adequate communication between the teachers and the taught and among the employees of the University as a whole also appears to be currently a limitation.

As in Orissa, grants by the State Government are made in the budgets of the State Agricultural Department.

The first Vice-Chancellor assisted by the first Registrar, has taken a major share of responsibilities in the academic side, leaving administrative and fiscal responsibilities largely to the Registrar. A large building programme to have some 300 residential quarters for the staff at Jabalpur during the first three years is an evidence of the joint efforts of the Registrar and the Vice-Chancellor. Till the end of this three-year period, however, the University has not found it possible to have the important positions of Director of Student Welfare and Director of Physical Plant filled. Poor financial support from the State Government notwithstanding, a College of Agricultural Engineering at Jabalpur was started, perhaps as a prestige institution, even before adequate space became available. Above all, the running of the University for about three years until the introduction of U.G.C. pay scales, appears to have had a demoralising effect on the employees. The development of a satisfactory degree of coordination and uniformity among its constituent colleges, each with its own history, traditions and regional loyalties, is one of the obstinate and continuing problems.

7. The University of Agricultural Sciences, Bangalore

The Mysore Government's draft proposals for the establishment of a Rural University were based on the grounds that urgency of bringing about rapid increase in food production in the State necessitated the reorganisation of the existing pattern with the aim of bringing about greatest possible corporation of the organisations serving agriculture. The Government recognised that there was need for establishing much closer inter-relationship between research, teaching and extension programmes, which was not possible under the existing arrangements. The jurisdiction of the University was

to extend over the entire State. The University was to have its campus at Hebbal and was to take over the present Agricultural and Veterinary Colleges at Hebbal and the Agricultural College, Dharwar, Gram Sevak Training Centres, Agricultural Schools and all Agricultural Research and experimental stations established in the Departments of Agriculture, Animal Husbandry, Horticulture and Fisheries.

The Cummings Committee, however, advised the Government of India in January, 1962, that it doubted the wisdom of taking over the Agricultural Schools since these might constitute too heavy an administrative burden well below the University level and might weaken the University's ability to cope adequately with University level programmes.

Earlier in July 1961, the Cummings Committee, at the request of the Chief Minister of the State, prepared a Note on the anticipated distribution of functions between the Extension Service of the Agricultural University and the Departments of Agriculture and Animal Husbandry, in which it is specifically stated: "the University of Agricultural Sciences should have responsibility for extension functions which are primarily educational in character, and the Departments of Agriculture and Animal Husbandry would carry on rest of the functions now assigned to them in the supply, service, developmental and regulatory fields."

A Bill for establishing the University was ready in 1961. The University of Agricultural Sciences Act, 1963 (Mysore Act No. 22 of 1963) received the assent of the President of India on the 25th May 1963. The University was inaugurated on August 21, 1964, by Dr. Zakir Hussain, Vice President of India, but the activities of the University started in effect only from October 1, 1965, with the transfer to the University of the Colleges and research institutions which were formerly under the control of several Government Departments.

The institutions transferred to the University included the Agricultural College and the Veterinary College both located in Hebbal near Bangalore and the Agricultural College in Dharwar, along with 33 experiment stations devoted to agriculture, horticulture and fisheries. Two more experiment stations were transferred to the control of the University at a later stage. Along with these experiment stations a total of 40 research schemes sponsored by the Indian Council of Agricultural Research or State Government came also under

the control of the University.

Unlike in all other Universities, this University was able to settle the terms of transfer of all Government employees well ahead of the actual transfer of the institutions. This enabled everyone to opt to the University with a full knowledge of the implications and prospects. The State Government also agreed to the grant of U.G.C. pay scales to all the technical staff members of the University before the option was exercised by the employees.

The University introduced the trimester system with effect from the academic year 1966-67 after doing a good deal of preparatory work in preparing course outlines and curricula and after training the staff to adapt themselves to the new set up.

Veterinary medical students receive practical farm practice experience as a result of the Ambulatory Clinic program initiated at the University. It proves that livestock owners will use this service and at the same time provides additional clinical material for student training.

In the field of research, steps were taken for a complete reorganisation of the entire set up, according to which research is now centred in only five centres representing the main agro-climatic zones of the State, leaving the other 30 farms generally for large-scale testing of the results of research.

In the field of extension education, the University embarked on a big project to raise hybrid maize and hybrid sorghum on over 10,000 acres of irrigated land, which involved very intensive educational work by a small field staff for nearly one year. Based on the experiences of this project in 1966 a more ambitious project on an extended area of over 20,000 acres has been taken up in 1967 with the technical and financial aid from USAID. In both these projects, the fertilizers required came on rupee payment from OXFAM, and to a small extent from the Government of India for one of the projects only.

A radical reform in administrative procedures and systems was another task towards which the University devoted major attention. This involved not only considerable reduction in the strength of non-technical staff transferred to the University but also far-reaching changes in procedures designed to economise time and funds while ensuring efficiency and expeditious disposal. The most important effect of these changes is that the technical personnel have been freed from much of the routine administrative drudgery.

Certain measures taken to promote students' welfare and discipline have also proved encouraging. References to all these are made elsewhere in this book.

This is the only University which has not been able, however, to undertake any building programme till the close of 1967. Inadequate resources have limited the pace of its progress so seriously that even the badly-needed accommodation for University offices and University library had to be provided by make-shift arrangements.

Apart from USAID assistance in various forms, the valuable help the Ford Foundation extended to strengthen the teaching, research and extension activities in the field of plant protection enabled this University to strengthen its post-graduate training programmes in the line and to develop a service agency of growing value to farmers.

Student Enrolment in Agricultural Universities

An idea of the student enrolment in the main colleges of the seven universities during 1966 is furnished in the following figures, obtained from a Report of the Joint Indo-U.S. Technical Assistance Study Team on Agricultural Universities in India.

	Agricultural College.		Veterinary College.		Agricultural Engineering College.
	Under graduates.	Post graduates.	Under graduates.	Post graduates.	Under graduates
U.P. Agricultural University.	395	36	390	30	308 124*
Punjab Agricultural University.	897(a) 219(b) 41(c)	260(a) 87(b) —	290 — 19(d)	85 — —	224 — —
Udaipur University.	453(e) 602(f)	126(e) 62(f)	221 —	25 —	134 —

Contd.

*relate to Civil, Electrical and Mechanical Engineering.

- a =College of Agriculture, Ludhiana
- b =College of Agriculture, Hissar
- c =College of Agriculture, Palampur
- d =College of Animal Science, Hissar
- e =Agricultural College, Udaipur
- f =SKN College, Jobner

	Agricultural College.		Veterinary College.		Agricultural Engineering College.
	Under graduates.	Post graduates.	Under graduates.	Post graduates.	Under graduates.
Orissa					
University of Agriculture & Technology.	579	118	306	1	36
Andhra Pradesh					
Agricultural University.	377(g) 563(h) 170(i)	71(g) — —	281(j) 463(k) —	— — —	— — —
Jawaharlal Nehru Krishi Vishwa-Vidyalaya.	380(l) 228(m) 201(n) 234(o) 155(p) 137(q)	67(l) 37(m) 21(n) 22(o) 22(p) 4(q)	189(r) 188(s) — — — —	25(r) 23(s) — — — —	— — — — — —
Madhya Pradesh					
University of Agricultural Sciences.	536(t) 389(u)	31(t) —	393 —	10 —	— —

- g = College of Agriculture, Rajendranagar
h = College of Agriculture, Bapatla
i = College of Agriculture, Tirupathi
j = College of Veterinary Science, Hyderabad
k = College of Veterinary Science, Tirupathi
l = College of Agriculture, Jabalpur
m = College of Agriculture, Gwalior
n = College of Agriculture, Indore
o = College of Agriculture, Sehore
p = College of Agriculture, Rewa
q = College of Agriculture, Raipur
r = Veterinary College, Jabalpur
s = Veterinary College, Mhow
t = Agricultural College, Hebbal
u = Agricultural College, Dharwar.

The other constituent colleges of these Universities are related to Home Science, Basic Science and Humanities. Only Punjab, Udaipur and Andhra Pradesh have Home Science Colleges as consti-

tuent units. These had an enrolment of 25, 21 and 135 respectively during 1966. As for Basic Science and Humanities, only Udaipur claims to have a college with an enrolment figure of 1,448 for undergraduate and 402 for post-graduate studies. Though this is a constituent college, it operates on the traditional pattern.

It is seen from the foregoing table that the enrolment ranges from 897 in Ludhiana to 41 in Palampur for undergraduate courses in agriculture. Leaving the enrolment of Basic Sciences and Humanities which is of the order of 1448 for undergraduate courses and 402 for post-graduate courses in 1966 at Udaipur, the enrolment is the highest with 2326 in Andhra Pradesh Agricultural University for undergraduate courses and with 432 in Punjab for post-graduate courses.

Teaching Staff Strength

The following figures of the number of teaching staff for the year 1966 may be of interest against the background of the foregoing enrolment figures. The figures include positions of Assistant Professors and above only, and these figures also were culled out from the Report mentioned above.

	Agricultural College.	Veterinary College.	Agricultural Engineering College.	Home Science College.	Basic Sciences & Humanities.
U.P.A.U.	$\frac{64}{39}$	$\frac{47}{32}$	$\frac{55}{28}$	—	$\frac{47}{47}$
Punjab	$\frac{126}{102}$	$\frac{91}{56}$	$\frac{36}{23}$	$\frac{14}{2}$	$\frac{171}{171}$
Udaipur	$\frac{133}{122}$	$\frac{25}{19}$	$\frac{5}{3}$	$\frac{5}{1}$	$\frac{118}{115}$
Orissa	$\frac{86}{73}$	$\frac{35}{32}$	$\frac{7}{0}$	—	$\frac{43}{21}$
A.P.A.U.	$\frac{101}{85}$	$\frac{63}{57}$	—	$\frac{15}{13}$	$\frac{10}{10}$
J.N.K.V. Vidyalaya	$\frac{41}{38}$	$\frac{75}{53}$	—	—	—
Mysore	$\frac{63}{39}$	$\frac{46}{20}$	—	—	—

(The figures above the line represent sanctioned positions, while those below the line stand for the positions filled up.)

On the basis of the above figures, the teacher-student ratio appears to be the most unfavourable in Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, while it is most favourable in Orissa, taking only the enrolments and staff strength in Agricultural Colleges.

Library Statistics

The statistics collected recently by the Evaluation Team mentioned above on the number of books and journals in the different campuses of the agricultural universities as in 1966 are summarised below:

	Books.	Journals.
U.P.A.U.	23050	415
Punjab	26895(a)	315(a)
	15656(b)	167(b)
	1047(c)	—
Udaipur	20927(d)	384(d)
	8812(e)	140(e)
	11123(f)	161(f)
	40070(g)	426(g)
Orissa	52735	nil
A.P.A.U.	8025(h)	92(h)
	21456(i)	107(i)
	2885(j)	49(j)
	4442(k)	21(k)
	5005(l)	112(l)

- a =Agricultural College, Ludhiana
- b =Agricultural College, Hissar
- c =Agricultural College, Palampur
- d =College of Agriculture, Udaipur
- e =College of Agriculture, Jobner
- f =Veterinary College, Bikaner
- g =College of Basic Sciences and Humanities, Udaipur
- h =College of Agriculture, Rajendranagar
- i =College of Agriculture, Bapatla
- j =College of Agriculture, Tirupati
- k =College of Veterinary Science, Hyderabad
- l =College of Veterinary Science, Tirupathi

	Books.	Journals.
A.P.A.U.	3023(m)	—
J.L.N. Agricultural University	5880(n)	40(n)
	6765(o)	93(o)
	4313(p)	—(p)
	4331(q)	83(q)
	5516(r)	25(r)
	3288(s)	10(s)
	5377(t)	63(t)
	7247(u)	73(u)
Mysore	25000(v)	268(v)
	10000(w)	110(w)

m =College of Home Science, Hyderabad

n =Agricultural College, Jabalpur

o =Agricultural College, Gwalior

p =Agricultural College, Indore

q =Agricultural College, Sehore

r =Agricultural College, Rewa

s =Agricultural College, Raipur

t =Veterinary College, Jabalpur

u =Veterinary College, Mhow

v =Agricultural College & Veterinary College, Hebbal

w =Agricultural College, Dharwar.

A review of the library facilities indicates the need to strengthen these particularly in the subsidiary campuses, except in the University at Rajendranagar and Jabalpur where the main campuses also deserve special attention. The periodicals are critically in short supply at Orissa and in several subsidiary campuses.

EARLY STRUGGLES AND CURRENT PROBLEMS

Central Universities

Reason and enlightenment, on one hand, and sheer necessity, on the other, liberate people from many traditional beliefs and practices. Indeed from what has been stated earlier, it will be clear that a process of liberation in the field of agricultural education had long been underway in India, although the first tangible signs of it became clear with the release of the Radhakrishnan Commission's monumental report. In the years that followed, many educationists and thinkers were busy in prescribing what ought to be done to improve the education system. Although a growing number of leaders of thought recognised that the education system the country inherited from the British days was not suitable, the ideas were too plastic for anyone to speak either with certainty or authority on what might be a better system. The Rural University concept of the Radhakrishnan Commission did not hit the headlines when education and political leaders, on one side, and several Muslim leaders, on the other, had befriended the ideas and systems as reflected by the Banaras Hindu University and Aligarh Muslim University. These are the Central Universities and are not subject to the control or discipline of State Governments.

Rural Institutes instead of Rural Universities

The early period of post-independence era was also one in which the newly-elected members of the legislature were conscious of and sensitive to the new importance of the people and of themselves as representatives of the nation. Eager to make their views and presence felt, some of them at least observed or cared little for constraints in suggesting modifications or undertaking innovations. The Rural Institute concept won fairly wide acceptance among many politicians, and fairly munificent financial aids. While these Rural Institutes received all possible backing and support, the term "Rural Institutes" was used for an analogous institution with a somewhat different series of objectives. Rural Institutes are neither Rural Universities nor Vocational "Manjri" type schools.

Hence the Second Joint Indo-American Team's forthright recommendation that these Rural Institutes, as presently organised, were serving no useful purpose in the agricultural education programme. Three of the Rural Institutes have now to be elevated to the rank of Universities contrary to the original concept and objectives. The policies and procedures followed by the Central Ministries of Education and Agriculture appear clearly to be at variance in this regard. To an extent even the U.S. Advisors appear to have worked at cross purposes, for there have been Advisors associated with Rural Institutes as well as with Agricultural Universities.

Opposition from the Traditionalists

The Agricultural Universities would have certainly gained greater strength if attention and funds of the Central Ministry of Education were not diverted to Rural Institutes. The Agricultural University concept faced snipping from other educationists of the old or traditional school also, and although this has abated considerably over the years, it has not disappeared altogether even to this day. Even after the Planning Commission, the Food and Agricultural Ministry, the University Grants Commission and Dr. Kothari's Education Commission accepted the Agricultural University concept and the Kothari Commission recommended the establishment of one Agricultural University in each State of India, three Vice-Chancellors of Mysore State resolved in a meeting held at Dharwar in 1966 that the traditional Universities should continue to enjoy the privilege of affiliating agricultural colleges to their universities, thus deploring the transfer of such colleges to the control of agricultural universities.

Among the critics of Agricultural Universities, many have been those who had no opportunity to understand its aims and philosophy. It was experienced by the author during the meetings of one of the Task Forces of the Education Commission and during his discussion with the members of that Commission, that a vast majority of the members of that Commission had serious misgivings about the utility and effectiveness of the agricultural university concept for Indian agriculture. It speaks a great deal of their objectivity that after a series of discussions the Commission unanimously recommended this concept to be adopted by the country as a whole.

Mr. C. Suoramaniam, Central Minister for Food and Agriculture, stated in his address at the First Convocation of the University of Agricultural Sciences at Bangalore on December 19, 1966, that

“Because of the many advantages of this educational innovation, eminent agricultural scientists like Sir Joseph Hatchinson of the Cambridge University in the United Kingdom, have remarked that the most significant development in the field of Indian agriculture during the past one century is the initiation of Agricultural Universities.” Sir Joseph belongs to the country which gave the traditional university system to India and his views ought to carry a great deal of weight with the tradition-bound educationists in India.

Provincial or State Loyalties

Another kind of struggle the new universities had to face was provincial or State loyalties and rivalries as illustrated by the following two developments. One AID Committee recommended after an objective survey and study that an Institute of Instrumentation should be located at a specific centre, along with one Agricultural University, but this was opposed by representatives of a few Agricultural Universities, with the result that a decision had ultimately to be taken splitting up the Institute into several bits perhaps to make the project acceptable to as many Agricultural Universities as possible. Another proposal made by one high-level FAO/UNESCO Team to set up Advanced or Post-Graduate Centres at certain locations along with the existing Agricultural Universities came also for criticism by Vice-Chancellors of a few other Universities whose locations did not find favour by the Team.

Financial Resources

Among the many forms of assistance that the Indian Council of Agricultural Research has rendered to these universities was that in securing financial aid from the Government of India to the States for establishing agricultural universities. Much was expected of this form of assistance and, in fact, one of the chief motivating factors for establishing agricultural universities among the State Governments was the hope of securing substantial funds from the Centre. The first Agricultural University established in Pantnagar did receive substantial grants as Central assistance and, at one time, about Rs. 40 crores were expected to become available as Central assistance to the agricultural universities during the Fourth Plan. This soon dwindled into less than Rs. 30 crores, and at the present stage no one seems certain what portion of this will finally become available to the Universities. The Central assistance during 1966-67, which is

the first year of the Fourth Plan, has rarely exceeded Rs. 10 lakhs to a University, and this was hardly sufficient to put up even one library building. Thus far, the Central assistance has been insignificant to younger universities, while the State assistance has been uncertain and was equally discouraging to a majority of the Universities.

State Governments' Uncertain Attitudes

If the Centre's financial assistance was not appreciable, it had, however, extended uniform and consistent moral support and guidance, which were not always forthcoming from the State Governments. Much of the attitude on the part of the States became soon evident, and the State Government officials quickly began to operate as "We" and "They", and "ours" and "theirs", implying that the transferred institutions could no longer enjoy the same rights and privileges as they enjoyed prior to the transfer. Much of what followed had its genesis in such a psychological change.

Attitude of State Departments

It has also been the experience that some of the Departmental Heads take up, what may be construed as not a very positively helpful attitude to develop a cooperative relationship. There are instances of persons who worked for the transfer of research to the universities while they were the employees of the University, but suddenly reversed their stand when they were repatriated to State Departments.

Not only a close working rapport has not been established but a spirit of veiled hostility has begun to grow between the University and certain State Departments. Where there were individuals who had been frustrated in their desire to get higher salaried posts in the University, this spirit perhaps got greatly accentuated. A gradual shifting of talents from the departments to the Universities where fresh opportunities were opening up contributed possibly further to the spirit of rivalry and jealousy, so that the first few years of the transfer of certain functions from the State Departments to the University were by no means a period of smooth change.

Legal Difficulties

Legal difficulties created further challenges to these new Universities. Some of the employees were transferred to the young Universities just when their turns for promotion in the State Departments became ripe. Naturally, they did not wish to lose an oppor-

tunity to gain a higher post with increased emoluments and jumps into a position where nothing was assured and where the results of the competition for a higher position could not be predicted. Another class of people who were holding temporary posts and to whom option to stay where they were, was not allowed in some States. Still others who desired to stick on to a place where they had certain advantages of climate or certain benefits by virtue of possessing properties or nearness to relatives and similar advantages, and who tried every means at their disposal for the *status quo*.

Anticipating many of these problems and situations, the University of Agricultural Sciences entered into negotiations with the State Government of Mysore well ahead of the expected date of transfer of institutions, suggesting guidelines for the transfer of employees of the Government to the University.

Delineation of Extension Functions

Perhaps in no other field of activity is there so much indecision on the part of the State Governments as in the matter of delineation of functions of the Agricultural Universities *vis a vis* the State Departments as in Extension.

The recommendations made by expert bodies in the recent past relating to extension within and outside India were briefly summarised recently by the author for consideration by the Agricultural Study Team of the Administrative Reform Commission :

1. Unless there is a supply of rewarding inputs that farmers require, an agricultural extension service is an empty institutional or governmental gesture.
2. Both individual training and farmers' training in agriculture and agricultural sciences must have the benefit of continuous stream of new knowledge arising from an efficient research set-up operating in a proper climate and staffed by persons who have and can ensure the requisite degree of objectivity.
3. Unless education, research and extension are linked to productivity effectively, there can be no salvation.
4. The price of agricultural progress is a deep-going transformation of existing institutions developed for purposes other than servicing agriculture specifically. They have to evolve a new set-up which will serve as an effective vehicle of change and development.

5. The specific ways of carrying out extension to the farmer in his profession may be done somewhat as outlined below:
 - (a) At the Block level an Agent of the University may be responsible for the work in more or less the same way as an agronomer among non-English speaking countries like Denmark.
 - (b) These Block Agents of the University may be backed by a few subject matter specialists located at the District level, attached to the Experiment Station, to be the link connecting the research stations and laboratories with the Block Agents and the farmers.
 - (c) This simple but effective medium of service to farmer will operate free of all direction from administrative elements who are non-specialists or have little day-to-day contact with farm people.
 - (d) The University Extension staff at all levels shall have to maintain close relations with the specific groups with whom they work.
 - (e) Extension work has to vary greatly among the areas within a State in methods and subject matter content to suit our diverse situations, crops, farming methods, economic conditions, living pattern and other socio-considerations.

The Cummings Committee has this to say about extension service to be done by agricultural universities :

- (a) "The Agricultural University should have the responsibility for extension functions which are primarily educational in character. The extension training centres for training Village Level Workers are required to be brought into close working relationship with agricultural universities as soon as possible."
- (b) "On the Central Campus is anticipated that there would be a Director of Extension who would be responsible to the Dean of Agriculture. Further, there would be Department of Extension Education which would assume the responsibilities for training in extension methods including training of instructors for the extension training centres. Information officers and a publications office would be provided at the University. Each of the major technical departments of the college would have extension

specialist(s) as members of the staff, responsible on a technical subject matter basis to the Head of the Department but responsible to the Director of Extension for schedules and general field activities."

Extension by Central Government

The need for the Centre to have an Extension Directorate with a Farm Advisory Service and with the responsibility for training Village-Level Workers (men) and Gram Sevikas (women) for publication and for agricultural publicity and information is not clear. Since the Centre has no close or direct relation with research in the States, it can offer precious little beyond what could be obtained through the State agencies and Central research institutions.

Extension in Japan

In Japan, it has been pointed out by a team deputed by Punjab Agricultural University that Agricultural Training Institutes located in each of 46 prefectures organise the training programmes for extension workers and these institutes are attached to the agricultural experiment stations where the extension subject matter specialists are also located.¹ Such an arrangement ensures, says the report, that the research worker as well as the extension specialist together with the regular staff of the training institutes are fully utilised in the training programme of extension workers. These training institutes impart training to farm advisors for two years after they pass out from High Schools.

It is also stated in the same report that the prescribed qualifications for the subject matter specialists of Japan are that they should be graduates in agriculture with seven years of experience. Over and above these, they have also to pass the prescribed national examination for extension. The number of such subject matter specialists are stated to be 859 covering 25 specialised fields, while the number of farm advisors, who are more qualified and experienced than the Village Level Workers of India, are stated to be 10,854, with another 2,320 home advisors who provide advice to the farm households and rural youth.

¹ Kanwar J.S., Kripal Singh K., and Cheema A.S., *A New Strategy in Agriculture in Japan and South East Asia* (June 1966), P.A.U. Press, Ludhiana.

Man as a Productive Agent

Factors of production or productive agents fall into two parts, one of which consists of "technological change", which is within the purview of research, educational and extension agencies, and the other consisting of "land, labour and capital." No reference is made here on the factors of land, labour and capital. But it is necessary to refer to the human agent who is after all the principal productive agent. The knowledge or know-how of how to employ each of the productive agents, including himself, is also an integral part of the factors of production. Without the acquired capabilities of farmers, the course of modernising agriculture will be greatly slowed down. Acquired capabilities are, therefore, a valuable investment in human capital, and a major source of economic growth from agriculture. The remarkable agricultural achievement in Israel with a land of poor quality was made possible by persons with grit, perseverance, and most of them with a high degree of education, who were able to assiduously acquire both the knowledge and skill needed for success under forbidding soil conditions. Japan was able to increase her agricultural production per acre to eight times that of India primarily due to the high level of farming skills and the high degree of schooling that the farm people acquired to absorb and adopt continuously the new agricultural factors specifically evolved by their scientists and tailored to the biological and other requirements of Japan. The transformation of agriculture in Denmark between 1870 and 1900 could not have been attempted without a large investment in the education of farm people in modern scientific agriculture.

Residual Functions of State Departments

The Committee on Agricultural Universities (Cummings Committee) has made the following suggestions in regard to the residual functions of the State Departments.

Departments of Government where legal authority is necessary or where business transactions take place have a very vital and important role. In a developing economy these functions will become more important and of necessity of greater magnitude. Among these areas of responsibility will be marketing, processing, consumption, regulation, quarantine, services and supplies.

Marketing: Setting and enforcing grades and standards of agricultural commodities, labelling containers, storage facilities, transportation.

Processing : Grades and standards, plant sanitation and quality control activities.

Consumption : Product standard and purity of food.

Regulation : Weights and measures, seed purity and vegetables, fertiliser grades, formula labels, serums, vaccines, medicines, and drugs for livestock, insecticides, standard labels for using insecticides and fungicides and nursery stock standards.

Quarantine : Livestock diseases, plant diseases and insect eradication work.

Service : Vaccination, livestock treatment, spraying for insect and disease control of farm crops and livestock. Surveys to determine presence of dangerous population of insects, disease incidence or animal pests, collect and compile agricultural statistics.

Supplies : Since there is a limited supply of many necessary items of production, supply at the proper time and amount is vital. Assist farmer cooperative and local agencies in obtaining supplies of seed, pesticides, fertiliser, containers, transportation equipment, foundation livestock and Poultry, nursery stock, seedlings and etc.

Difficulties of Individual Institutions

The Uttar Pradesh Agricultural University faced problems, some of which were distinctive.

An unhappy trend to which this University had to commit itself because of the policies and decisions of State Government was the large-scale commercialisation of its seed-producing and other connected farm-borne industries. The State Government's decision that the University can have no annual grants to support the operation of the University other than what the University can obtain from the Tarai State Farm left no choice to the University but to do everything possible to increase the income from the Farm. Leaving about 1300 acres for the experiment station, the University plunged into the major task of producing seeds of hybrid maize and Mexican wheat, and sugarcane to feed the factory, and such other ventures that stepped up the income from a mere ten lakhs of rupees to as high as Rs. 50 lakhs, with the ultimate target of Rs. one crore per

annum. This is indeed a good achievement as a farm management venture but many may consider this to be outside the legitimate functions of a University.

Another handicap from the standpoint of this University is its limited jurisdiction.

The special handicaps suffered by the Orissa and Madhya Pradesh Agricultural Universities by being dependent on funds routed through State Departments of Agriculture and by having had to manage their institutions with employees of the State Government, have already been mentioned earlier.

Indian Administrative System

The Expert Committee on Assessment and Evaluation of the Intensive Agricultural District Programme (I.A.D.P.) in its draft report dated April 20, 1966, has remarked as follows:

"On the other hand, experience has also shown that the rather archaic administrative system that obtains in the country has proved to be a most serious obstacle to the I.A.D.P. This administrative system, based essentially on checks and balances evolved in a different time and for a different purpose is more procedure-oriented than action-oriented and has proved woefully inadequate for any operation, the aim of which is not to maintain the *status quo* but to change it."

If we agree that administration is vital to achieve success in nation-building activities and that the existing system could not be expected to measure up to the requirements, we cannot be bopped down by officialdom's innate distaste for change or innovation.

Any change in administration designed to promote agricultural prosperity, must inevitably affect millions of farmers. The organisational complex, administrative arrangements and talents that are associated with successful industrial management are not all similar to what will benefit this vast segment of humanity comprising of millions of independent farmers operating under no standardised code of conduct or discipline. Added to this we have the almost infinite variety of local conditions, compounded by the interaction of those varying factors, which makes uniformity of procedures some times impracticable.

It has been stated that the Great Bengal Famine of 1943, which claimed a toll of 35 lakh (3.5 million) lives, was as much a product of drought as of administrative defects during the War. Administra-

tion's role both in times of stress and strain as well as in nation-building activities is obviously vital.

Opposition from Administrators

The initial struggles which the new Agricultural Universities had to face are indeed unparalleled in scope or magnitude. The entrenched opposition from the traditional universities was nothing compared to the built-in opposition from some of the administrators. It will be an oversimplification to describe these as teething troubles. Very often they appeared to be matters of life and death, so much so, during the difficult formative period, some Vice-Chancellors at least experienced a feeling of floundering in the slough of despondency and even thought of running away from the post. If they still remained at their posts, it was because of the occasional rides they had on the crest of waves, which though few and far between, helped to maintain spirits and open up vistas of great possibilities.

To enumerate the numerous hurdles different Vice-Chancellors had to counter will make this book a sorry tale of unending woes. These unhappy experiences however, soon brought home to the Vice-Chancellors the recognition that even the best system of education, research and extension that man can devise, could be a flop if pitted against an administration which is rigid, wooden and inimical to change.

Changes in Horizon

Of late a change is clearly visible. The Government and the people are feeling in some measure the impulses which represent new opportunities for growth through modernization of Indian agriculture. Greater stress is being laid presently on developing new factors of production and on reducing the lag between the development of new factors of production and their adoption. Farmers too are feeling such impulses and have displayed a very gratifying tendency to take to the new factors with avidity, as is reflected by the rapid popularity gained by hybrids of maize, jowar (*Sorghum*) and bajra (*Pennisetum*), rapid spread of Taichung and IR 8 paddies, and the rising demand for more fertilizers and pesticides. Reorganisation of the Indian Council of Agricultural Research and Commodity Committees which has been recently taken up with vigour and courage by the Food and Agriculture Ministry marks a significant step forward to harness resources for a more fruitful and effective purpose. The trend toward

coordination and integration of efforts in allied fields is also in evidence in the move to setup agricultural universities, in place of the erstwhile system of dividing the educational, research and extension effort under a multiplicity of agencies at the Central and State level, all working almost independently of each other with all the attendant wasteful duplication amidst predominatingly petty, isolated efforts.

While this change is proceeding apace, its effect will be nullified if planned research effort is not integrated at the State and Central levels under one agency with the educational and extension efforts in agriculture. If education and extension are separated from research, our farmers have no means of keeping step with the accumulating knowledge of new factors of production. This integration which has been so strongly advocated by two Joint Indo-American Teams and more recently by the I.C.A.R. Research Review Committee is the most important need of the country and can never be overemphasised.

CENTRE-STATE RELATIONS AND RELATIONS BETWEEN THE UNIVERSITIES AND STATE DEPARTMENTS

Indian Constitution

The Constitution of India provides for certain functions to be handled by the Union Government exclusively, others to be handled by the States exclusively, and certain other functions to be handled either by the Union Government or by the States. According to the Seventh Schedule of the Constitution, the following is the division of responsibilities for research:

List I—Union List:

- No. 65. Union agencies and institutions for—
 - (b) the promotion of special studies of research.
- No. 66. Co-ordination and determination of standards in institutions for higher education or research and scientific and technical institutions.

List II—State List:

- No. 14. Agriculture, including agricultural education and research, protection against pests and prevention of plant diseases.
- No. 15. Preservation, protection and improvement of stock and prevention of animal diseases; veterinary training and practice.

It may appear from the above that both the Centre and the States must assume a share of the responsibility for ensuring progress through agricultural education, extension and research.

A little closer scrutiny of the provisions will, however show that:—

- (1) the Union Governmental agencies and institutions are only responsible for the *promotion* of Research, which is not the same thing as the *conduct* of research; and
- (2) for *co-ordination* and determination of standards in State institutions and not for *undertaking* themselves responsibilities for higher education or research.

If the foregoing view is accepted, it follows that the States have the responsibility for the conduct of special studies or research promoted or sponsored by the Union Government, but they are required to subject themselves to such inspection that the Union Government may consider it necessary for the purpose of co-ordination and determination of standards in teaching institutions.

In the State list, agricultural education and research, including veterinary training and practice, are specifically mentioned as State responsibilities.

Institutions Inherited from Pre-Independent Period

Before the country became independent and the Indian Constitution was forged, many Central Institutes for research and education in agricultural sciences had already been founded - as shown in chapter 2.

In 1955, the responsibility for the training of extension personnel was transferred from the Indian Council of Agricultural Research to a separate Extension and Training Directorate in the Ministry of Food and Agriculture, thus divorcing extension and extension training from research and education at the Central level.

Meanwhile, several Commodity Committees were also established for oilseeds, cotton, sugarcane, tobacco, jute, coconut, lac and arecanuts, all of which were under the control of the Central Ministry of Food and Agriculture, as it was the hope that special attention was necessary to deal with the problems of these crops. Not only all these developments constituted in effect an inroad into the responsibilities devolving upon the States under the Constitution, but they also had a detrimental effect on the State's capacity to further research on these commodities on their own, and further led to the neglect of the many important problems that transcend commodity fields.

It has not been possible to effect radical changes in inherited institutions to strictly conform to the provisions of Indian Constitution. Thus, many educational institutions still remain intact under the control of the Centre and so are many research institutions. In fact, in some respects the continued erosion of States' responsibilities is occurring even after the acceptance of recommendations made by the I.C.A.R. Research Review Team. For instance, forest Colleges and dairy educational institutions continue to function under the Centre's control in the States, while sub-stations for research with

some major research Stations are operating in many States with funds from and under the control of the Central Government.

High-Level Committee's Recommendations

The principal recommendations on research made by the several expert bodies during the past two decades as reviewed by the High-level Committee of the Food and Agricultural Ministry in 1962 may be summarised as follows:

1. Shortfalls both in coverage and intensity of research are considerable.
2. It is necessary to classify the existing research stations to reduce their number, where necessary, to avoid duplication or to improve quality, and to develop and strengthen them on a regional basis, wherever possible.
3. There is urgent need to define precisely the roles of the Central and State institutions and of the Indian Council of Agricultural Research in the sphere of agricultural research.
4. Central institutions should be 'quality' institutions concerning themselves with national problems and fundamental research including methodology and testing of innovations publicised abroad.
5. They should not establish branch stations, but should avail of the facilities existing at Regional/State stations in the execution of their programmes.
6. The Indian Council of Agricultural Research should function as a truly coordinating and evaluating agency, initiating new research work, strengthening research work in Central, Regional or State spheres.

State's Responsibilities

Coming to the States' responsibilities, there is little doubt that despite their inadequacy of resources, some of the States have shown remarkable capacity to have many colleges of agriculture and research, or experimental stations numbering as many as 60 to 80 in each of some of the States, with facilities and resources hardly adequate to support one well-equipped research centre with or without one Agricultural College.

Working under three to five departments, sometimes with as many Secretaries and more than one Minister, the State research and

educational centres have scope for dissimilar or even conflicting policies, though almost all have identical problems of low salary scales, poor library and laboratory facilities in most of the isolated research centres, and generally ill-trained scientists working with little guidance and often burdened with a load of non-scientific duties. There are instances of Agricultural Colleges, where one Professor had to teach four different subjects; of three Research Stations being in charge of one person; of research centres whose annual reports have not been written for three to four years at a stretch. The position in private colleges can only be far worse.

On the other hand, over 50,000 Village Level Workers with numerous Block Development Officers and Agricultural Extension Officers are said to be busy, according to one writer, in keeping their jeeps constantly humming and tea kettles boiling, while the farmers are reported to treat them with amused indifference. In our Agricultural Colleges, the agricultural graduates trained at least in some of the institutions are of very varying quality, a type of generalists, inadequately prepared to direct critical thought to solving problems which confront them.

Coordinated Efforts

As against this wide dispersal of uncoordinated efforts in education, research and extension, the recent examples of coordinated effort for evolving hybrids of maize, Sorghum and *Pennisetum* (bajra), provide a marked contrast. Within a very few years, hybrids with very high yield potentials and responsive to high levels of fertilization have been evolved under coordinated research projects operated with funds and support of several agencies—the Indian Council of Agricultural Research, the Rockefeller Foundation, the Indian Agricultural Research Institute, State Governments, Agricultural Universities and the Agricultural Research Service, USDA. The yield increase under these high yielding crops have virtually brought a revolution in the Indian Farmer's thinking and practices, unprecedented in the country's history.

The disparity in accomplishment between coordinated research projects and under the pitiful, repetitive and uncoordinated efforts at a multiplicity of State and Central locations is further accentuated by the disparity in the salary scales between the Central and State research workers as well as in the educational efforts between the States and Centre. The disparity in salary scales, quantity and quality

of research and education efforts as between the Government effort at the State level and that supported from private funds is even more striking.

Reviews of Research Projects

In contrast with the paper reviews of Commodity Committee sponsored research, the PL480 supported (ARS-ICAR Co-operative) research in India has a provision for on-the-spot negotiations for every research project to assess the real capacity and competence of every location for handling the research project, followed by annual technical and fiscal reviews. Sometimes, special technical reviews of each project is also being done by one of the most eminent scientists in each special field by bringing him over from the U.S. for this purpose. Such effective reviews in respect of *ad hoc* research projects in combination with coordinated research sponsored by I.C.A.R. are expected to make Indian research in agricultural sciences both productive and economic.

Educational Standards

In so far as educational standards are concerned, there was also an equally wide gulf between institutions not only under different agencies, but sometimes even within a State and when operating under the same administrative control. As an instance, the enrolment standards and requirements for the College of Agriculture in Dharwar and the College of Agriculture in Hebbal, both of which were under the control of the State Agricultural Department, Mysore, were different till both these Colleges came under the control of the University of Agricultural Sciences, Bangalore.

After Agricultural Universities were established and the enrolment standards as also the standards of teaching and examinations were enhanced and standardised, the disparity between these universities and the affiliated colleges under traditional universities has become much wider. To prevent or correct this, proposals for accreditation of colleges were mooted and considered many times, but no final decision has yet been taken on this important question of promoting a uniform standard all over the country.

Full Autonomy Essential For I.C.A.R.

After the Indian Council of Agricultural Research was reorganised broadly on the recommendations of the I.C.A.R. Research

Review Team, support for research is being channelled to Agricultural Universities through cent per cent grants for coordinated research projects. Although this has meant a significant step forward, the red-tape observed in financial screening of the projects militates against the smooth and expeditious implementation of the projects. These limitations are inevitable as long as the Indian Council of Agricultural Research is not allowed complete autonomy to manage its resources in the way it thinks best, instead of allowing a finance man to dictate or regulate the Council's activities.

The current practice of the Indian Council of Agricultural Research functioning through its Governing Body, Advisory Body, Standing Committees and Scientific Panels, all constituted with a majority of scientists and teachers and representatives of progressive farmers, is a healthy one. The debates in all these meetings are well informed, constructive and helpful except in the annual meetings of the Council when one could have plenty of oratory from politicians over subjects sometimes unconnected with the Indian Council of Agricultural Research's role and activities. So far as agricultural universities are concerned, the Indian Council of Agricultural Research has been its watch dog, though in terms of actual contribution the Indian Council of Agricultural Research has not been very effective, possibly because the bureaucratic set up at the Centre is less amenable to technical opinion.

Need for Expertise

While all these proposals and developments have the support of the Indian Council of Agricultural Research, the absence of a body at the Centre like the Cummings Committee to advise the States with expert opinion and scrutinise its draft bills and proposals, is keenly felt. Development of such high import cannot be left safely to the decision of a few overworked officials of the Indian Council of Agricultural Research. The existence of an expert body like the Cummings Committee was by itself an assurance to the States who were keen to seek its views directly whenever they had doubts to be cleared or felt the need for their guidance or assistance.

Mutual Responsibilities

While on the question of Centre-State relationship, and relation between the universities and the State agencies or Governments, it is necessary to emphasize the fact that the division of Centre-State

functions was largely an adaptation of the British sponsored Reforms following World War II. Whether the States are all competent to do the job and discharge their responsibilities fully if all the functions of education, research and extension in agricultural sciences are transferred by the Union Government to them, is a question on which there will be sharp differences of opinion. Agricultural Universities exist at present only in seven States, and not all of them are keen or are equipped to take over responsibilities of extension education. In all matters pertaining to agriculture and its development, we have to recognise the joint and complementary responsibilities and functions of the Union and State Governments. Likewise, the joint and complementary responsibilities of the State Departments of Agriculture, Veterinary, Animal Husbandry, Horticulture, Fisheries, Forestry etc., on one hand, and the Agricultural Universities, on the other, have to be recognised. Much has been done toward this end in Punjab and effectively too. The extension education programme in the Punjab and the pilot extension project on high-yielding varieties with OXFAM and GOI fertilizer in Mysore are examples of such collaborative effort.

Evidence of the gradually improving system in India is evidenced by (a) establishment of agricultural universities, (b) elimination of Commodity Committee-sponsored research, (c) re-organisation of I.C.A.R. under technical leadership, (d) development of All-India research projects on a coordinated basis, (e) increased integration of research, teaching and extension in several States and (f) continued Centre support for the above in the Report of the Education Commission. Indian agricultural research, education and extension are being rapidly modified and improved along the lines suggested by expert committees and commissions. To be sure, there are problems. Some of the changes are slow. But the progress is there and the problems are bound to be resolved soon.

To have effective universities, one must want to have them. Establishing a university far removed from the traditional pattern involves a major change of outlook among the representatives of the public who have the right to vote in legislature, among the State and Central Government key officers, who have to process the University's request for funds and facilities of all kinds, among the Pro-Chancellors and Chancellors, who are at the apex of University organisation and, last but not the least, the State departments from whom the institutions were transferred to the control of agricultural univer-

sities, and between whom and the universities, the functions have been divided for rendering more useful, effective and timely service to agriculture and farming communities.

SOME NOTABLE ACCOMPLISHMENTS OF THE AGRICULTURAL UNIVERSITIES

Self-Assurance and Status Quo Give Place to Innovations

The dynamic social and economic changes in Indian life during the past few years have forced the Colleges to make critical self-assessment. When everywhere the urge was for growth, flux and ferment, the agricultural institutions could not stand for *status quo* or stability. When the country with its agriculture was hurrying into the future, it required the agricultural institutions also to hurry along with it. They are expected to pass the tests of utility and value as service-oriented institutions. A lope of flamboyant self-assurance had no place. Men and women turned out by the packaging of mediaeval curriculum in the stereotyped college were not answering all the demands of the changing times. They lacked the will to achieve higher standards of excellence and of learning and were unprepared to serve the people with enthusiasm and dedication. Stirrings of dissatisfaction and reform were apparent and soon became a movement to shift emphasis from the traditional course of study to something more meaningful and useful for contemporary life.

Leaders of many institutions responded readily to such criticism and suggestions. Dr. A.C. Joshi's Committee was a step initiated by the Indian Council of Agricultural Research to substitute a new syllabus for Indian agricultural colleges.¹ This reform, however, left no significant mark on the academic history, so that copies of the model syllabus suggested by the I.C.A.R. are hardly to be found in several libraries today.

An Agricultural University breathes the spirit of change but the enterprise has only commenced. In the nature of things, it can never be completed in a short space of time. It has to grow, advance enlarge and accumulate. It has to leave to posterity to carry the work onward toward completion. Those who have conceived this concept

1. A Model Curriculum for Degree Courses in Agriculture for Agricultural Colleges in India (1962), I.C.A.R., New Delhi.

and have tried to implement it with imagination and unremitting zeal, may not see their goal attained. But, if they have not had the achievements they desired, their dreams and visions are being transferred to others, persons who are yet young and who can be relied upon to carry on the work ahead.

A well-known Indian leader has said: "The atmosphere in our Universities and Colleges is dulling to the spirit; at best, it is merely academic; at worst, it is that of a market place where recipes are sold for passing examinations.² He adds that the student community has been given no ideal to work for, that can lift them up from the mud of parochialism, casteism and provincialism and that can provide them with a channel for self-expression and adventure in living. He believes that the problem of countrywide student unrest, if it goes on recurring, would destroy not only the very edifice and with it the student community, but also destroy eventually the country itself. He affirms that unless remedial measures are found and adopted to remove the many educational deficiencies, it would be fruitless to blame the students for their predictable reactions to them.

Faculty

The University as a place of study and instruction is, at any moment, what the faculties make it. Progress must come mainly from the faculties. The character of educational institutions is determined among other factors by their faculty. When trying to discern how faculties differ from one University to another or from one campus to another campus, the appropriate question to be asked would be—how does the faculty interact with the students? The ratio of faculty members to student numbers may convey little, for the ratio sheds no light on the actual division of faculty time on undergraduate teaching, post-graduate teaching, research, extension, student counselling, etc.

A research-oriented faculty naturally emphasizes its duties to the advancement of knowledge. Research-oriented faculties are more typical of agricultural universities than traditional universities. In most of the agricultural universities, no teacher can escape from his research responsibilities, while quite a few have also occasional extension education responsibilities.

2. Jaiprakash Narayan—Convocation address, University of Delhi, December 23, 1966.

A reputed educationist is said to have remarked that two kinds of men make good teachers—young men and men who never grow old.

If the faculties are important, it is a vital question that the quality of these bodies is maintained and improved. The pay has been too low to attract eminent men to the teaching profession. The need, being not necessarily a demand, someone has to make the demand. Since a University cannot be managed or even established with low-paid, motivation-free individuals, like a factory or mill, the University has to be firm on this question of salary.

Equally firm the University has to be in its policy of weaning away the teachers from the temptations of external examinations. Many teachers have been earning fairly substantial amounts by taking up external examinations, and the vice has become so widespread that legitimate work has suffered.

Along with the poorly paid faculty, another evil was rampant in Indian colleges of agricultural sciences, and this was the large size of classes. Increased enrolments were the result of political or administrative decisions, taken without any regard to the availability of classroom or hostel accommodation or the adequacy of laboratory equipment or teaching staff strength. A comparison of staff strength as between the colleges prior to 1960 would reveal a chaotic pattern. Whereas in one college the class was so big in 1964 that two to three batches had to be formed for practical classes in the laboratory or field, the staff strength remained practically the same in this college as in the other where only one batch had to be dealt with. Both these colleges are currently constituent colleges of an agricultural university with identical teacher-student ratio.

Universities that provide for additional full professor positions in a department appear to have an organizational pattern that gives staff members an incentive to grow and work. It also helps to prevent fragmenting departmental sections into additional departments.

As an institution of higher learning every University and college should always mirror faithfully the best in the State's character and capacity. The good effect of a judicious appointment is inestimable. The good is penetrating and diffusive. The mode of *securing the best persons for the faculty* should be such as to ensure perfect impartiality. If the selection is based on merit, the stimulus to intellectual cultivation would be greatly increased, and the honour of an *academic appointment* immeasurably augmented. The system of *selection*

tion by experts from outside the Institution is probably the best method which could be devised. If the selection is left to the Boards, with no deep interest in education, they are liable to influence from ulterior motives, either sectarian, personal or political or parochial. With the autonomy enjoyed by most of the agricultural universities, the recruitment to the faculty has improved considerably to secure persons with better talents and dedication.

The development of a sound and energetic faculty being the major key to a successful university, the agricultural universities have to adopt and follow very carefully worked out plans and procedures to build this vital part. In the University of Agricultural Sciences at Bangalore the terms and conditions of transfer of the staff were discussed in detail prior to the transfer.

The recruitment and selection procedures prescribed in the Statutes further helped weed out the unsuitable personnel, and to secure the services of those whom the specialists and the concerned University officers considered suitable. The relevant provisions of the Statutes are given below:

"The Selection Committee for these posts (Teachers) shall be comprised of at least three of the following members.

- (a) Three scientists or educators of not less than ten years' experience, outside the University, and fully conversant with the working of an Agricultural University, of whom one shall be the Chairman.
- (b) Dean of the University.
- (c) Director of Instruction in the college concerned in the case of teachers, Director of Research in the case of research scientists, and Director of Extension in the case of extension personnel.

"The Selection Committee shall review applications for the posts and consider the qualifications of all applicants including University Officers and other employees who may be qualified for the post. If a qualified candidate(s) is found, the Committee shall recommend in order of merit not more than three qualified persons for appointment."

A University is upheld by the public affection and respect. In the loyalty of its faculty members and students it finds strength and courage. When high dignitaries visit the campus such as during Convocations or similar ceremonial occasions, the University takes pride in the disciplined and dignified bearing of its faculty members and

students. These are the occasions indeed where the tone of the University is under test.

Curriculum and Teaching Methods

The abandonment of the old curriculum with its external examinations and its replacement by a more complex curriculum with internal evaluation is perhaps the most important single consequence of the reform as reflected in the introduction of Agricultural University concept. This is of special significance in the context of immense pressure for superficial education something to give reputation and polish at the least expense of time and effort. One becomes "an educated man" by virtue of getting a parchment in a Convocation—this was an oft-repeated allegation, which cannot apply to the reformed institutions under the current agricultural university set-up.

When the trimester system was introduced in these universities, the teachers who brought many prejudices and performances derived from their previous training and from their personnel idiosyncrasies found it difficult in the beginning to adjust themselves to the new system of teaching and examination. Some had been teachers for long under the old system; some had been trained under the Indian and English Universities where semester or trimester systems were not followed. The free and frank discussions during the orientation helped to remove misunderstandings. Fortunately, many teachers had a model to be followed, a model in which nearly half of the teachers in at least one university had already experience in the U.S. institutions through the participant programme.

The following figures of faculty members having educational and professional experience outside their own State may be of some interest in this connection.

Teaching Staff Strength and Trained Participants in 1966,³

	Year of operational colleges start.	No. of colleges.	Positions sanctioned.	Positions filled.	Number of participants trained.
U.P.A.U.	1960	4	213	146	32
Udaipur	1962	6	326	291	64
Punjab	1962	7	438	353	57

3. Report of the Joint Indo-US Technical Assistance, (November 1967), USAID, New Delhi.

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Orissa	1963	4	193	139	59
J.N.A.U.	1964	7	243	214	75
A.P.A.U.	1964	7	404	373	78
Mysore	1965	3	207	125	62

The large variation in teaching staff strength between the universities will become more meaningful if the average is worked out per individual college. On this basis Punjab and Mysore possess the strongest faculty in terms of sanctioned positions, while Jabalpur and Orissa are on the other extreme.

The number of participants trained is the largest in A.P.A.U. and Jabalpur, but considering the number of trained participants against the sanctioned positions for teachers, the position appears favourable in Jabalpur, Mysore and Orissa.

All the agricultural universities have now a four-year curriculum for agriculture, while in Veterinary and Agricultural Engineering Colleges, the curriculum is for five years.

Each course in a semester or trimester is self-contained and complete. Final marks are given for each course upon the termination of study and examination in that course. The earning of a degree by a student is determined by the cumulative marks in the individual courses.

Students may elect to establish a major in any one of the Divisions of the University other than the Division of Basic Sciences. It is the purpose of the curriculum to provide that all students have a basic fundamental understanding of the State's agriculture and the underlying basic sciences.

The curricular changes introduced by the agricultural universities since their inception together with an appreciable improvement in the attitudes of the teachers, in course content and teaching methods have greatly upgraded the standard of teaching agricultural sciences. There is great awareness among these universities to encourage coverage of many different fields in an integrated or cohesive manner. The provision for a good deal of flexibility of curriculum permits deep penetration into a selected field of knowledge and leads to some degree of specialization at the under-graduate level. A certain degree of diversity in individual training has thus been introduced enabling students to acquire a degree of special competence in the fields of their greatest interest and capability. In a field which presents vast technical and practical problems such as in agriculture,

training all students exactly the same way as in traditional type colleges, will not help the country to deal with all problems resource fully.

Examinations

The external examination which has merited strong condemnation by the University Education Commission as one of the worst features of Indian educational system has been completely eliminated by most of the agricultural universities, while some have been able to do this in part. Udaipur University having both the affiliated and constituent colleges, has introduced internal evaluation only in its constituent colleges of agricultural sciences. In some universities with a large number of campuses, the maintenance of uniformity in evaluation standards presents a problem of some magnitude, but each of these universities has been endeavouring to devise solutions to it. Until a system of self-accreditation is adopted by each institution to maintain high standards, this problem is likely to continue.

The content of examinations has also been modified in several universities in order to better measure the specific kinds of student competence and to serve as effective aids in the teaching process.

Internal examinations make for more effective overall student-teacher relationships, permit adaptation of courses to local situations and problems, to new knowledge and to particular competencies and interests of students and instructors—thus making courses much more challenging both for students and instructors and developing enquiring attitudes towards the subject-matter.

Advantages of intermittent examinations, and other devices for measuring student performance over the erstwhile terminal or annual examinations are: (a) they encourage constant study throughout the year and thus develop in students good work habits; (b) they greatly improve overall classroom performance by keeping students abreast of subject matter; (c) they permit the instructor to appraise his teaching and to make necessary modifications; and (d) they permit use of examinations as effective teaching aids. Intermittent examinations are supplemented by a final examination which covers the course as a whole and contributes about 1/3 of the students' total marks.

Library

The Library is the most important tool of education in a modern

educational institution. Library is the very first necessity, the life and spirit of a university. Comparatively little attention and money have been devoted to the library at the time of establishment of most institutions in India.

The use of reading material is an integral and indispensable part of the educational process. Yet, before the agricultural universities were established, it was customary for professors in many colleges to have their own sectional libraries while the student libraries had an indifferent collection of books with few, if any, worthwhile journals or periodicals. Even these inadequately equipped libraries were not readily accessible to student use, because the books were kept under lock and key, and released to students only on specific request to the librarian. This inhibited the free and informal browsing among the books which alone can help to whet the students' appetite for further reading. Often these libraries were kept open almost precisely when the students were engaged in classes.

The agricultural universities have realised their responsibilities to the students to make all except the rare books easily accessible. The locks are no longer there in almost all libraries and open shelves are almost now the rule in almost all institutions. The libraries are also now kept open during the hours when students are not engaged in classes. More roomy, clean and orderly libraries have been established or the old libraries improved and enlarged to become well lighted and ventilated and provided with enough reading seats. The number of books and periodicals are also being increased rapidly. Qualified and competent librarians have also been appointed in most agricultural universities. The teachers are also required to stimulate reading habit among the students and make students to do library work as a direct part of their course of study. Experience has shown that by these newer teaching methods and by the introduction of semester or trimester system and internal evaluation, students are making significant use of libraries, so much so that in certain agricultural universities sizeable alteration in library facilities had to be made several times in the course of the first two years of switch over from the traditional methods of teaching to the present methods.

The University of Udaipur is now building its library on the new campus. This facility is at the hub of the new campus but even more important, the building was designed to serve students and staff. It also has provisions for services such as duplication, micro-filming and similar functions demanded of modern libraries. This

building is an example of architects learning with librarians, staff and administration in planning a service-oriented facility. This same concept is the key to campus planning in the other Indian agricultural universities.

Facilities

The location of a university, its libraries, classrooms, laboratories, residential facilities, shopping centre, playing fields, etc., constitute the physical features of academic life. They form, therefore, a part of the total atmosphere surrounding the faculty and student body.

Location in a far a way relatively inaccessible place may create some problems as much as a university lost to view in an urban complex.

Much effort has been devoted in preparing master plans for the new campuses of some agricultural universities. The campuses of U.P. Agricultural University and of Punjab Agricultural University at Ludhiana and Hissar have already been planned and developed with great care. One U.S.A.I.D. Consultant, has actively assisted Bangalore, Rajendranagar and Bhubaneswar Universities in this matter. Expert architects chosen in consultation with him have prepared designs to suit the number and level of different educational programmes, without sacrificing the beauty of the setting or the convenience of the faculty and student body. Some of these campuses, when fully developed, are expected to be both modern and aesthetically important additions.

Farm and Resources Development

One of the most noteworthy accomplishments of U.P. Agricultural University is in the development of its 16,000-acre farm in Pantnagar. Although this farm had been cleared, reclaimed and was under cultivation by the time it was transferred to the University, it was developed substantially to yield unexpectedly heavy revenue. The evolution of hybrid maize and the successful introduction of Mexican wheats, together with a carefully planned drive by the University authorities, contributed to an appreciable increase in the income, (reported to have risen from 10 lakhs to about Rs. 60 lakhs), most of it through a massive programme of seed production. Whether such commercialised production is a legitimate duty of the University or not, the fact remains that but for this steep increase in income

through the exploitation of its farm resources, the University would have had a difficult time to balance its budget. Incidentally, the greatly increased crop yields from hybrid maize, Mexican wheat rotations going up to 50 maunds or more of maize, followed by at least 40 maunds of wheat to the acre, was a revelation to neighbouring farmers. In the experiment station the trials with sugar beets were found promising with yields reaching to over 500 maunds per acre with the mill recovery of sugar at 15 per cent or over by weight. Trial with herbicides was yet another successful demonstration in an area foul with weeds. This University which has the distinction of spearheading a new concept in agricultural education has also demonstrated its capacity to rapidly transform traditional farming into modern, scientific agriculture. When the history of agricultural education is written, this University will be remembered for having laid the foundation of a revolutionary era in agricultural education in India.⁴

Research

It was a widely held belief not long ago that universities are conservative cloisters, though autonomous. The agricultural universities have, on the other hand, fully demonstrated their readiness to respond to the desires and demands of the country willingly or even too eagerly. The policy of drift was not for them. Innovations in curricula, teaching methods and examinations are not the only areas where these institutions ventured to break new grounds. In the fields of research and extension also, they have been able to show in the short period of less than eight years an impressive record of public service through several discoveries and innovations, all of which have been a sort of traumatic experience to those with the ivory-tower attitude.

Punjab Agricultural University has, for instance, produced during its short period of existence several very significant results, some of which have had a great impact on Indian agriculture generally and on agriculture in the Punjab in particular.

A wheat reaper has been designed to be drawn by a pair of bullocks. This is claimed to perform the operation at about 60% the cost now incurred with manual labour.

4. Subramaniam C.—Address at the third Convocation of the U.P. Agricultural University, Ministry of Food and Agriculture, New Delhi.

The University has also succeeded in establishing for the first time in India colonies of the Italian bees capable of yielding 80 lbs. of honey per colony per year against 10 lbs. yielded by the Indian bees.

A vaccine has been developed at Hissar for controlling Tick fever in poultry.

These many-sided achievements of this young University are primarily the result of Mr. Thapar's efforts to secure the best available talents. The most outstanding achievements of the University being in the sphere of Plant Breeding, the credit for all these has to go to Dr. D.S. Athwal whose discoveries have radically transformed in a short period the cropping pattern not only in the Punjab but over wide areas in the rest of India. It was in the spring of 1965 that Dr. Athwal released the first known hybrid bajra (*Pennisetum typhoides*). It not only yielded twice as much as previous strains but was highly resistant to drought and some diseases. He also selected from among the thousands of Mexican wheat breeding lines imported to India towards the end of 1963, the promising PV 18 which yielded in the 1966 harvest 2.5 to 3 tons an acre against the Punjab average of 1,100 pounds per acre. This was a red-seeded wheat while Punjab's preference was for an amber-coloured grain. Dr. Athwal found a sister dwarf line with the amber-coloured seed possessing the high yield and disease resistance qualities of PV 18. This strain he named as Kalyan 227. By the summer of 1968, this new wheat is expected to cover all the wheat acres in Punjab an achievement of which Dr. Athwal and Punjab Agricultural University could be legitimately proud.

Other agricultural universities also played significant roles in collaborating with ICAR and the Rockefeller Foundation in participating in the pursuit of productive research under several coordinated research projects. The evolution of several hybrids and high-yielding varieties which are so eagerly being sought after by the farmers all over India is a work done on a coordinated basis, with agricultural universities taking a prominent part in all such work.

Yet another innovation which some of these universities have made was the holding of seminars in which research scientists and field extension staff of State Departments collaborated in evolving the best package of practices suitable for the various crops and agro-climatic zones. The proceedings of such seminars provided a most reliable set of practices to be recommended to the farmers in all parts of the respective States.

Public Service

Although integration of teaching, research and extension is yet to be evolved in a satisfactory measure in all the States where agricultural universities have been established, the success already achieved in this direction has been such as to make the public accept these institutions as the best available media for public service in agricultural sciences. The service ideal of these universities will not by itself earn continued support of the public, unless accompanied by accomplishments. It is fortunate for these institutions that their establishment synchronized with the turning point in India's agricultural history. The dedication of the first agricultural university in India practically coincided with the release of the first double-crosses of maize, with the highest yield potentials ever known in India. By 1966, equally record-breaking harvests were registered by hybrid Sorghum, hybrid *Pennisetum*, L.R. 8 paddy, Mexican dwarf wheats and Taichung paddies. All these awakened the Indian cultivator to the rich possibilities of scientific farming with seeds of high yield potential in combination with good agronomy, accelerated plant protection measures and adequate fertiliser applications. By identifying themselves very closely with these developments and by providing for effective service to farmers to help them secure much richer harvests by the adoption of the latest technology and know-how, the agricultural universities could get themselves accepted by the public as the most effective media of service. The evolution of hybrid *Pennisetum* and a very extensive and imaginative extension education programme with field days and farmers training courses made the Punjab Agricultural University also a shining example.

Public relationship has to be the cornerstone of every service-oriented institution. With the climate congenial for establishing a quick rapport between universities and the public, the agricultural universities lost no time in developing their service programmes in range and depth. By such readiness to adjust research and extension education programmes to meet the changing situation, the universities would be able to maintain the best to relationship with the farmers.

It is estimated that the Soils Testing Laboratory at the Punjab Agricultural University, Hissar Campus, performs one-fifth of all the soil tests conducted in India. This streamlined, scientifically programmed service is providing the farmer with needed information on input requirements. The results of tests are returned promptly so as to be of the maximum benefit to the cultivator.

No service in agriculture is as efficacious as that rendered promptly. If agricultural universities operate in a bureaucratic manner, delayed response becomes the rule rather than an exception. This emphasizes the need to cut across all redtape when service to agriculture is concerned.

In the ultimate analysis, the farmer recognises that agency as useful, which is ever keen to respond to a call instantly, and renders the best available service with enthusiasm. Satisfaction in rendering such service is the only reward for the extension personnel.

Specific Extension Projects

Among the notable early accomplishments of agricultural universities in the field of extension the one that has attracted considerable attention is a bold venture which the University of Agricultural Sciences, Bangalore, undertook to meet the food deficit in the State of Mysore. The USAID Advisor on Extension, the OXFAM and the University jointly developed a programme which provided for the import of fertilisers to India by OXFAM, for large-scale popularization of hybrid maize in an area enjoying assured irrigation facilities. Fertilisers were in very short supply at the time, while the foreign exchange resources of the Government of India were difficult. The offer of the OXFAM in 1966 to supply 5,300 tons of fertilisers on rupee payment was, therefore, most welcome. It was thought that every ton of fertiliser could help to yield more than five tons or more of food within the country in a matter of a few months. The fertilisers were to be sold to the farmers at controlled rates, and high-yielding, short duration crops like hybrid maize were to be raised over about 10,000 acres of land in the Tungabhadra Project (T.B.P.) area of Mysore State during January and February 1966. This is the area which has over 400,000 acres under assured irrigation.

The strong official support from the Divisional Commissioner and the State Government was an asset to this project. A series of preliminary contacts were made in the area by the University Staff. Later extension efforts were diverted to meet groups of progressive farmers through a series of evening or night meetings to convince the farmers to try the new crops on a trial basis. By the end of January a few demonstration trials were established for further educational work. These initial efforts resulted in encouraging success. A number of field days, farmers meetings, group discussions were held to continue the extension education programme with the result that the influ-

ence spilled over even beyond the Tungabhadra region.

By the end of September 1966, over 13,700 acres of hybrid crops were raised in the T.B.P. area and also to a smaller extent around Bangalore. This consisted of about 8,200 acres of hybrid maize, 5,300 acres of hybrid jowar (sorghum) and 200 acres of hybrid bajra (*Pennisetum*)—all noted for their high-yielding potentialities. All these achievements occurred in less than eight months. The success of this programme was possible not only due to the speedy supply of the fertilisers by OXFAM but also due to the success of the University in securing adequate quantities of hybrid seeds from Rajasthan, Hyderabad and from different areas within the State. The National Seed Corporation also helped in this regard.

But for the OXFAM-supported programme the spread of hybrid maize in T.B.P. area would not have been easy or possible within a measurable period of time. The programme brought out possibilities of pushing up the yields in black soil areas of Tungabhadra.

Around Bangalore, on the other hand, conditions are more favourable and earlier work done by the University in the preceding year had already produced a self-generating effort among farmers. There was a continuous pressure from this area on the University because of the failure of the summer millet (Ragi) crop which was affected by a new disease and pest complex. Under a new project assisted by OXFAM, AID, the Government of India and the State Government with a target of 20,000 acres during 1967-68, the yield of hybrid maize in this area has averaged about 35 quintals of grain with 15 tons of fodder per acre, while in the T.B.P. area, the average ranged round 25 quintals of grain and 10 tons of fodder per acre.

The University also took up the problem of finding suitable outlets for the new crops. At present, partly as a result of the University's efforts and mainly as a natural course of development, Bangalore and the surrounding districts consume maize as one of the foodgrains in combination with other grain and, as a result, a demand for hybrid maize has expanded considerably. More than half a dozen business firms are also currently providing a ready outlet for the grain. It was no problem so far as the local consumption of jowar and bajra is concerned.

From the viewpoint of the University, this campaign provided an excellent opportunity to apply the various techniques of extension education. The work that began with the contacting of rural leaders, group discussions, night meetings and demonstrations, was expanded

into field-days, farm visits, educational tours, conferences, seminars and exhibitions. This work was further supported by mass communication media through special extension literature, publication of feature articles, highlighting success stories and release of press reports. All these provided a rich experience in conducting extension work to achieve quick results in improving farm practices.

The extension education activities of the Punjab University have kept pace with the tremendous progress in plant breeding. Organising refresher and in-service courses for the service personnel of all categories connected with agriculture the Extension Department has tried to convey promptly the newly-emerging knowledge to the farmers. Practical education to farmers was another noteworthy feature and an impressive meeting of the farmers held during the wheat harvest season in 1966 was a memorable event.

Student Welfare and Discipline

The various analyses that have been made regarding the student unrest which, to a large measure, means the failure to safeguard student welfare, indicate that such problems arise largely due to (1) the tidal wave of students flooding Indian institutions making it impossible to make personal interaction between students and teachers, (2) deteriorating standards in teaching, (3) unsuitable curricula and examinations, (4) inadequate facilities including hostel accommodation, (5) absence of any mechanism for redressal of grievances, and (6) uncongenial climate or atmosphere for a healthy corporate life to promote student growth and welfare.

In 1955, the University Grants Commission put forward various suggestions to deal with these matters specifically mentioning (1) the appointment of a Dean of Students to look after the students welfare, and (2) placing groups of 15 to 20 students under the care of a teacher, who would act in cooperation with the Dean of Student Welfare. It is found that the majority of Indian universities have not implemented these suggestions over the past nearly a dozen years.

On the other hand, the latest report of a University Grants Commission committee states: "A large majority of our students are in colleges which are managed by private societies. These colleges are run by persons who (sometimes) are themselves not properly educated and lack discipline. They are often unscrupulous and interfere with the proper administration of the institutions." If this be the case of institutions where some of our students receive education, we are

likely to yield to pessimism about our future.

But there are many who see even in the present swelling tide in Indian college and university campuses a greater opportunity for serving the youth and preparing them for participation in the rebuilding of the nation. Until and unless the universities and colleges rise to this challenge, the forebodings of the pessimists are likely to come true.

Student unrest or welfare cannot possibly be tackled by the mere appointment of a Dean of Student Welfare or by institution of student counselling. To entertain hopes for a solution through such means would be to ignore the many sociological, educational and political factors involved. The student is necessarily responsive to diverse aspects of a much wider and more complex social and cultural matrix. The stimuli from family, community and society as a whole are the most prominent influences.

This does not mean that the university or college has a less important role in shaping the student. A pattern of values, attitudes, ideas, ways of looking at things, rules of conduct, and the like can be different and are different between institutions; and all these are passed on, more or less unchanged, from one student generation to the next in each institution. Assimilation of this culture is the major experience of freshers. Exposure to such environment provides the basis for a sense of identity. In this sense, the principal effect of an institution is to socialize students, to integrate them more fully with the prevailing atmosphere.

However, the culture that is distinctive within an institution is naturally different from the prevailing culture outside that institution. The students cannot remain unaffected by it, though their reaction to outside influences may vary. What each institution should aim to do is to structure the academic environment, so that the unintellectual or anti-intellectual pressures from outside are reduced.

To make each institution a community by itself, with its special characteristics and virtues, is the goal of every true educationist. This can only be possible when all of the students and all of the faculty know each other or at least there is a mechanism providing for close and frequent contact between sections of students and selected faculty members. Student counselling and frequent meetings between administration and student bodies could be very effective solvents for misunderstandings as well as for promoting identity of interests. It calls for a technique "which can personalize the

student's life and give him a sense of belonging, a feeling of relevance." The latest recommendations made by the University Grants Commission Committee of Students Welfare is that no college should ordinarily be allowed to have more than 1000 students, so that the community of students and teachers will be a manageable unit and opportunities for organised community life can be developed. There is no doubt that the difficulties in the way of changing the structures of our institutions by a simple division into a number of small, manageable institutions are tremendous. But this need not prevent us from making personal interaction between student and teacher meaningful and effective. We have also to concede that the difficulties in changing the personality structures found in Indian youth is easier than changing the powerful forces in our society. Pressures from the contemporary society at large areas may not be easily amenable for institutional treatment; yet the student is the best available material for changing the traits of society. On this ground alone, whatever efforts universities can put in for changing his attitude, outlook and conduct are definitely worthwhile. Investment on education towards these ends deserve the highest of priorities, if education is to be the foundation of good citizenship.

The semester, trimester or the term system of education as introduced in the Agricultural Universities in India, broadly on the lines of the system in use in the U.S. and many other parts of the world, recognises the different pace of academic progress in individuals, and provides through choice of courses and frequent tests as a part of the continual internal evaluation, scope for the retarded learner to catch up. Where a person is too slow or has for reasons beyond his control could not keep pace with others, he is made to repeat the course, in the next semester, trimester or term, instead of facing the frustration of repeating a whole year as at present under the traditional system. Provision is also there for a student to proceed to the next semester, trimester or term even when one has to repeat a course.

This new system as introduced in the University of Agricultural Sciences, Bangalore, together with the compulsory N.C.C. training as a curricular subject, has reduced idle hours, on one hand, and stimulated library reading to an appreciable extent, on the other. What is more, the student under this system is able to check his progress under an open and verifiable evaluation system, which is not possible under the external examination system, prevailing in traditional universities.

The teenage is a time of transition, demanding adjustments to profound biological, emotional and social changes. To restore a social climate among the college youth which will reward independent thinking, personal morality and enlightened cooperation in place of going along with the crowd, unprecedented efforts may be necessary and could be justified. If Indian youth are prevented from passively accepting dictation by the crowd within or without the campus or from surrendering the exercise of their freedoms, we will be virtually making them independent of authoritarianism and restoring them the freedom, which they deserve.

Instead of the educational institutions always taking a defensive position, one would like them to assume the leadership in identifying the weaknesses and shortcomings in institutions and institutional systems and offer bold and imaginative solutions. An educational organisation which is relatively timid, anaemic, limited and is a loosely integrated affair, soon outlives its usefulness, whatever usefulness it may have had.

The working of student counselling could best be illustrated by the experience of one of the teachers engaged in student counselling.

This teacher is of the rank of an Assistant Professor. He is in charge of 20 students of the first year class of the Agricultural College, Hebbal, and all these students are under the trimester system of education subjecting to internal evaluation. In accordance with the guidelines issued by the University, he prepared a brief questionnaire to the 20 students and obtained particulars about them in order to understand the problems of each. He then contacted the students in the Canteen, hostels, play fields, and their residences. If students failed to meet him on their own, he made the contacts himself. Probing into the problems of each under the broad headings of curricular, extra-curricular, personal and miscellaneous problems, he tried to find solutions or render such help as he could. In many cases, misunderstandings in the minds of the students were solved by patient discussion and explanations. In a few cases, a little improvement in hostel facilities was found possible through the intervention of the Warden or Director of Student Welfare. In a very few cases, the problems were such that they could be tackled only at the highest level, through the periodic meetings of the student body with the key officers of the University and the Vice-Chancellor. In one case, the teacher had to persuade a colleague of his to give special coaching to one student to make up his deficiencies.

This teacher, together with his wife who is also in the teaching profession and is equally interested in student affairs, visited the homes of some of the students in an effort to solve some of their problems in consultation with their parents. These visits seem to have been greatly appreciated by the parents, some of whom expressed the view that this new approach would indeed rationalise the student-teacher relationship in a manner no other attempt could possibly do.

The experience of this teacher in dealing with students, generally considered as troublemakers, is not without interest. By mingling freely with such students, taking them a couple of times to the cafeteria to be fed at his cost, listening to the running commentary of the cricket tests between India and West Indies jointly with these students, the wall of suspicion began to disintegrate and a bridge of understanding established. The teacher is firm in his belief that even the worst of our youth could be brought round by persistence, patience, some amount of diplomacy and sympathetic understanding.

Periodic meetings held both in Hebbal and Dharwar Campuses by the Vice-Chancellor with the student body after a tea party have proved very valuable. This suggestion emanated from the former Chancellor, Mr. V.V. Giri, who is now the Vice-President of India. Himself a veteran labour leader and administrator, besides being a shrewd judge of men and matters, the Chancellor was able to discern the value of personal and social contacts between administrators and students to neutralise misunderstandings. At these meetings, students give free expression to their grievances, suggestions and views on a very wide range of subjects. With the assistance of all key officers of the University, these meetings provide a forum for frank discussion with earnestness on the part of the University to find a solution.

Student counselling is not a mere palliative, but a continuous programme to be adjusted and operated according to the changing needs of the situation. It can be, and should be, one of the most potent and practical remedies for most of the student ills of today and tomorrow. It is required in the performance of the most basic responsibilities of every educational institution.

The system of discipline used in colleges in the 19th century down to the early years of the 20th century was an aspect of paternalism, strict and authoritarian. Wardens, principals and

teachers functioned as spies or policemen or judges, sustaining a rigid and often trivial code of laws. They could not endear themselves either to parents or undergraduates.

With increased education and urbanisation, the recent college student is cast in a different mould. He knows his rights and is prepared to stand for them.

Administration

An institution is shaped largely by the personal idealism or ambition of one man. It is the man taking initial risks who will be crowned with accomplishments. The institution's reputation is built on the basis of his personal efforts, on the plans he develops from day to day, hour to hour, and on his achievements. He could be "the innovating Ford or the organising Rockefeller" of the intellectual, educational or scientific world. His personal qualities like honesty, integrity, courage, clear thinking, dynamism and dedication are no less important than are his failures and successes in administering the institution that is largely his creation. The risk he takes may be a flop, the success he achieves may be chimeral, the support he has may be slender, but he should possess unlimited faith and courage in the cause to which he is wedded, if he is to persist in spite of all set-backs. This is the type of roles that the builders of these new institutions have to recognise.

Some of the Agricultural Universities have had courage and faith to introduce far-reaching administrative changes already, such as to make a significant impact on the value and the promptitude of services rendered by them. In one instance, it has been possible to reduce the existing staff strength by about 25% by suitable reorganisation of research and yet introduce higher pay scales to attract better talents. It has also been pointed out that economy by administrative reorganisation has been effected by introducing procedures wherein responsibility is vested with the officers to dictate replies and deal with all matters of office correspondence themselves rather than push the files from one table or office to another. The principal aim is to clear the correspondence on the day of receipt and, to facilitate this, every morning in the beginning, and later once in two days a staff meeting is held for about an hour, when all important matters are discussed and decisions are taken. Truth, openness and publicity are said to be the safeguards of free institutions. The affairs of a university should, therefore, be conducted

in the full light of day. Light is an excellent disinfectant and it is essential to healthy life and growth.

Summary of accomplishments

To sum up the accomplishments of the agricultural universities in the short period of their existence, the following account given by the author in a recent speech relating to the university with which he has been connected, may well serve as an illustration of the general progress made by the seven universities, with such variations as became necessary or inevitable under diverse circumstances :

“Resident Teaching

When we took charge of the colleges, we found they had been affiliated to two universities but administered by two departments. This had resulted in such a gulf between themselves, in entrance requirements, curricula, examinations, staffing pattern, pay scales, etc., that we thought the best thing to do is not only to plan the curricula and examinations completely a fresh but also create a staffing pattern for the university strictly in tune with the requirements. We allowed all who wanted to go the State departments to be repatriated and accepted all others who wished to remain, on condition that they could get our pay scales only if selected by our Selection Committees. We created the minimum staff needed according to the teaching load, based on the curricular requirements and also the requirements of research in our experiment stations and laboratories. As a result, we effected an overall savings of 25 per cent in the staff strength.

We also adopted the trimester system of teaching from the current academic year, providing for one Professor to be in charge of teaching of a subject in the University instead of in each college. This promoted homogeneity and identity of interests.

“Research

We reorganised the entire research set-up, by limiting research to five regional stations in each of the five agro-climatic regions of the State, and retaining the remaining 30 experimental stations for large-scale tests or for adaptive research or to be run as efficient modern farms. We also separated farm research from farm management for the benefit of both. Believing that better-paid scientists are more important than a large army of supervisory personnel, we

created more personnel of higher category and reduced severely the number in lower ranks, so that a considerable saving in personnel alone was found possible in research set-up.

“Extension

Considering that the Departments of state government have their own field staff for extension, we were keen not to duplicate their activities, but to prove to them that our intention is only to supplement and complement their activities. Therefore, we undertook only a few pilot projects. We have also instituted several survey teams to identify problems and determine facts, which are periodically publicised in the local papers and help shape our technical programmes.

“Administrative

Wedded as we are to democratic procedures, we considered it advisable to allow all our key officers to participate in decision making. We feel that this has helped to promote the identity of interests and understanding, besides expeditiousness.

“Student Unrest

Two of the features we initiated—student counselling and monthly meetings with students—have proved encouraging experiences. The meetings are very helpful, for they seem to be effective solvents for all misunderstandings.”

The foregoing pages denote that in their short period of existence, agricultural universities have more than justified their role and given ample indications of their utility and effectiveness. Significant gains have been made in numerous fields of activities, winning public confidence in the universities as real instruments of agricultural progress. Climate for creative work has been created, and this by itself is a great advance. Teachers' and scientists' salaries have gone up, and more of these with better talents and higher degree of competence are being trained and equipped to strengthen every branch. The libraries are being rapidly and greatly enriched and expanded and both students and workers in all university departments are drawing continued sustenance from these. The superannuation age of talented and productive scientists and teachers have been raised to 64 years from 55 to enable the country to derive benefit from them during their peak period of usefulness.

Administrative superfluities and frills have been cut out and service to the public has been not only tangible and appreciable but also expeditious. The curricula and examination systems, teaching and research methods have changed radically for the better to be in conformity with modern requirements. Recruitment of personnel has been improved very considerably and the manner and usefulness of supervisory and administrative services have been altered to confer the much-needed benefits. The inestimable value for the present and future of Indian agriculture from a reorganised set-up concomitant with the integration of teaching, research and extension education is not the least important of the advances made. These and many other benefits accruing from the adoption of the new concepts of education, research and extension have been possible through hard slogging over a period of time when these infant institutions had to struggle against apathy, ignorance and opposition prevailing all around. Agricultural progress is still a distant goal and the road to travel is still full of detours and pot-holes, but the beginning that has been made is assuredly one to instill hope for the future.

The doubters and detractors notwithstanding, these institutions have made an impact on the Indian scene. They have done more than increase the quantity; they have promoted quality. Their success according to some standards might be small, but weighed against the tremendous difficulties they had to contend with, the success should appear as significant. Doing their work faithfully and with perseverance, they are bound to ultimately prevail and commend themselves and their work to the public. It is only by the public affection and respect can these institutions be upheld, while the loyalty of their faculty members and students gives them strength and courage. Many of these universities, if not all, have already acquired the two great assets, prestige and public confidence. But prestige and confidence will not last without adequate financial support.

VICE-CHANCELLOR AND BOARD OF REGENTS

Vice-Chancellor

Education being the most hopeful of a nation's enterprises, the Vice-Chancellor of a university has enormous potentialities for good or evil. He could be the dominating influence in an institution or be a mere administrator like the General Manager of a factory. In the former capacity, the job could always be demanding and exhausting. In the latter case, his distance from the faculty and students could be considerable. If he is not a mature man of learning, his prestige may suffer before academic men. On the other hand, if he is not an able person of high position, his capacity as lobbyist and raiser of funds for the university may be low.

A university is sometimes said to be the lengthened shadow of its Vice-Chancellor. The institution is the result of mainly his wisdom and experience. Unlike other universities, the agricultural universities emphasize scholarship and the preparation of young Indians for active lines of service.

The Vice-Chancellor is primarily an executive officer and has an influence in the debates of the Academic Council and the Board. But he is not an administrative officer who can undertake to do everything himself; if he tried to do so, he is sure to end up doing but little, and the little too not every well. Vice-Chancellors who decide how many research papers each faculty member has to write for earning his annual increment or whether he can be given casual leave or not during a semester or trimester, can never give the leadership that the University would desire. The Vice-Chancellor's duty is that of supervision, but he need not concern himself with the hundreds and thousands of appointments. This could be left to the care of objective selection committees appointed by the Vice-Chancellor himself.

There are Vice-Chancellors whose interest in the work of the individual members of the faculty did not end when they were engaged, but began. Some Vice-Chancellors would love to know something of every new piece of research, however remote from his

own speciality, and every scientific success felt the stimulus of his sympathy. This made stagnation impossible and encouraged growth of individuals.

The success of a Vice-Chancellor has been stated to be more due to powers of exposition and persuasion combined with persistent industry, than to any force of will or habit of command. One-man power is apt to enfeeble or alienate those who are subject to it.

Many of the organisational adjustments and improvements may be extremely fragile until they become well bolstered by usage and experience. Continued leadership with supporting counsel and assistance during the critical early years is, therefore highly important. On this ground, it is not possible to commend the provision for a three-year term to a Vice-Chancellor.

Relations with the Board

The relationship of the Vice-Chancellor with the Board of Regents or Management is of crucial importance. Either the Vice-Chancellor can be the first among equals or spokesman or leader of the faculty. In the former case, he assumes the power of representing and guiding the Board of sound decisions, while, in the latter case, he has to be always on the defence, a position never to be relished.

Regents

If members of the Boards are unfit by training or inclination to deal with matters of education or are there to fight to the last ditch for *status quo* or for their own self-interests or for the interests of their supporters or friends, they cannot be fit to perform their duties. They will neither command respect nor can they enhance the reputation of the institutions, nor can they perform a social duty. Self-perpetuating membership of the Boards is equally unjustifiable. Only persons free from the political, commercial or class influences could perform the responsibilities of the regent with justice.

The legal powers of regents are almost similar though not identical in all Indian agricultural universities, but their actual part in the conduct of the institution varies greatly. This part assumes greater and perhaps a more dangerous significance in India when the Vice-Chancellor is not the President.

The practice is widespread among the employes in some universities to seek the help of Regents for gaining personal ends or to

secure redress to some grievances—real or fancied. This is a most undesirable practice, which will promote indiscipline and encourage recalcitrants and slackers.

In the light of experience drawn from the history of these seven universities, it is possible to say that no university in this country can flourish in which the Regents have not been willing to concede to the University officers the power, dignity and freedom. If the University officers are discouraged, embarrassed, and finally defeated by the conduct of the Regents, the institution cannot sustain its usefulness nor gain any renown. A University should rely upon its own ability and skill, rather than be guided by outside interference in managing its affairs. If it allows itself to be guided by a Regent or any other important individual, it will only injure itself, beside harming the cause of education. Both upon the composition of the Board and upon the system of its operation, more than any other, the improvement and perfection of any plan of education will therefore mainly depend.

The real function of the Board of Regents is to stimulate the Vice-Chancellor. The attitude of suspicious vigilance to safeguard the interests of a locality, sector or community rather than the interests of the university as a whole, has proved to be a lamentably bad system.

CURRENT TRENDS AND OUTLOOK FOR THE FUTURE

Foundations for democracy and quality education

Some foreign observers have pointed out that one cannot defy the laws of the social development by introducing democracy before the material and educational foundations exist and expect that no price will have to be paid for it. India also, they say, has had to pay the price of freedom for extending franchise before literacy to the masses. Under such situations, it is not unlikely that a country may be ruled more by emotion than by deliberate design. As the flush of freedom begins to wear out, the illiterate and the uneducated voters may be liable to become the prey of scheming politicians. Uneducated or ill-educated ministers with very large powers for good or evil may not be an uncommon phenomena as also the legislators with questionable aims and practices. It is not that such features are uncommon in other countries, but in a country with millions of illiterate voters, the chances of unsuitable persons entering the legislature are obviously greater. Even the disaffection and indiscipline of students which have become very much to the fore in recent years have been attributed to political influence.

Some thinkers like Prof. Max Beloff of All Soul's College, Oxford, have even questioned if it is at all possible for a society to be modernising, democratic and socialistic all at the same time¹. The Kothari's Education Commission has, however, emphasised that the Indian educational system will need radical changes if it is to meet the purpose of modernising democratic and socialistic society. Leaving apart the need or otherwise for a socialistic pattern of society, democratisation and modernisation of the educational system through the agricultural university concept have been accepted now as the goal of free India.

Looking into these agricultural universities to examine their

1. Parliamentary versus Presidential System of Government; India International Centre; Proceedings of Seminar held on November, 19, 1966.

erstwhile and current predicament in the light of things as they are and of history as it has been, some points clearly emerge. Unlike in other countries where with the progress of industrialization or due to other causes, the first felt need was literacy and the provision of at least elementary education on a mass basis, followed by the extension of franchise in the wake of spreading literacy, in India politics took a jump ahead of all other means of progress. The introduction of adult suffrage in a basically agrarian economy even before elementary education became universal, created certain problems which the developed countries had not to face. This naturally produced certain consequences, which the developed countries had not experienced but which the universities with new concepts of education, research and extension have to contend with.

Where education has no crucial voice, any kind of education, however incomplete or sordid, gains social prestige. Raising of the standards under such a climate is dismissed by the general public as pedantic and unrealistic. Consequently, political judgements leaned more and more to cover larger populations than for raising standards. This is an attitude that favours cheaper forms of learning, and in every State there were large nuclei of legislators who lobbied for schools and colleges for their respective areas, but the voice for crying a halt on the proliferation of institutions in favour of promotion of standards was feeble in comparison. The most blatant example of this is found in Uttar Pradesh where there are over 20 colleges of agriculture, some of which do not possess facilities adequate even to run a school of agriculture below the college level.

The sheer size of the problem in a vast sub-continent peopled by over 500 millions, which caused rapid inflation of student numbers, brought fresh difficulties to the surface. The reliance upon oral instruction and the textbook which is generally adopted in lower schools at the primary or secondary stage is being adopted widely in colleges and universities, even though this practice would be deemed inappropriate even in the latter years of secondary education in many advanced countries. Dislike of elitism is often confused in developing countries with dislike of high standards of education, technical and technological attainments. Where administration is bureaucratic reminiscent of the British steelframe, such high standards may become an anathema for a first degree holding bureaucrat or an uneducated Minister of a Government. "I have no

use for you, M.Sc.s and Ph.Ds., who have all wasted your lives in mugging books. I need men with brawny hands and figures to work with their hands." Such are the facile remarks reported to have been made by a Ruler of one of the Union territories, himself a retired military officer with education not above the first degree stage. If his judgment did not command respect, his orders did.

Under such bureaucratic administrators, selectivity in recruitment and the rigorousness of standard, which education and scientific institutions require, are bound to be unpopular. The representatives of the public, who are also accustomed to and plead for the spread of cheaper education readily join hands with the bureaucratic rulers in diluting standards.

To break away from the traditional standards of Indian universities under such governmental and public set up and opinion is indeed a hard task. To add to these is the very popularly held view both by administrators and even some educationists that Indian problems are unique and, therefore, experience gathered elsewhere is not of any great help. This is contrary to the widely recognised axiom that the tasks of universities are essentially identical the world over. No university can shut its doors and windows to external influence on the plea that Indian problems are unique and Indian experience is all that will count in founding or operating a university.

A peculiar feature of Indian universities, however, is the lowly financial, and consequently in part, the lowly social status accorded to university teachers and scientists. These have their inevitable consequence in keeping these university men and women remote from the main currents of the nation's life and the main concerns of its intellectual elite. A typical remark alleged to have been made in a State Government Secretariat when the news got round that a teacher has been chosen to be the first Vice-Chancellor of an Agricultural University, was: "How on earth does one expect an ordinary teacher to head a University? What respect can he command from Secretaries or Ministers?" The early struggles that these teacher-Vice-Chancellors faced in getting adequate support—financial and otherwise—proved later that the Secretariat doubts were not entirely ill-founded.

Acceptance of false values based on pressure tactics or acceptance of the certificate of achievement rather than the achievement itself has made serious inroads to quality, often reversing the

objective judgments of selection committees. When a Government or University accepts implicitly false values, student bodies are quick to emulate these evil examples, for neither they nor those who should know better being more mature, realise the damaging effects of their action behind their alleged achievements.

Pluralistic Indian Society

Indian society, due partly to periodic reorganisation of States on linguistic basis, has become an essentially pluralistic one. In the United States the educational system has been the main vehicle in assimilating successive waves of immigration and in creating a common American nationhood. That country had, says an English Educationist, "the advantage of a given mold into which to pour the molten metal."² It was assumed in the U.S. from the beginning that linguistic unity was essential and that young Americans, whatever their parents might talk, would be taught in English. Thus was national unity forged even at the price of tension in one or two generations. The linguistic divisions in India was once thought of as a means for promoting nationhood, but actually it has on one hand served to accentuate linguism and, on the other, built up hostility against English as a medium of instruction. Fortunately, the anti-English attitude has been compelled to go to the background, at least for a time, due to the hostility of the southern states against the demand from the north for imposition of Hindi as a national language. Thus, English language has helped to keep the doors open to the inflow of knowledge from all parts of the world and help in absorbing and assimilating new concepts of education, research and extension. In a country where a multi-lingual situation prevails as in India, the problems of external communication can be no other for a foreseeable period of time than by the continuance of English for scientific, technical and higher education.

It will be of greatest concern to the student wishing to continue post-graduate studies. Inadequate understanding of English will make it most difficult for students to gain admittance to graduate programs in English speaking countries.

Need for a change in outlook

The reform leading to the establishment of agricultural uni-

2. Max Beloff—Indian Universities and Their Problems : INDIA INTERNATIONAL CENTRE—Lecture on December 2, 1966.

versities, which has been accepted by the nation after overcoming a great deal of resistance, cannot yet be called a real breakthrough. In actual practice many administrators of the new universities have failed to grasp the meaning and philosophy of this new, service-oriented, democratic system of education. Even members of the faculties and some key officers have failed or were found wanting by this yardstick. Old and traditional administrative procedures which were authoritarian and wedded to redtape of the worst type still continue to thwart progress. The outlook of officers and faculty members is often vitiated by notions of prestige and authority rather than of service. Integration of functions is seriously blocked at times on small considerations and the maxim such as the 'University is above individuals' and 'Service is the motivating and unifying force' are observed more in the breach than in performance.

Brighter side of the picture

While all these remarks may present the darker or pessimistic side, the brighter side of the picture has many features to more than compensate the evils and drawbacks. The tradition has been broken and the progressive ideas have permeated vast segments of those engaged in the project. Even the vested interests, timid and uncertain minds are gradually adapting themselves to the new concepts, if not by conviction, by compulsion. Public opinion gained ascendancy in favour of the reform in increasingly aggressive form, so that the tempo of change became more and more perceptible.

Attitude of some officials

In the field services, that remained as residual functions of the State Departments, the change could not be as significant and rapid. Most of the time some officials of the State Departments deliberately shut their eyes to the changes going all around them. Often, they take up an openly hostile attitude of destructive or unhelpful criticism with rank non-cooperation or subtle obstruction. "What is wrong with the past?", is a favourite question while opposing the change in any direction. When talented scientists and teachers were being recruited, questions of demoralisation among those "who had loyally served so long" were trotted out. "SQUANDERMANIA" was the allegation, where reasonable amenities and facilities for students, scientists and teachers were provided, even from the meagre funds made available by the Governments, by effecting economy and

retrenching superfluous posts. Extension projects even when supported by outside agencies with their funds, were dubbed as aimless and immature exercises. Enhanced salaries were violently opposed as creating a new class of highly-paid officials for doing the same jobs as before. Selections of persons by Committees with a majority of objective scientists from outside the State were objected on the ground that the outsiders were not conversant with local conditions or that they tend to ignore local talents. All these show that the problems facing a Vice-Chancellor who desired to make a bold effort in trying the new concepts, were by no means of a minor character.

Notwithstanding all trials and tribulations, the introduction of the new concepts to Indian agricultural institutions is found definitely worthwhile and worth continuing. It is easy to perceive here a yearning on the part of these Universities to meet in full the real needs of the country and to maintain a standard of education comparable to that in any part of the world. The success up to date might be small, but doing their work faithfully and with perseverance, the efforts of all such persons would ultimately prevail and their work would commend to the public. The Government can only create these universities by enactments of law, but it is for the scholars and scientists to build up the universities. This is the only way by which the universities can rise to eminence and success.

Right type of personnel

It is not always easy to find men equal to the task as for any great undertaking. The right of choosing professors and scientists is a public trust assigned to the Regents solely to secure the best qualified and most suitable persons. If the regents do not perform this job conscientiously and regardless of all extraneous considerations, the prestige of the University would ebb.

It is imperative and incumbent on the Board of Regents and Vice-Chancellors to strive after the highest qualifications to secure persons illustrious for their scholarship. Where and when this was done, the standard gets elevated and the University gains undisputed pre-eminence.

Multiplicity of Campuses

It is an indisputable fact that no true University has ever yet been established by a distribution of its parts in different localities. Yet there are several so-called educationists, who themselves work

directly and indirectly for having this or that part of the University located or established in their own areas. Local jealousies must subside before a generous common sense. Every part of a State must recognise the University as its own, as belonging to the people of the State. Lopping off a branch from the parent stem is the work of destruction and not creation.

Public Interest

The Indian public is largely indifferent, to matters connected with agricultural education. Where a traditional university is located close to an agricultural university the press and the public are interested in the activities of the traditional university where tens of thousands flock to receive education in the mechanical way from thousands of homes. The press cater to such requirements, whereas the small agricultural university remains frequently unknown and least publicised, except when something unusual happens. The following version of the First Convocation of the University of Agricultural Sciences in a leading Daily of India is an example.

“Thrilling Debut

The first convocation of the Agricultural University at Hebbal, the sylvan suburb of Bangalore, had all the thrill, excitement and enthusiasm of a debut.

But it was also one of the most business like functions ever witnessed in the city. No time was wasted in trifles, even the conventional invocation was conveniently done away with and the whole affair behind which had been spent many hectic days of preparation, was over in a little over 50 minutes.

Nestling amidst the conventional structures of the campus was the huge big pandal, built to last, as it seemed. Decorated soberly, the venue of the convocation presented a look of quiet majesty. A sprawling dais was specially built in cement to seat the elite and the augustly-clad members of the Board of Regents.

Pagentry

Pat at the stroke of 4:00 p.m., Chancellor Giri, Pro-Chancellor Narayana Gowda, Vice-Chancellor Naik and Chief Guest C. Subramaniam trailed slowly into the pandal in a colourful procession, clad in formal attire, which made them hardly distinguishable. Leading them were the Regents wearing appropriately grave looks.

The entire pandal was packed with invitees: the 200 and odd proud and nervous graduates—hardly two of them belonging to the fair sex—neatly lined up in their hoods and gowns, the elite of the town, agricultural experts, guests from the USAID which has helped a good deal in the young institution finding its feet firmly in hardly 14 months and agriculturists.

As the Registrar read out the warrants, the new graduates stood up in two batches—one the B.Sc. (Ag)s and the other B.V.Sc.s—to be conferred with their degree *enmasse* by the Chancellor. They bowed in reverence and resumed their seats.³

Model Act

The Indian Council of Agricultural Research in association with some Agricultural Universities has now suggested a Model Act for adoption by all the States. A copy of this is given in Appendix I. There is no evidence that this Model Act will be accepted by State Governments and their legislature. A copy of the Statutes adopted by one University is also given in Appendix II.

Association of Agricultural Universities

The Agricultural Universities have formed themselves into an Association with the following objectives:

- (1) To formulate a model of appropriate relationship between the Agricultural Universities and other bodies such as Indian Council of Agricultural Research, the Planning Commission, the University Grants Commission, the Council of Scientific and Industrial Research and various Ministries of the Central Government;
- (2) To present and explain the common requirements of the Agricultural Universities to the Indian Council of Agricultural Research, the Ministry of Food and Agriculture and the Planning Commission and other Institutions and organisations of the Central and State Governments;
- (3) To work out a model of appropriate relationship between Agricultural Universities on the one hand and their respective Governments on the other and by using its good offices in getting it accepted by both;
- (4) To coordinate whenever requested, the research efforts and

3. The Indian Express: Bangalore, December 20, 1966.

resources of the Universities;

- (5) To coordinate the personal resources of the Universities in the compilation of Indian text-books on agricultural subjects;
- (6) To provide opportunities for scientists in agricultural disciplines to hold meetings, seminars and workshops, to read papers and to publish journal or journals on professional matters of interest to agricultural scientists;
- (7) To establish standards of Laboratory Equipment, experimental areas and competency in teaching, research, extension education with respect to institutional programmes and to evaluate the performance to institutions and to report its findings and recommendations;
- (8) To provide liaison between Indian Agricultural Universities and allied Institutions abroad;
- (9) To improve the contribution of the Indian Agricultural Universities to the development of economic and social conditions throughout India and in particular of the rural people;
- (10) To provide opportunities for learning to students aimed at making them useful citizens;
- (11) To conduct research as a means of finding solution to problems retarding progress of agriculture development;
- (12) To provide scholarships, research grants, consistent with the purposes of the Association;
- (13) To disseminate useful knowledge to all such persons but in particular to the rural people;
- (14) To purchase, hire, take on lease or in exchange or otherwise acquiring any property, moveable or immoveable and maintain the same for the purposes of the Association;
- (15) To alter, improve or adapt any land or property for the purposes of the Association or to pull down, demolish, sell or otherwise dispose of the building or erection not so required;
- (16) To invest and deal with the monies of the Association not immediately required in such securities and in such manner as may from time to time be determined;
- (17) The purpose, hire, make or provide and maintain all kinds of furniture, fixtures, implements, tools, appliances, papers, periodicals, stationery and other things required for or

which may conveniently be used for the purposes of Association;

- (18) To hire or employ Secretaries, Clerks, Manager, Sergants and Workmen and to pay to them and to other persons in return for the services rendered to the Association, salaries, wages, gratuities, Provident Fund and Pensions;
- (19) To promote or hold either alone or jointly with any society or persons, meetings, workshops, seminars, competitions etc., on professional matters of interest to agricultural scientists;
- (20) To do all such other lawful things as are incidental or conducive to the attainment of the above objects.

When we proceed to develop a new and modern system around a traditional set up, change is not only inevitable but it tends to be so pervasive that it touches the activities of most people connected with the system.

The Inter-University Board representing the traditional universities could hardly be an appropriate forum for the Agricultural Universities to deal with problems arising from the endeavour to replace that traditional system into a modern, dynamic and more effective pattern. It would be a case of pushing the lever from the wrong end if the newer institutions' problems are attempted to be tackled through the forum of older institutions. The starting of the Association of Agricultural Universities was, therefore, a step in the right direction.

But the stimulus and impact of this organisation is yet to be felt. This Association has to function with greater vigour and vim to capitalize on the many new feature or innovations of its institutions. One of the ways of projecting itself to the role of legitimate leadership may be to take over the functions of the defunct Indian Council of Agricultural Education such as by organising seminars, workshops, regional meetings supplemented by summer schools and other means of promoting mutual interests.

The Association could perform a vital role in establishing standards for undergraduate programs. It could serve in accrediting and approving post-graduate programs. Accreditation should not become a governmental function. It squarely rests with the Association through expert accrediting committees. Guidelines for such an undertaking have already been established by the various accrediting bodies in the United States. The Land Grant Institutions

state supported universities and colleges and private institutions avail themselves of these services.

The Association could function as a dynamic liaison between the Universities and the Central Government at the highest level to ensure that the interests and growth of all these institutions are adequately safeguarded. In a period of recurring crisis and when a free-floating neurosis pervades the atmosphere, the wise thing to do is to make the Association strong intrinsically, by identifying all the problems of all the members and dealing with them courageously. This is the crusade that the agricultural universities need at the moment and for many years to come.

SOME PRINCIPLES OF POSSIBLE RELEVANCE TO DEVELOPING COUNTRIES

Type of experience conducive to institution building

The question may be asked as to what type of experience has been most productive in building these agricultural universities. If one were to judge on the basis of the experience possessed by the first Vice-Chancellors of these universities, it could be stated without any doubt that for securing financial support from the State Government, the stature of the Vice-Chancellor in the political and administrative spheres was of the greatest value. Men who had occupied key positions in State Governments or in the Union Government carried a great deal of prestige both with the political leaders and ministers at the State level as well as with the administrative staff of these governments. Their proposals and requests could, therefore, move with speed toward acceptance, and no one in the lower or higher echelons could treat such proposals or requests with indifference or impunity. Vice-Chancellors with academic or research experience were, therefore, in a difficult position so far as their dealings with the Government machinery is concerned, unless they happen to have strong backing and support from the concerned State Minister or the Chief Minister.

As for the building of the university to a peak of excellence with a strong, scholarly and effective faculty to function in an environment that could stimulate and foster creative effort and meaningful service to agriculture, position and prestige by themselves cannot achieve much. If in addition to these assets, the Vice-Chancellor has had a back-ground of academic and scientific experience with a good understanding of the Land-Grant concept and gave the right type of leadership, it would perhaps be an ideal combination.

Educationists and scientists with administrative experience are not many in a developing country, nor are administrators with back-ground of academic or scientific experience. In the ultimate analysis it is the personal qualities of leadership that determines the most effective leader. With a keen desire to succeed and with a high sense

of integrity and objectivity, the other deficiencies could always be made good, if there is complete faith in the concept.

Belief in the concept essential

An agricultural university is nothing if it is not a far-reaching innovation. Autogenous innovations form a part of the process of building up these institutions. The faculty, service personnel, the officers and the Board of Regents have all to be imbued with the philosophy of these new institutions. It is only then it would be possible to stimulate self-generated innovations toward providing continuous and effective service. Internal management activities have to be modelled with this end in view. Failure to recognise these aims may seriously detract from the normal development of the universities.

Environment conducive to innovation

Internal management that would favour this development work is one that is democratic and yet firm. Decisions based on consultation and discussions and on the concensus are always satisfactory and leave no scope for misunderstanding. If to this we add enough freedom for everyone to do his best in the interests of all that the university stands for and in conformity with the objectives of the university, we have here an environment conducive to innovation and creative effort for effective and meaningful service.

What is stated above would be the anti-thesis of authoritarianism. Decisions of an individual, whether it is the Vice-Chancellor or a Director, Head of the Department or Professor, cannot have the force or acceptance value of a decision based on discussions and concensus. Such a democratic method of deciding all major issues on the basis of a concensus has been tried and found very satisfactory.

Value of personal examples

Apart from the decisions on administration or on policy-making matters, there are many points on which individuals at all levels have to decide for themselves in respect of their day-to-day activities. A teacher or a researcher or an extension man has no set maxims or standards to follow. He has to deal with every situation as it develops. Reference to others may or may not be necessary or possible. All such decisions depend upon the individual's background, his common sense. It is difficult to prescribe or suggest a training pro-

gramme that would be useful in this respect. Personal examples of others superior to the individual may have excellent demonstration value and be useful as guidelines.

Diversity, a source of strength

It is believed that the diversity among agricultural universities in many matters can be a source of strength. Variety, particularly in course offerings and curricular content, helps the development and training of a wide range of country's resources of human talent. Frequent visits to other universities or exchange of ideas among the faculties of these universities will be desirable.

Sense of Unity

One visual or noticeable difference among agricultural universities in India is the size of the institution. An institution may be small enough to maintain a sense of unity or be large enough to provide diversity. Multiple campuses have the tendency which large institutions also have in a measure. A sense of unity is an advantage at least in the early formative stage. This requires to be fostered as also the sense of belonging. To the extent these are achieved, to that extent the progress of the university can be assured.

Cultural, political and personality configurations

Institution-building is a task greatly influenced by many factors, including cultural, political, and personality configurations. How to cut across such constraints depends upon a variety of considerations. The experience and insights obtained in India cannot always provide reliable guidelines. Nevertheless, the following remarks seem warranted.

So far as the cultural aspects are concerned, the limitations in India arose largely from the fact that for over a century the country had attuned itself to a system of education conceived by the British for fulfilling the purposes visualised by the British. With the rise of the movement for freedom under leaders like Gandhi and Nehru, a rude jolt to British education and Western way of life was received and this was reflected by Gandhi's plea for Basic Education and for simple habits and dress with home-spun and home-woven cloth. Nehru, himself a product of English education and a firm believer in the value of modern science and technology in shaping the life of nations, brought to bear a new outlook on India. Despite

the strong views and beliefs of these two leaders, the British system of education continued to dominate the scene with such minor changes as were adopted by the Union and State Governments as a sequel to the recommendations of the three Education Commissions set up by the Government of India in the post-independence period.

The recent widely-manifested urge on political, national or regional considerations for switching over from English to regional languages as media of instruction is likely to affect the education system in India to an extent. The only visible and radical change is what is found in the agricultural universities, which have come to their own regardless of the constraints of cultural, political and personal configurations. Persistent endeavours by educationists starting from Dr. Arthur E. Morgan and John J. Tigert of the University Education Commission (1949 to 1951), the process of persuasion has proceeded uninterrupted at the Union and State Government levels through the Indo-American Teams, Group Leaders, U.S. Foundation Advisors, USAID Advisors and Technicians, whose function as catalysts was continuous and most effective. The change must, therefore, be attributed primarily to the process of persuasion. The deteriorating food position no doubt introduced a new factor of compulsion to reorient institutions to cope with national needs, which the institutions willingly or otherwise had evaded until then.

Political emotions as a reason for the reform

A casual student of India's educational system may be inclined to suspect that the breakaway from the British model was due to strong political emotions. This would be far from the truth, since the relationship between Britain and India, except on certain issues of national interest, remained even more cordial than in the pre-independence days. Furthermore, only seven out of 70 Universities in India have elected to breakaway, and there is no sign of effective public demand for radical alterations in the 63 Universities, even though there may be intense dissatisfaction in the public mind about the working of a good many of these universities.

Believers and Sceptics

There are clearly two distinct schools of thought today in India, one which is convinced of the need for adaptation of Land-Grant system to India and the other sceptical of its value. The latter is

represented by the larger mass of people who had their education under the affiliation system and had never been exposed to the agricultural university concept. Those who opted for this concept had, therefore, to undergo a period of study and understanding which resulted in a rational and objective decision-making process. Without such a process, the change was unthinkable in an environment heavily weighed against the change.

Democratic decisions

Under a democratic set-up, leaders of stature like Nehru and Gandhi could not arrogate to themselves the responsibility for decision-making on a matter of such vital concern to the country as improvement of agriculture through educational, research and extension services. Decisions had to be taken at the State level according to the Indian constitution, and later at the Union or federal level by the Planning Commission.

The change to the agricultural university concept had obviously, therefore, no political implications of any kind. It was an innovative process which all the decision-makers at various levels considered desirable to improve Indian agriculture and, therefore, gave their support to it. That legislative assemblies and councils of seven different States voted for the establishment of these universities either unanimously or with substantial majorities disproves any political implication in decision-making.

Power base for the decision

The real power base of the major decision to move away from the British conceived university system lay in the awareness among the best minds of India that the destiny of the country was to be shaped in her educational institutions, that in the science-based world of to-day, the most powerful tool in the process of modernization as well as of promotion of the entire development process was education, that if agricultural development was to receive the impetus it needed, education for agriculture should become a major concern of the entire national system of education with a strong polarisation around agricultural sciences combining the work of teaching, research and extension. It has been stated that American 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.¹

A question may be asked as to whether there are indications that attempts to force decisions prior to building a political base, may delay the process of establishment of agricultural universities. In view of the fact that the decisions taken by the seven states reflected the unanimous or majority view cutting across political parties, the need for a political base to stabilise these universities does not arise. The strength and the future of these universities would not rest on their continuing to function on political considerations, solely on the basis of their utility and service.

Change without conviction weakens the institutions

From the experience gained so far it seems possible to state that the best possible way of effectively building up a necessary power base to enable any State or country to establish universities of this type with greater ease, would be to convince the decision-makers of the value and importance of the change. The consensus and conviction of those who voted for the institution's establishment provides a strong foundation which can not be easily shaken though the progress may be halted for a time.

First few years critical

The basic principles to be understood in breaking away from traditional system in the seven states would appear to fall into a pattern wherein the education process has been purposeful, sustained and effective to shape the minds of key persons at the Union Government level. If these persons are fully convinced of the need for a change, they are able to carry the legislature with them, since the party to which the Ministers belong has a majority in the legislature and, so far as agricultural progress is concerned, it does not lead to party disputes or dissensions. The Secretaries of Agriculture both in the State and Union Governments are important not only in educating Ministers and the legislature through their briefing but also for continuing the policy of support to the universities consequent to a change in power by the fall of one Ministry to be replaced by another Ministry belonging to a different party. Some of the reasons for the fluctuating fortunes of those young universities were due to

1. Propp Kathleen Mrs.—A case study of the role of USAID—U.S. University Technical Assistance in the establishment of Agricultural Universities in India. Thesis Draft—October 10, 1967.

the change in Ministry or in the person holding the office of Secretary for Agriculture. When a Minister or Secretary who had piloted the Bill for establishment of an agricultural university is succeeded by another, an appreciable change in the Government support has been quite a common experience. This cannot mean a reversion to traditionalism, but it does mean a slower pace of progress, and in some cases may even result in considerable dilution of standards and depletion of funds to the institutions. All this means that the first five to ten years form a critical period in the history of these institutions. To the extent they weather the storm in this formative period, to that extent would their stability and progress be assured. The assistance of U.S. agencies and Foundations during these critical years is, therefore of great value.

Traditionalism and its opposition

Traditionalism of the officials or of the educationists outside the agricultural universities is a force which the new institutions have to reckon with. Powerful opposition to the new concept came at the very outset from the Inter-University Board and spokesman of many older universities, but with the convincing arguments such as those advanced by the Cummings' Committee the Union Government was able to ignore or silence this opposition. At the State level also when the Chief Minister, Minister for Agriculture and the party in power came to a decision to establish this new type of University, the traditional universities which also rely on State Governments for financial support, thought it wise not to oppose the Government move. But this silence could not be mistaken to be a case of acceptance or even reconciliation to the innovation. At every possible opportunity these spokesmen came out frankly with their opposition to what they termed as transplanting a foreign concept or irrelevance or inapplicability of the Land-Grant idea to Indian conditions, or the unsuitability and unworkability of what they erroneously called, a single-faculty university. Even after the Cummings' Committee exposed the falsity or illogicality of these assumptions, these arguments have persisted, fortunately without making any impact on thinking minds. However, prejudice like traditionalism dies hard and there are instances where even those who have in writing supported the concept have at times stated that they had to reconcile to it because of the decision of the Government. It is only the achievements and accomplishments of these young institutions that will

hasten acceptance of the concept by the public.

The difference between traditional universities and the agricultural universities is one arising out of profound differences of outlook. We may note with satisfaction that reciprocal references to these divergent conceptions have with the course of time become more objective and less polemical in tone, though the basic divergence of outlook may remain for a time.

Administrative configurations of value

Looking into the experience of the seven universities and their varying degrees of adoption of the recommendations of Cummings' Committee, the administrative configurations most likely to succeed in the Indian scene is broadly brought out in the Model Act (Appendix-I).

Specifically the Boards of Management should in such a set up concern themselves in policy-making matters, upholding the dignity of the University, assisting in securing support to it from the Government or other agencies, and maintaining an impersonal, objective but active interest in its progress toward a progressively efficient medium of service to the State. They should recognise that the system of selection of the best available persons for the faculty by experts drawn from outside, sitting with the concerned officers of the University, ensures impartiality but, if left to the Board alone, the selection is liable to be influenced from extraneous motives—personal, political, parochial or sectarian.

The Chancellor and the Pro-Chancellor are to be the symbols of prestige and authority to interfere, when necessary, and to dispense justice, and foster all activities designed to promote the best interests of the institution.

The Vice-Chancellor becomes the Chief Administrator, functioning democratically and sharing his responsibilities with other officers of the university in a manner to facilitate expeditious and efficient disposal and giving dedicated, informed leadership and active support to all in the furtherance of the objectives. His is the administration which has to serve and stimulate rather than rule the institution. It should be expendable when necessary and flexible all the time.

The faculties are to be a team of themselves, working smoothly and supplementing each other's efforts toward the common objective of rendering the best service to States' agriculture. It is only when a

medium for such service is created and begins to function, will the relation between the public and the university be satisfactory. Whatever success an agricultural university has been able to achieve has to be understood against the above background. It is difficult to reduce it to basic principles and issues to be resolved within the ecology of any emerging agricultural institution.

Basic qualities essential for success

However, there are certain basic qualities which are essential ingredients for success of any innovation, whatever the variations may be among the forms of innovations adopted under different situations. Personal example of the Vice-Chancellor is the chief of these, for the image of the institution and the source of inspiration to the faculties and students, depend more than any other single factor, on the integrity, objectivity and the personal qualities of leadership of the Vice-Chancellor, including his courage of convictions with a willingness to sacrifice his own interests, if need be, in favour of the University. These are qualities which do not take long to disintegrate the wall of misunderstanding and neutralise the pressure tactics of interested persons and parties. Well-wishers of the institution as well as others appreciate persons devoted to institution building.

For a young institution, qualities of leadership are more important than procedural methods or organisational set-up, even granting that between any two methods or types of organisations, one is superior to the other.

Indo-American Team approach

The Joint Indo-American Team approach was a crucial factor in the growth of the agricultural university concept in India. Neither an Indian nor an American team could have achieved what these Joint Indo-American Teams were able to do. An Indian team has obviously certain advantages when matters of purely local concern are involved such as to determine an equitable allocation or an effective utilisation of available resources, or a rational distribution of responsibilities among a body of officials or among certain departments. Similarly, a team of foreign nationals becomes necessary when an objective evaluation of a project or programme together with the extent and nature of foreign collaboration for it is sought to be determined. Above all, this combination provides an excellent opportunity for indigenous leadership to get convinced of the value

and benefits of the new concept, partly by the visits to American Land Grant institutions as were provided for the First Joint Indo-American Team members, and partly by the innumerable discussions among the indigenous and American leaders. In effect, it was a highly beneficial educative process, more intensive than a short term travel grant to the U.S.

The key Indian officials who formed part of the joint teams had the major responsibility to implement to recommendations of the team as well as to brief the Indian political leaders with whom the final decision lay on institutional development. Their crusading spirit was born of the conviction which they derived by their work in the Joint Indo-American Teams.

Continuity of Objectives and Fundings

The report of the Panel on the World Food Supply, Vol. II, which is a report of the U.S. President's Science Advisory Committee has rightly stressed the fact that successful research and educational programmes must have continuity of objectives, funding, and personnel.²

The Committee has emphasised that institutions in the more developed nations which participate in international food research and educational activities must make long-term commitments. Such attempts must go beyond lending staff for temporary periods, or admitting few students for participant training. These recommendations will no doubt apply with equal force to the USAID and U.S. Foundations' India programmes for institutional development.

Effect on student enrolment

All these together with the less public eye-catching, but nevertheless solid and enduring changes made by these universities in curricula, examinations, student welfare, methods of teaching etc., have brought a perceptible change in student enrolment. The number of applications has risen very steeply in some agricultural universities so as to reach in 1967 over 10 times the number of seats available, while the quality of students has risen up to a level which could not have been imagined five years before. Whereas medical and engineer-

2. Report of the Panel on the World Food Supply; The World food Problem; A Report of the President's Science Advisory Committee (May 1967); The White House. Superintendent of Documents, U.S. Government Printing Office, Washington D.C.

ing colleges were the main attractions in the past, there has been a surprising swing towards agricultural and veterinary colleges in the past two years in States where the number of such colleges and the seats available in these colleges did not exceed the employment potential. This is a development which cannot be wholly attributed to factors favourable to agricultural universities. The rising unemployment in engineering in the past two to three years due to the large turnover of graduates from many engineering colleges started in the country as a sequel to the vigorous policy followed by the Government in favour of industrialisation in the post-independence era was one of the principal reasons for the rapidly decreasing enrolments in such colleges. Among the agricultural universities, however, the number and quality of student enrolment have always varied greatly. In States where agricultural universities had a multiplicity of campuses and many more colleges than required to meet the employment potential, the drop in the numbers and quality of student enrolment was also noted in the recent past. A clear and far-sighted policy is, therefore, necessary to regulate both the number of colleges of agricultural sciences and the seats to conform to the employment potential, if the inflow of talented students to agricultural universities is to be assured.

Economic considerations govern enrolment

The widely held belief that agriculture is historically low in the social hierarchy of academia, and the competition of the best raw material from which to fabricate agricultural leadership is traditionally difficult is at best a half-truth. In an economically backward country, it is the employment potential and pay scales of graduates that determine largely the flow of students to a professional college. The prestige of a profession is also associated mainly with the financial benefits associated with that profession. This is the chief reason why there has been a very sharp swing in the last few years in India toward industry and business from the field of Government administration. During the British rule and in the early years of freedom, the gifted son in a family had his eyes glued to an administrative position under the Government, but today industry and business have completely eclipsed the Government administration as a venue for professional service for the brighter sections of Indian youth. Outside industry and business, administrative services still have the best appeal, but with the recent rise in pay scales almost all over the

country and with the growing unemployment in engineering, but not yet in medicine, the lure to agriculture, veterinary and allied professional colleges, which had a low appeal a few years ago, has been growing appreciably in States where pay scales are increased and employment potential is favourable.

Demand for new Colleges

The demand for starting new colleges of agriculture and to a lesser extent also of veterinary medicine, dairy science and agricultural engineering has been increasing during the past few years. The National Planning Commission in its report of the trained manpower requirements of the country during the next ten years (1966-76) had estimated there would be no need to increase the number of agricultural or veterinary colleges, and that the increased demand for trained persons could be met by a slight increase of seats in the existing institutions. In spite of this, the pressure for establishment of new colleges either as affiliated institutions or as traditional universities or as constituent colleges of agricultural universities has been steadily mounting up. Some of the agricultural universities have stoutly resisted these trends, and so far with a great measure of success. This is a strategy which has been beneficial in encouraging the flow of talent to the existing institutions of agricultural sciences.

Agricultural Universities appeal to the public

Choosing of a college is one of the hardest tasks of a student or his parents in these days of rapidly mounting numbers in the college-going youth of India. Capacity of the college to provide the right setting for developing the student's ability or promise receives less attention than the prospects available after graduation. Most, if not all students or their parents do not have precise knowledge about many of the factors that may affect the wisdom of their decision. Many, therefore are given to try their chances in several colleges, Arts or Science or professional colleges of diverse kinds. They ultimately enter one of these, depending upon the availability of seat and prospects after receiving the degree. Notwithstanding these general features, the preference is to an institution with reputation for standards, and in this respect the agricultural universities naturally hold out much greater appeal than other institutions under the traditional set-up.

EPILOGUE

The era of transition from traditional to the new concepts of education, research and extension as typified by the Land-Grant Universities of the U.S. or Agricultural Universities of India is over with the latest recommendations of the Education Commission to establish one Agricultural University in each State. The era of Agricultural University development and growth has begun. Looking back to the nearly 15 years of battle of ideas between the traditionalists and progressives and the many uphill tasks that the new concepts had to contend with, it will be only right to predict that most of the struggles have ceased with the close of the first few years of the formative period.

In looking over this period, remarkable changes are manifest. Science and its role in agriculture has received recognition to an extent unknown before. This is a natural consequence of the wonderful discoveries which were made in evolving very high-yielding and fertilizer responsive hybrids through certain projects of the Government of India and the Rockefeller Foundation with PL 480 project support and partly by the efforts of one or two of these Universities. The yields reaching the level of 8,000 lbs. of grain and 30,000 lbs. of fodder from one acre of hybrid maize or 12,000 lbs. of grain from Taichung 65 and I.R. 8 paddies as against the Indian average of 2,000 lbs. of grain from local paddy was a difference too wide to be missed by politicians and the discriminating members of the public. Governments were also able to perceive the importance of the work carried on in the laboratories and fields of the agricultural experiment stations and many began to proclaim the need for a continuous infusion of science and technology to Indian Agriculture.

The idea of agricultural universities has been accepted on a nationwide basis; money, it is hoped, will be made available in adequate measures; attempts have been and are being made to secure the best available talents to man these universities and books, apparatus and students are all being procured or enrolled in required

quantities and quality. The minds of men are being attuned to these new institutions, which stand for certain new concepts.

Some of the difficulties or danger that beset these new universities may now be discussed. The first danger is the tendency to reckless expenditure upon buildings and mechanical fittings. Brick and mortar do not create a University. There is a deplorable propensity to judge the progress of a university by the extent of pompous or even luxurious and massive building programmes and the number of high V.I.Ps who have visited the campus for laying corner-stones or to declare the buildings open. If we were to work out the loss of money, time and energies of the faculties and students on such visits and ceremonial functions, it may appear colossal.

The second difficulty is the scarcity of good teachers and scientists having the necessary qualifications and training and equally necessary enthusiasm. Nurtured in an era where pressure tactics, lobbying, seniority, and similar extraneous considerations counted much in seeking promotions, the faculty members could not bring themselves to believe that there could be a change where merit and accomplishments were the only passports for success.

The building up of a university is not possible by all persons. Men competent to start or administer such an institution are rare in all countries, because they are usually drawn into other more lucrative or attractive positions. The administrators that these new universities require have to be steady, careful, fully understanding the concepts, and sympathetic, never thrusting themselves into notice, but quietly felt alike by teachers, students and all employees. To find such men is not easy. This is perhaps the hardest job.

In the first few years there were times of serious concern in the matter of finance. In times of crisis it demanded great skill and wisdom to prevent disaster. The work of the University is better comprehended now. At the same time the details of its work are growing with great rapidity and will continue so to grow.

A spirit of cooperation has grown up within the universities and which has shown itself in many ways, and from this much good may be expected. The staff has been generally free from cliques except at the initial stages. Debates are always free and outspoken. Men who oppose each other vigorously on one subject work together most harmoniously when another subject comes forward for consideration. This has demonstrated the sincerity of men in the expression of their convictions. A readiness to permit the rule of the majority

is clearly manifest.

On the basis of only about half-a-dozen years of history, one may reasonably make a prediction that the most difficult part of the work of organisation has been finished during its first three year period. The seven universities have naturally attained various degrees of strength and stability, some achieving much distinction and usefulness even within such a small period of time. Some traditions have been established, and upon these as a foundation others are expected to grow up. The essential characteristics of these universities have been determined and these are known to all. The work of these Universities will be on a level far above the institutions they have replaced. These institutions stand poised for an advance in all fronts, counting on the hard work and enthusiasm of all concerned and financial support from the State and Central Governments and other benefactors from within and outside.

The remarkable aspect of Indian institutional development in agricultural sciences specifically in terms of agricultural universities has been the speed with which changes have taken place. Six to seven years is but a moment as history reckons time, and during these few years tremendous changes have taken place and others even more momentous in significance seem to be underway or under consideration. The AID/TCM programme through five cooperating U.S. Land Grant Universities and the assistance by Rockefeller and Ford Foundations have been of great significance in this period of unprecedented institution-building. Among the Indian agencies the ICAR has been the watch dog of all the major work connected with these institutions.

Dr. Frank W. Parker and Dr. R.W. Cummings are the two great figures in the history of agricultural education in India. Their silent, sustained and signal contributions to the acceptance of the concepts in India and to the development of these universities in a relatively short period of time will live in the memory of all connected with agricultural education in the country.

If science today is the instrument of reform everywhere, the institution that could do most to change the outlook of Indian agriculture is the agricultural university. In the background of the Acts of State Legislature was over half-a-century of efforts and hopes to establish something in terms of improved agricultural education. The increasing dependence on food imports contributed to the growing awareness that the new age required new training and new prepara-

tion. It soon became apparent that institutional foundations were lacking, upon which to erect progress of agricultural training.

This is at once the aim and philosophy of the agricultural universities, which India has adopted for the country's salvation.

APPENDIX I

MODEL ACT FOR AGRICULTURAL UNIVERSITIES IN INDIA

The—Agricultural University Act 19—.

An Act to establish and incorporate a University for the development of agriculture, including animal husbandry, and allied sciences in State of—.

Preamble

Whereas it is expedient to establish and incorporate a University for the development of agriculture, animal husbandry, and allied sciences in the State of—and matters related thereto;

Be it enacted by the—State Legislature in the—the year of the Republic of India as follows:

CHAPTER I

PRELIMINARY

Short title, extent and commencement

1. (1) This Act may be called the—Agricultural University Act, 19—.
- (2) It extends to the whole State(s) of—.
- (3) It shall come into force on such date as the Government may, by notification in the—Gazette, appoint.

Definitions

2. In this Act, unless the context otherwise requires,
 - (1) "Academic Council" means the Academic Council of the University.
 - (2) "Act" means the—Agricultural University Act of 19—.
 - (3) "Agriculture" means the basic and applied Sciences of soil and water management, crop production including production of all the garden crops, animal husbandry including veterinary and dairy science, fisheries, forestry including farm forestry, home economics, agricultural

engineering and technology, marketing, processing, co-operation, land use and management, and the economic and social uplift of the rural people".

- (4) "Appointed day" means the date appointed under subsection 3 of section 1 for the coming into force of this ACT.
- (5) "Authority" means any authority of the University as specified in Section—of this Act.
- (6) "Board" means the Board of Management of the University as constituted in Section—.
- (7) "College" means a constituent college of the University under the direct control and management of the Board and the principal executive officer of the University, whether located at the headquarters campus or elsewhere.
- (8) "Extension" means the educational activities concerned with the training of farmers and home makers and other groups serving agriculture, in improved agricultural practices and the various phases of scientific technology related to agriculture and agricultural production, and marketing. It would involve but may not be limited to work through meetings, demonstrations, and other methods for teaching improved agricultural practices and the training of workers required for the conduct of these educational activities.
- (9) "Faculty" means of teaching research and extension staff of a College or Division of the University, including all members of the staff having the rank of Assistant Professor and above.
- (10) "Government" means the Government of the State of ———.
- (11) "Governor" means the Governor of the State of—— holding office by virtue of his appointment by the President of India.
- (12) "Hostel" means a place of residence for students of the University maintained or recognized by the University either as a part of or separate from a College.
- (13) "Officer" means an officer of the University as specified in Section—of this Act, or other persons in the employment of the University designated as officers by the

Statutes.

- (14) "Prescribed" means provision as set forth in the approved Statutes of this University.
- (15) "Principal" means the chief executive officer of a College which has been or is to be taken over and to become a constituent college of the University. In this case the word 'Principal' refers only to the status of such an officer prior to the college being taken over by the University, and such officer may have a different title under the University structure.
- (16) "Regulations" mean the rules and procedures established for the operation and functioning of authorities as specified in section 2 of the Act, and may include the provisions made by the Academic Council relating to the establishment and maintenance of academic standards of the University as well as provisions established by the competent authority of the University for the conduct of staff, students, and other employees of the University, and for conducting the ordinary routine business of the University. These may include provisions relating to the service conditions of employees.
- (17) "Statutes" mean the statutes of the University governing matters of policy and procedure as set forth in section—of this Act.
- (18) "Scheduled Castes" mean the scheduled castes specified in Appendix I in relation to this State under Article 341 of the Constitution of India.
- (19) "Scheduled Tribes" mean the scheduled tribes specified in Appendix II in relation to this State under Article 342 of the Constitution of India.
- (20) "Student of the University" means the person enrolled in the University for taking a course of study for a degree, diploma or other academic distinction duly instituted.
- (21) "Teacher" means a person appointed or recognised by the University for the purpose of imparting instructions and/or conducting and guiding research and/or extension programmes, may include any other person who may be declared by the Statutes to be a teacher.
- (22) "University" means— — Agricultural University as

constituted under this Act.

CHAPTER II THE UNIVERSITY

Incorporation

3. Incorporation of the University.

- (1) There shall be constituted in and for the State of——— a University by the name of the———Agricultural University or the———University of Agricultural Sciences, which shall consist of a Chancellor, a Vice-Chancellor, a Board of Management, and an Academic Council and other authorities and officers as set forth in this Act or as provided in the Statutes.
- (2) The University shall be a body corporate having perpetual succession and a common seal, and shall sue and be sued by the said name.
- (3) The University shall be competent to acquire and hold property, both movable and immovable, to lease, sell or otherwise transfer any movable or immovable property which may have become vested in or have been acquired by it for the purpose of the University, and to borrow moneys from the Central Government, State Government or from any body corporated approved by the State Government and to contract and do all other things necessary for the purposes of this Act.
- (4) In all suits and other legal proceedings by or against the University, the pleading shall be signed and verified by the———officer and all processes in such suits and proceedings shall be issued to and served on the —— officer.
- (5) The headquarters of the University shall be at———.

4. Territorial Jurisdiction

- (1) With respect to teaching at the University or college level, research and extension education programmes in the field of agriculture as broadly defined in this Act, the territorial jurisdiction and responsibility for this University shall extend to the entire State of———.
- (2) The University may assume responsibility for the main-

tenance of Gram Sevak and Gram Sevika Training Centres and for the programme of training of field extension workers therein and for the establishment, development and operation of Agricultural Polytechnics as may be required in various parts of the State.

- (3) All Colleges, research and experimental stations, of other institutions coming under the jurisdiction and authority of this University shall come in as constituent units of the University under the full management and control of the University officers and authorities. No unit shall be recognised as an affiliated unit.

5. Objects of the University

The University shall be (deemed to be) established and incorporated for the following purposes:

- (1) making provision for imparting education in different branches of study, particularly agriculture, horticulture, veterinary and animal science, fisheries, forestry, agricultural engineering, home science and other allied branches of learning and scholarship;
- (2) furthering the advancement of learning and prosecution of research, particularly in agriculture and other allied sciences;
- (3) undertaking the extension of such sciences specially to the rural people of the State; and
- (4) such other purposes as the University may from time to time determine.

6. Admission to the University

- (1) The University shall, subject to the provisions of this Act and the Statutes, be open to all persons provided that nothing in this section shall require the University to admit to any course of study any persons who do not meet the prescribed academic standards for admission or to retain on the rolls of the University persons whose academic records are below the minimum standards required for the award of a degree or whose personal conduct is such as to be inimical to the purposes of the University or to the appropriate rights and privileges of other students and staff. It is further provided that nothing in this section

shall be deemed to require the University to admit to any course of study a larger number of students than can be accommodated in the available facilities of the University or of any particular College or Department as determined by the Academic Council.

- (2) Subject to the above provisions the State Government may direct that the University shall reserve in colleges seats for scheduled castes, scheduled tribes or candidates from other States in India, Provided that no such person shall be entitled to be admitted to the University unless he or she meets the standards laid down by the University in respect of such candidates.

7. Powers and Functions of the University

The University shall have the following powers and functions, namely:

- (1) To provide for instruction in agriculture as broadly defined and other allied branches of learning as the University may deem fit.
- (2) To make provisions for conduct of research in agriculture and allied branches of learning.
- (3) To make provision for dissemination of the finding of research and technical information through an extension education programme.
- (4) To institute degrees, diplomas, and other academic distinctions.
- (5) To institute courses of study and hold examinations for and confer degrees, diplomas and other academic distinctions on persons who have (a) pursued a course of study as prescribed, or (b) carried out research in the University or institution recognised in this behalf by the University as may be prescribed.
- (6) To confer honorary degrees and other distinctions as may be prescribed.
- (7) To provide lectures and instruction for field workers, village leaders and other persons not enrolled as regular students of the University and to grant certificates to them as may be prescribed.
- (8) To cooperate with other universities and authorities in such manner and for such purposes as the University may deter-

mine, subject to the limitations set forth in Section 4 of this Act.

- (9) To maintain colleges relating to agriculture, fisheries, dairying, veterinary medicine, animal science, home science, agricultural engineering, forestry and allied sciences.
- (10) To maintain laboratories, libraries, research stations and institutions and museums for teaching, research and extension education.
- (11) To institute teaching, research and extension education posts and to appoint persons to such posts.
- (12) To create administrative and other posts and to appoint persons to such posts.
- (13) To institute and award fellowships, scholarships and prizes in accordance with the Statutes.
- (14) To institute and maintain residential accommodations for students and staff of the University.
- (15) To fix, demand and receive such fees and other charges as may be prescribed.
- (16) To supervise and control the residence, conduct and discipline of the students of the University, and to make arrangements for promoting their health and welfare.
- (17) To do all such acts and things whether incidental to the powers aforesaid or not as may be requisite in order to further the objects of the University.

8. Visitation and inspection

- (1) The Chancellor shall have the right to cause and inspection to be made by such person(s) as he may direct of the University, its buildings, laboratories, libraries, museums, workshops and equipment and any institution, college or hostel maintained or administered by the University, of the teaching and other work conducted by the University or under its auspices and of the conduct of any other functions of the University, and to cause an inquiry to be made in respect of any matter connected with administration and finances of the University.
- (2) The Chancellor shall, in every case, give due notice to the University or his intention to cause an inspection or inquiry to be made, and the University shall be entitled to appoint a representative who shall have the right to be

present and be heard at such inspection or inquiry.

- (3) The Chancellor shall communicate to the University the views of the State Government with reference to the results of such inspection or inquiry, and may after ascertaining the opinion thereon of the University advise the University upon the action to be taken and fix a time limit for taking such action.
- (4) The University shall, within the time limit so fixed, report to the Chancellor the action which has been taken or is proposed to be taken on the advice tendered by the State Government.
- (5) The Chancellor may, where action has not been taken by the University to the satisfaction of the Chancellor within the time limit fixed and after considering any explanation furnished or representation made by the University, issue such directions as the Chancellor may think fit and the University shall comply with such directions.
- (6) Notwithstanding anything contained in the preceding subsections of this section, if at any time the Chancellor is of the opinion that in any manner the affairs of the University are not managed in furtherance of the objects of the University, or in accordance with the provisions of this Act, and the statutory regulations or the special measures desirable to maintain the standards of University teaching, examinations, research or extension it may indicate to the University any matter in regard to which it desires an explanation, and call upon the University to offer such explanations within such time as may be specified by the Chancellor. If the University fails to offer any explanation within the time specified or offers an explanation which, in the opinion of the Chancellor is unsatisfactory the Chancellor may issue such instructions as appeared to it to be necessary and desirable in the circumstances of the case, and may exercise such powers as necessary for giving effect to these instructions.
- (7) The University shall furnish such information relating to the administration of the University as the Chancellor may require.

CHAPTER III

AUTHORITIES OF THE UNIVERSITY

9. Authorities of the University

The following shall be the authorities of the University, namely:

- (1) The Board of Management
- (2) The Academic Council
- (3) The Board of studies of each Faculty including Post-Graduate Studies.
- (4) Such other bodies of the University as may be declared by the Statutes to be authorities of the University.

10. Constitution of the Board

(1) The Chancellor shall, as soon as may be after the first Vice-Chancellor is appointed under the provision to subsection——of Section——take action to constitute the Board of Management.

(2) The Board shall consist of the following members.

1. The Vice-Chancellor Ex-Officio Chairman.
 - 2-3. Two Secretaries to Government of the State in the Departments of Agriculture, Community Development or Finance, nominated by State Government.
 - 4-5. Two eminent agricultural scientists with background of agricultural research or education to be nominated by the Chancellor.
 - 6-7. Two progressive farmers to be nominated by the Chancellor.
 - 8-11.

(i) A distinguished industrialist or manufacturer having special knowledge in agricultural development.	To be nominated by State Government.
(ii) One outstanding woman special worker preferably having background of rural advancement.	
(iii) A distinguished engineer	
(iv) An eminent educationist-	
 12. A representative of the Indian Council of Agricultural Research.
 13. Registrar—non-member-Secretary.
- (3) The Vice-Chancellor shall be Ex-Officio Chairman and Registrar non-member Secretary of the Board.

- (4) The term of office of members of the Board, other than ex-officio members, shall be three years, and a member shall be eligible to serve more than one term. In the first Board, the members, other than ex-officio members shall draw lots with three serving for one year, three for two years and the remaining three for three years. Thereafter the terms of three members shall expire and their successors selected each year.
- (5) In case of a vacancy occurring before the expiry of the term of a given member, his successor shall be designated to serve out the remaining unexpired portion of his term.
- (6) The members of the Board shall not be entitled to receive any remuneration from the University except such daily and travelling allowances as may be prescribed.

11. Powers and duties of the Board

- (1) The Board shall exercise and perform the following powers and functions, namely:
 - (a) Review and consider the financial requirements and estimates for the University and approve its budget.
 - (b) To approve the recommendations for appointment of officers, teachers and other staff of the University in the manner prescribed.
 - (c) Provide for the administration of any funds placed at the disposal of the University for the purposes intended.
 - (d) Arrange for the investment and withdrawal of funds of the University.
 - (e) Borrow money for capital improvements and make suitable arrangements for its repayment.
 - (f) Provide for accepting, acquiring, holding and disposal of property on behalf of the University.
 - (g) Direct the form and use of the common seal of the University.
 - (h) Appoint such committees, either standing or temporary, as the Board may consider necessary, and establish the terms of reference thereof within the limitations of the Act or Statutes.
 - (i) Determine and regulate all policies relating to the University in accordance with this Act or the Statutes.

- (j) Make financial provision for instruction, teaching and training in such branches of learning and courses of study as determined by Academic Council within the purposes of this Act, and for research and for the advancement and dissemination of knowledge.
 - (k) Provide for the establishment and maintenance of colleges, hostels, laboratories, experimental farms and other facilities necessary for carrying out the purposes of this Act.
 - (l) Make provision for instituting and conferring degrees, diplomas, and other academic distinctions.
 - (m) Provide for institution, maintenance, and award of scholarships, fellowships, studentships, medals, prizes, etc.
 - (n) Accept on behalf of the University trusts, bequests, and donations.
 - (o) Meet at such times and in such places as it considers necessary; provided that it shall hold regular meetings at least every two months and at least half of such meetings shall be held at some branch of the University.
 - (p) Exercise such other powers and perform such other duties not inconsistent with this Act or Statutes as may be necessary for carrying out the purposes of the Act.
2. The Board may, for purposes of consultation invite any person having experience or special knowledge on any subject under consideration to attend its meeting. Such person may speak in and otherwise take part in the proceedings of such meeting but shall not be entitled to vote at any such meeting. Any person so invited shall be entitled to such allowances for attending the meeting as may be prescribed.

12. The Academic Council

- (1) The Academic Council shall be in charge of the academic affairs of the University and shall, subject to the provisions of this Act and the Statutes, superintend, direct and control, and be responsible for the maintenance of standards of instruction, education and examinations and other matters connected with the conferment of degrees or award

of diplomas, and shall exercise such other powers and perform such other duties as may be conferred or imposed on it by the Statutes. It shall advise the Vice-Chancellor on all academic matters.

- (2) The Academic Council shall consist of the following members, namely :
- (a) The Vice-Chancellor, Ex-Officio Chairman
 - (b) The Pro-Vice-Chancellors, if any
 - (c) The Deans of the various faculties
 - (d) The Director of Research
 - (e) The Director of Extension
 - (f) The Dean of Post Graduate Studies
 - (g) The Director of Student Affairs
 - (h) The Librarian
 - (i) Six members from amongst the Heads of Departments of the various faculties nominated by Vice-Chancellor on rotational basis.
 - (j) The Registrar—Ex-Officio Secretary
 - (k) Director of School of Basic Science & Humanities
 - (l) Such other members as may be prescribed.
- (3) The Academic Council may coopt as members not more than ten persons for such periods and such manner as may be prescribed so as to secure adequate representation of different aspects of agriculture.

13. Powers, Functions, and duties of the Academic Council

1. The Academic Council shall, subject to provisions of this Act and the Statutes have the power by regulations of prescribing all courses of study and determining curricula, and shall have general control on teaching and other educational programmes within the University, and shall be responsible for the maintenance of standards thereof.
2. It shall have power to make regulations consistent with this Act and the Statutes relating to all academic matters subject to its control and to amend or repeal such regulations.
3. In particular, and without prejudice to the generality of the foregoing power, the Academic Council shall have power :
 - (a) to advise the Board on all academic matters including

- the control and management of libraries;
- (b) make recommendations for the institution of professorships, associate professorships, readerships, and teacherships and other teaching posts including posts in research and extension and in regard to the duties thereof;
 - (c) to formulate, modify or revise schemes for the constitution or reconstitution of departments of teaching, research and extension education;
 - (d) to make regulations regarding the admission of students to the University; and determine the number of students to be admitted;
 - (e) to make regulations relating to the courses of study leading to degrees, diplomas and certificates;
 - (f) to make regulations relating to the conduct of examinations and to maintain and promote standards;
 - (g) to make recommendations regarding post-graduate teaching, research and extension education;
 - (h) to make recommendations regarding the qualifications to be prescribed for teachers in the University;
 - (i) to exercise such other powers and perform such other duties as may be conferred or imposed on it by or under the provisions of this Act.

14. The Faculties

- (1) The University shall have such faculties as may be prescribed. Initially this shall include the faculties of basic sciences and humanities, agriculture, veterinary and animal science, home science, and agricultural engineering and technology. As soon as may be appropriate the University shall have a post-graduate faculty. It may have such other faculties as may be prescribed.
- (2) Each faculty shall comprise such departments and with such assignments of subjects of study as may be prescribed.
- (3) There shall be a Board of studies of each faculty the constitution and powers of which shall be as prescribed.
- (4) There shall be a Dean for each faculty who should be chosen in such manner and for such term as may be prescribed.
- (5) The Dean shall be Chairman of the faculty and be respon-

sible for the faithful observance of the statutes and regulations relating to the faculty and for the organization and conduct of the teaching, research and extension work of the departments comprised therein. In carrying out the research and extension programmes he shall work in close cooperation with the Associate Deans, Director of Research and Extension respectively.

- (6) Each department shall have a Head whose appointment, powers and duties shall be as prescribed and who shall be responsible to the Dean for the proper organisation and working of the Department, He shall be responsible to the Director of Research and Extension respectively, for the research and extension programmes entrusted to his department.

15. Constitution of Committees

Every authority shall have the power to appoint committees which may unless otherwise provided in the Act or Statutes consist of the members of the authority, and such other persons as it may think fit.

16. Provisions relating to membership in authorities

- (1) Filling of casual vacancies.

Save as otherwise provided in the Act all casual vacancies among the members, other than ex-officio members, of any authority or other body of the University shall be filled as soon as convenient as may be by the person or body who appointed, elected or coopted the members whose place has become vacant, and the person appointed, elected or coopted to a casual vacancy shall be a member of such authority or body for the residue of the time for which the person whose place he fills would have been a member.

- (2) Removal from membership.

The Board may remove any person from membership of any authority or body of the University on the ground that such person has been convicted of an offence involving moral turpitude, provided that no order for removal shall be passed against any person without giving him an opportunity for being heard.

- (3) Person who is a member of any authority of the University

as a representative of another body, whether of the University or not, shall retain his seat on the University authority or body so long as he continues to be a member of the body by which he was appointed or elected and thereafter till his successor is duly appointed or elected.

- (4) If any question arises whether any person has been duly appointed or elected as or is entitled to be a member of any authority of the University subordinate to the Board, or whether any decision of the University is in accordance with this Act and Statutes the question shall be referred to the Chancellor whose decision thereon shall be final.

17. Savings of Validity

- (1) No act of proceedings of any authority or other body of the University shall be invalid merely by reason of the existing of a vacancy or vacancies among its members or by reason of some person having taken part in the proceedings who is subsequently found not to have been entitled to do so.
- (2) Save as otherwise provided in this Act all acts and orders in good faith done and passed by the University or any of its authorities shall be final and no suit shall be instituted against or damage claimed from the University or its authority for anything done or purported to be done in pursuance of this Act and the Statutes and regulations made thereunder.
- (3) No suit, prosecution or other proceedings shall lie against any officer or other employee of the University for any act done or purported to be done under this Act or the Statutes without the previous sanction of the Board.
- (4) No officer or other employee of the University shall be liable in respect for any such act in any civil or criminal proceedings if the act was done in good faith in the course of the execution of the duties or the discharge of the functions imposed by or under this Act.

CHAPTER IV

OFFICERS

18. Officers of the University

Following shall be the officers of the University, namely:

- (1) The Chancellor
- (2) The Vice-Chancellor
- (3) The Pro-Vice-Chancellor(s)
- (4) The Registrar
- (5) The Comptroller
- (6) The Director of Physical Plant
- (7) The Librarian
- (8) The Director of Student Affairs
- (9) The Deans of Faculties
- (10) The Dean of Post Graduate Studies
- (11) The Director of the School of Basic Sciences and Humanities
- (12) The Director of Research
- (13) The Director of Extension
- (14) Such other persons in the service of the University as may be declared by the Statutes to be officers of the University.

19. The Chancellor

- (1) The Governor of the State of————shall by virtue of his office be the Chancellor of the University.
- (2) The Chancellor shall be the Head of the University and shall, when present, preside at any convocation of the University.
- (3) Every proposal to confer an honorary degree shall be subject to the confirmation of the Chancellor.
- (4) The Chancellor shall exercise such other powers and perform such other duties as may be conferred or imposed on him by this Act or the Statutes.

20. The Vice-Chancellor

- (1) The Vice-Chancellor shall be a whole-time officer of the University. The first Vice-Chancellor after the commencement of this Act shall be appointed by the Chancellor for a period not exceeding five years and on such terms and conditions as the Chancellor may determine. Subsequent

Vice-Chancellors shall be appointed by a Selection Committee consisting of the Chancellor, the Director General of Indian Council of Agricultural Research and the Chairman of the University Grants Commission.

The Chancellor shall be the Chairman of this selection committee. The selection committee may establish its own procedure for assembling names of possible candidates for consideration, and for consultation with and receiving suggestions from individuals or bodies it considers appropriate.

- (2) The Vice-Chancellor shall normally hold office for a term of five years and shall be eligible for reappointment for one additional term of 5 years. The emoluments and other conditions of service of the Vice-Chancellor shall be such as may be prescribed and shall not vary to his disadvantage after his appointment.
- (3) The Vice-Chancellor may by writing under his hand addressed to the Chancellor resign his office. The resignation shall be delivered to the Chancellor ordinarily at least 60 days prior to the date on which the Vice-Chancellor wishes to be relieved from his office, but the Chancellor may relieve him earlier. The resignation shall take effect from the date of relief.
- (4) In the temporary absence of the Vice-Chancellor on leave or whatever reason or until such time the vacancy caused by any other manner is filled, the senior Pro-Vice-Chancellor if present or in the absence of Pro-Vice-Chancellor the senior most officer amongst the Deans or Directors should temporarily carry on the routine duties of the office. Where the post of Vice-Chancellor falls permanently vacant either by resignation or otherwise, the vacancy shall be filled by the Chancellor and in accordance with provisions of subsection (1) of this section and the Vice-Chancellor so appointed shall hold office for a full term of five years.

21. Powers and duties of the Vice-Chancellor

- (1) The Vice-Chancellor shall be the principal executive and academic officer of the University and ex-officio Chairman of the Board and of the Academic Council. He shall, in the absence of the Chancellor and the Pro-Chancellor,

preside at the Convocation of the University and confer degrees on persons entitled to receive them.

- (2) The Vice-Chancellor shall exercise general control over the affairs of the University and shall be responsible for the due maintenance of the discipline in the University.
- (3) The Vice-Chancellor shall convene meetings of the Board and the Academic Council.
- (4) The Vice-Chancellor shall ensure the faithful observance of the provisions of this Act and the Statutes and Regulations, and he shall possess such powers as may be necessary in that behalf.
- (5) The Vice-Chancellor shall be responsible for the presentation of the annual financial estimates and the annual accounts and balance sheet to the Board.
- (6) The Vice-Chancellor may, take any action in any emergency which in his opinion calls for immediate action. He shall in such a case and as soon as may be thereafter report his action to the authority which will ordinarily have dealt with the matter.
- (7) Where any action taken by the Vice-Chancellor under subsection (6) affects any person in the service of the University to his disadvantage, such person may prefer an appeal to the Board within thirty days from the date on which such person has notice of the action taken.
- (8) Subject to the provisions of the preceding sub-sections the Vice-Chancellor shall give effect to the orders of the Board regarding the appointments, suspension and dismissal of officers, teachers and other employees of the University.
- (9) The Vice-Chancellor shall be responsible for the proper administration of the University and for a close co-ordination and integration of teaching, research and extension education.
- (10) The Vice-Chancellor shall exercise such other powers as may be prescribed and for the carrying out of the purposes and provisions of this Act.

22. Extra-ordinary powers of the First Vice-Chancellor

- (1) The first Vice-Chancellor shall for a period of one year from the date of his appointment or for such shorter period as may be determined by the Chancellor have the

following powers :

- (a) Subject to the approval of the Chancellor to make the first Statutes to provide for functioning of the University.
 - (b) With the previous approval of the Chancellor to constitute provisional authorities and bodies and on their recommendation make rules for the conduct of the work of the University
 - (c) Subject to the control of the Chancellor to make such financial arrangements and to incur such expenditure as may be necessary to enable this Act or any part thereof to be brought into operation.
 - (d) With the sanction of the Chancellor to make such appointments as may be necessary to enable this Act or any part thereof to be brought into operation.
 - (e) With previous sanction of the Chancellor to appoint committees that he may think fit to discharge such of the functions as he may direct.
 - (f) Generally to exercise all or any of the powers conferred on the Board by this Act or the Statutes.
- (2) Any orders passed by the Vice-Chancellor in exercise of the powers conferred on him by items (b), (d) and (e) of sub-section (1) shall continue to have effect after the expiry of the period specified under sub-section (1) until it is modified or set aside by the authority or body competent to deal with it in accordance with the provisions of this Act.

23. Pro-Vice-Chancellor(s)

If in the judgment of the Vice-Chancellor it should be necessary in the discharge of the duties of the Vice-Chancellor may recommend to the Board and the Board may approve the appointment of one or more Pro-Vice-Chancellors as whole-time officers of the University to serve under the direction of the Vice-Chancellor. The Pro-Vice-Chancellors when appointed shall have such duties and shall be delegated such powers and functions as may be prescribed for assisting the Vice-Chancellor to discharge his functions in relation to the Academic, administrative or other duties of his office.

24. The Registrar

- (1) The Registrar shall be a whole-time officer of the University and shall be appointed by the Vice-Chancellor subject to the approval of the Board.
- (2) The salary and allowances payable to the Registrar shall be as prescribed.
- (3) The Registrar shall be responsible for the due custody of the records and the common seal of the University. He shall be ex-officio Secretary to the Academic Council and shall be bound to place before it all such information as may be necessary for the transaction of business. He shall receive applications for entrance to the University, and shall keep a permanent record of all courses, curricula and other information as deemed necessary.
- (4) The Registrar shall be responsible for maintaining a permanent record of the academic performance of students of the University including the courses taken, grades obtained, degrees awarded, prizes or other distinctions won, and any other items pertinent to the academic performance of the students.
- (5) The Registrar shall perform such other duties as may be prescribed or required from time to time, or which may be assigned by the Board or the Vice-Chancellor.

25. The Comptroller

- (1) The Comptroller shall be a whole-time officer of the University and shall be appointed by the Vice-Chancellor subject to the approval of the Board.
- (2) The salary and allowance and other conditions of services of the Comptroller shall be such as may be prescribed.
- (3) The Comptroller shall manage the funds and investments of the University and shall advise in regard to its financial policy.
- (4) The Comptroller shall be responsible to the Vice-Chancellor in the preparation of the budget and statement of accounts of the University.
- (5) The Comptroller shall be responsible to the Vice-Chancellor for ensuring that expenditures are made as authorised in the budget. When budget revisions are required in the interest of expediting new programmes, changed require-

ments and for other reason he shall be responsible for preparing the needed revisions and for expediting their appropriate approval. He may disallow any expenditure which may contravene the terms of any statute or for which provision is required to be made by a new statute.

26. The Director of Physical Plant

- (1) The Director of Physical Plant shall be appointed by the Vice-Chancellor with the approval of the Board.
- (2) His salary and service conditions shall be as prescribed.
- (3) The Director of Physical Plant shall have the following duties, namely:
 - (a) Make arrangements for the maintenance and constructions of the buildings and other structures of the University.
 - (b) Make arrangements for the purchase and maintenance of machinery and other equipment necessary for the purpose of the University.
 - (c) Be responsible for the maintenance of the lawns, grounds and gardens of the University campus.
 - (d) He shall be the general custodian of all University property.
 - (e) Such other duties as may be prescribed or as may be assigned to him by the Vice-Chancellor.
- (4) The Estate Officer shall in the discharge of his duties be responsible to the Vice-Chancellor.

27. The Librarian

- (1) The Librarian shall be appointed by the Vice-Chancellor subject to the approval of the Board and shall be responsible to the Vice-Chancellor for all matters concerning the library and the purchase, cataloguing and maintenance of books and journals and operation of the library.
- (2) The salary and allowances and other conditions of service of the Librarian shall be such as may be prescribed.

28. The Deans of Faculties or Colleges

- (1) There shall be a dean for each college or faculty of the University who shall be chosen in such manner and for such period as may be prescribed.

- (2) The Dean shall be Chairman of the Board of Studies of that faculty and shall be responsible to the Vice-Chancellor for the faithful observance of the Statutes and regulations relating to the faculty and for the organisation and conduct of the teaching and in carrying out his responsibilities for the organisation and conduct of these functions he shall work in close liaison with other officers including the Associate Deans, Directors of Research and Extension and would generally work through the Heads of the departments of the faculty.
- (3) The Deans shall have such other duties and perform such other functions as may be necessary for the proper functioning of the work of their respective faculties as assigned by the Vice-Chancellor.

29. The Dean of Post-Graduate Studies

- (1) The Dean of Post-Graduate Studies shall be a whole-time officer of the University and shall be appointed by the Vice-Chancellor subject to the approval of the Board.
- (2) The salary and allowances payable to the Dean of the Post-graduate Studies shall be as prescribed.
- (3) The Dean of Post-Graduate Studies shall have the following duties, namely:
 - (a) To co-ordinate post-graduate studies in all colleges, departments, and sections of the University.
 - (b) To supervise maintenance of records pertaining to post-graduate courses, instructions, and students.
 - (c) To effect general co-ordination of post-graduate thesis research programmes with the on-going programme of the University's Agricultural Research Service, through the Director of Agricultural Research.

30. The Director of Research

1. There shall be a Director of Research who shall be a whole time salaried officer of the University responsible to the Vice-Chancellor. He shall be appointed by the Vice-Chancellor with the prior approval of the Board in accordance with the Statutes made in this respect. The Director of research shall be responsible for the direction and co-ordination of Research Programme as set forth in section

35 of this Act and efficient working of the research stations.

2. The emoluments and conditions of service of the Director of Research shall be such as may be prescribed by the Statute.
3. The Director of Research shall exercise such powers and perform such duties as may be conferred or imposed on him by Statutes.

31. The Director of Extension Education

1. There shall be a director of extension who shall be a whole-time salaried officer of the University responsible to the Vice-Chancellor. He shall be appointed by the Vice-Chancellor, with the prior approval of the Board, in accordance with the Statutes made in this respect. He shall be responsible for the Agricultural Extension programme as set forth in the Section 36 of this Act.
2. The emoluments and conditions of service of the Director of Extension shall be such as may be prescribed by the statutes.
3. The Director of Extension shall exercise such powers and perform such duties as may be conferred or imposed on him by the statutes.

32. The Director of School of Basic Sciences and Humanities

The School of Basic Sciences and Humanities shall be headed by a Director who shall be responsible for giving general Direction to the employment and supervision of the staff necessary for providing courses of study in the Basic Sciences and Humanities necessary in the Curricula of students in the other colleges of the University and for the development and supervision of instruction programmes in these fields as required for the curricula of the University.

33. The Director of Student Affairs

- (1) The Director of Student Affairs shall be a whole-time officer and shall be appointed by the Vice-Chancellor with the approval of the Board.
- (2) The Salary and allowances payable to the Director of Stu-

dent Affairs shall be as prescribed.

- (3) The Director of Student Affairs shall have the following duties, namely:
- (a) To make arrangements of housing of students.
 - (b) To arrange programme of student counselling.
 - (c) To arrange for the employment of students in accordance with the plans approved by the Vice-Chancellor.
 - (d) To supervise the extra-curricular activities and look after the general needs of the students.
 - (e) To assist in the placement of the graduates of the University.
 - (f) To organise and maintain contact with the alumni of the University.
 - (g) To perform such other duties as may be assigned to him by the Vice-Chancellor.

34. Remuneration of Officers and Employees

No officer or employee of the University shall be offered nor shall he accept any remuneration for any work in the University, save such as may be provided for in the Statutes.

CHAPTER V

RESEARCH AND EXTENSION

35. Agricultural Research Programme

- (1) An Agricultural Research Programme shall be established in the University. Subject to the provisions of this Act and the Statutes, the University shall carry on research throughout the State of———directed primarily to the problems of agriculture and allied sciences for the purpose of aiding the development of Agriculture and for the benefit of the rural population of the State.
- (2) The———Agricultural University through and its Agricultural Research organisation shall be the principal agency of control over agricultural research activities of the State of———.
- (3) Jurisdiction over research programme, facilities, personnel and budgets previously assigned to the Directors of Agriculture and Animal Husbandry of the State Government

and to such other agencies of the State Government concerned with research in agriculture, broadly defined in this Act, shall be transferred to the University according to plans which will be mutually agreed upon between the Board and the State Government. The transfers shall be made by an agreed date.

36. Agricultural Extension Programme

- (1) An Agricultural Extension Programme shall be established in the University and shall subject to provisions in this Act and the Statutes make useful information based upon the findings of research available to farmers and others to help and solve their problems. It shall conduct demonstration and training programmes for the benefit of students, extension workers, cultivators and rural people. Increased agricultural production shall be the principal objective of all extension activities and these activities shall be coordinated with the other functions of the University and other appropriate agencies of the State.
- (2) The-----University shall be responsible for the agricultural extension education activities in the State-necessary to inform and demonstrate to cultivators the findings and development of agricultural research on improved practices essential to improve rural living and to increase agricultural production with special emphasis on food production and utilisation.
- (3) In order that the University may conduct such educational activities the State shall transfer to the University the necessary personnel, facilities and funds in accordance with a plan to be developed and mutually agreed upon by the Board and the State Government.
- (4) The Agricultural Extension Programme shall be developed under the guidance of a Director of Extension responsible to the Vice-Chancellor.

37. Coordination of teaching, research and extension and integration of functions and curricula and of services

- (1) In consultation with the appropriate officers of the University, the Vice-Chancellor shall be responsible for taking such steps as may be necessary for the full coordination of

teaching, research, and extension activities of the University.

- (2) The Vice-Chancellor shall be responsible, working through the appropriate officers of the University' for seeing that conditions are established whereby there is the maximum feasible progress in the development of new information and technology in the natural, physical and social sciences related to agriculture and this transfer to the teaching curricula and to the educational programmes leading to their understanding and adoption where applicable in practice throughout the State.
- (3) The Vice-Chancellor shall be responsible, working through the appropriate officers and staff of the University, to see that there is an appropriate interrelation of the different curricula and courses offered in the different faculties of the University so as to avoid unnecessary duplication of functions between faculties and provide the students with the best course offerings and faculty contacts feasible within the University's resources and talents.
- (4) The University shall develop its programme of research and extension education keeping in view the needs of the State and provide the appropriate technical support and consultative advice to State Government departments engaged in agricultural development work.

CHAPTER VI

APPOINTMENTS OF TEACHERS, OFFICERS AND STAFF

38. Appointment of teachers, officers, and staff

- (1) Subject to the provisions of this Act the members of the staff of the University shall be appointed by the Vice-Chancellor with the approval of the Board.
- (2) Except in cases otherwise provided for in the Statutes, every salaried officer and teacher of the University shall be appointed under a written contract. The contract shall be lodged with the Vice-Chancellor and a copy thereof shall be furnished to the officer or teacher concerned. The contract shall not be inconsistent with the provisions of this Act and Statutes for the time being in force in relation to

the conditions of service.

- (3) The procedure for selection of officers, teachers and other employees of the University unless otherwise provided in the Act shall be as prescribed.

CHAPTER VII

FUNDS AND ACCOUNTS

39. Pension or Provident Fund

- (1) The University shall constitute for the benefit of its officers, teachers, clerical staff and other employees in such a manner and subject to such conditions as may be prescribed such pension, insurance, and provident funds as it may deem fit.
- (2) For such pension, insurance and provident funds so constituted by the University, the Government may declare that the provisions of the Provident Fund Act 1925 shall apply to such fund as if it were a Government Provident Fund, provided that the University shall have power in consultation with the Finance Committee of the Board to invest the Provident Fund amount in such manner as it may determine.
- (3) Persons in Government services transferred to the University shall be governed under such terms and conditions as may be agreed to between the University and Government.

40. University Funds and Grants

A. General Fund

The University shall have a General Fund to which shall be credited:

- (1) Its income from fees, endowments and grants, if any;
- (2) contributions or grants which shall be made by the Government, on such conditions as it may impose;
- (3) Grants, Donations and benefactions; and
- (4) Other receipts.

B. Foundation Fund

- (1) The University shall form a fund called the Foundation Fund from contributions and Grants made by the Central Government and the State Government for being credited to that fund and such other sums from the University

which may be credited to the said Fund.

- (2) The monies in the Foundation Fund shall be invested in the securities mentioned or referred to in clause (a) to (d) of section 20 of the Indian Trusts Act, 1882.
- (3) The University shall furnish statements, accounts, reports and other particulars as the State Government may require relating to any grant is made by the Government and shall take such action and furnish such statements, accounts, reports and other particulars relating to the utilization of any grant within such time and in such manner the State Government may direct.
- (4) It shall be competent for the University in furtherance of its objectives to accept grants from the Government of _____ or any other State Government or the Central Government or Statutory bodies, endowments or donations under such conditions as may be agreed upon between the University and the granter or donor.

C. Other Funds

The University may have such other funds as may be prescribed by the Statutes.

D. Management of Funds

The General Fund, Foundation Fund and Other Funds of the University shall be managed according to provisions laid down by the Statutes.

E. Government Grants

The State or Central Government shall every year make non-lapsable lump sum grants to the University as follows:

- (1) A grant not less than the net expenditure incurred in the _____ on such of the activities of the institutions of the agricultural, animal husbandry and other government departments as are transferred to the University.
- (2) A grant not less than the estimated net expenditure of pay and allowances of the staff, contingencies, supplies and services of the University other than in respect of the activities in institutions referred to in clause (1).
- (3) A grant to meet such additional items of expenditure, recurring and non-recurring, as the State Government may deem necessary for the proper function of the University.
- (4) The State Government shall also make a non-lapsable lump sum grant to the University in respect to schemes

included in the ~~-----~~ Five Year Plan and transferred to it for implementation by the University of an amount equal to the net outlay shown in the annual plan. Adjustments may be made for the anticipated assistance from the Central Government and other agencies sponsoring such schemes provided such assistance may come to the University directly, rather than through the State Government.

41. Finance Committee

- (1) The Board shall constitute a Finance Committee consisting of the following persons, namely, the Vice-Chancellor, a Secretary to Government, the Comptroller, one member chosen by the Board from amongst its non-official members.
- (2) The Finance Committee shall have the following powers, namely,
 - (a) To examine the annual accounts of the University and to advise the Board thereon.
 - (b) To examine the annual budget estimates and to advise the Board thereon.
 - (c) To review the financial position of the University from time to time.
 - (d) To make recommendations to the University on all matters relating to the finances of the University.
 - (e) To make recommendations to the Board on all proposals involving expenditure for which no provision has been made in the budget or which involves expenditure in excess of the amount provided in the budget.

42. Accounts and auditing

- (1) The annual accounts of the University shall be prepared by the Comptroller under the direction of the Vice-Chancellor and all the monies accruing to or received by the University from whatever source and all amounts disbursed and paid by the University shall be entered in the accounts.
- (2) The annual accounts and the balance sheet shall be submitted by the Vice-Chancellor to the State Government which shall cause an audit to be carried by "Chartered Accountant or Accountant General" as it may appoint in this behalf. The accounts when audited shall be printed

and copies thereof together with the audit report shall be presented by the Vice-Chancellor to the Board and to the Chancellor.

- (3) The Board shall submit a copy of the accounts and the report to the State Government along with the statement of the action taken by the University on the audit report and the State Government shall cause the same to be laid before both the Houses of the Legislature.

CHAPTER VIII

STATUTES AND REGULATIONS

43. Statutes

Subject to the provisions of this Act the Statutes may provide for all or any of the following matters, namely;

- (1) The constitution, powers, and duties of the authorities.
- (2) The powers, functions, duties, manner of appointment and conditions of service of the Officers other than the Chancellor.
- (3) The designation, manner of appointment, powers and duties of officers.
- (4) The classification and manner of appointment of teachers and other non-teaching staff.
- (5) The conferment and withdrawal of honorary degrees and academic distinctions.
- (6) The establishment, amalgamation, sub-division and abolition of faculties.
- (7) The establishment of departments of teaching in the faculties.
- (8) The procedure of appointment, emoluments and conditions of service of the Vice-Chancellor and his powers.
- (9) The manner of appointment and selection of officers other than the Vice-Chancellor and their powers, and terms and conditions of service.
- (10) The establishment of a pension or provident fund and other insurance scheme for the benefit of officers, teachers and other employees of the University and the rules, terms and conditions of such funds.
- (11) All other matters necessary for carrying out all or any of the purposes of this Act.

- (12) One third of the members of the Board shall constitute a quorum for the transaction of business provided all members had been given due advance notice of the meeting.
- (13) With the exception of the Chancellor, Vice-Chancellor, the normal retirement age for officers and teachers of the University shall be 60 years. Notwithstanding the normal retirement age, the University may, subject to the approval of the Board, employ senior officers of the rank of Dean or Director or may employ persons for specific assignments under contracts for specified lengths of time which may extend beyond the age of 60. The employment of teaching, research and extension staff may continue beyond the age of sixty and on year basis in individual cases when justified in the interests of the University and with the consent of the employee up to the age of 63.

44. Statutes how made

- (1) The first Statutes with regard to matters set out in clauses 1 to 13 shall be made by the Vice-Chancellor with the approval of the Chancellor.
- (2) Additional Statutes may be made subsequently on all matters requiring Statutes, subject to approval by the Board and the Chancellor.
- (3) Statutes may be proposed by the Academic Council, the Vice-Chancellor or the Board. In case of a Statute proposed by the Board and concerning the internal working of the University, the draft Statute must be referred back to the Vice-Chancellor for consideration in the University and sufficient time given to allow the University to review the proposed Statute and to make any suggestions for changes or modifications therein before final action is taken by the Board.
- (4) Any Statute may be repealed by action of the Board and approval of the Chancellor.
- (5) All Statutes made under this Act shall be published in the official gazette.

45. Regulations

- (1) The authorities of the University may be notification in

- the official gazette make regulations consistent with this Act and the Statutes:
- (a) laying down the procedure to be observed at their meetings and the number of members required to form the quorum;
 - (b) Providing for matters which by this Act or the Statutes have to be regulated by regulations;
- (2) Every authority of the University shall make regulations providing for the giving of notice to the members of such authority of the dates of the meetings and the business to be considered at meetings and for keeping of record of the proceedings of the meetings.
 - (3) The Academic Council may subject to provisions under this Statute make regulations providing for courses of studies, system of examinations and degrees and diplomas of the University after receiving drafts of the same from the Board of Studies concerned.
 - (4) The Academic Council may not alter a draft received from the Board of Studies but may reject the draft or may return it to the Board of Studies for further consideration together with the suggestions of the Council. The academic council shall however be the final authority for approval of such proposals.
 - (5) The Board may direct the amendment in such manner as it may specify of any regulation made under this section or the annulment of any regulations made under subsection (1) by any authority of the University.
 - (6) The procedure at meetings of such authorities including the quorum for the transaction of business of them.
 - (7) The holding of convocations to confer degrees and diplomas.
 - (8) The conferment of honorary degrees, academic distinctions and withdrawal of degrees.
 - (9) The establishment and abolition of hostels maintained by the University.
 - (10) The institution of fellowships, scholarships, student-ships, bursaries, medals and prizes and the conditions of award thereof.
 - (11) The allowances payable to members of the Board.
 - (12) The entrance or admission of the students to the Univer-

sity and their enrolment and continuance as such and the conditions and procedures for dropping students from enrolment.

- (13) The fees which may be charged by the University.
- (14) The courses of study to be laid down for all degrees, diplomas and certificates of the University.
- (15) The conditions under which students shall be admitted to the degrees, diplomas, or other courses and examinations of the University and their eligibility for the award of degrees and diplomas.
- (16) The conditions for conferral of degrees and other academic distinctions.
- (17) The maintenance of discipline among the students of the University.
- (18) The special arrangements if any which may be made for residence, discipline and teaching, of women students and the prescription of special courses of study for women.
- (19) The conditions of residence of students of the University and the levy of fees for residence in hostels.
- (20) The recognition and management of hostels not maintained by the University.
- (21) The conditions of service, remuneration and allowances including travelling and daily allowances to be paid to officers, teachers and other persons employed under the University.

CHAPTER IX

MISCELLANEOUS

46. Residence of Students

Students shall reside in accommodations maintained by the University or which have been approved by the Director of Student Affairs subject to conditions prescribed.

47. Annual Report

The Annual Report of the University shall be prepared under the direction of the Vice-Chancellor and shall be submitted to the Board at least one month before the annual meeting at which it is to be considered. The Board shall after consideration of the report forward it to

the State Government with such comments as may be deemed necessary and the State Government shall cause copy of the report together with its comments to be laid before each House of the Legislature.

48. Transitory provisions

Notwithstanding anything contrary in this Act or the ——— University Act or Statutes and regulations made under any of these aforesaid enactments:

- (1) Any student who immediately or prior to the appointed date was studying in the colleges which have been or may hereafter be admitted to the privileges of the University for degree, diploma, or certificate of the ——— University shall in accordance with the regulations of this latter University be entitled to be examined by and if on the results of such examination he qualifies be entitled to be conferred with corresponding degree, diploma or certificate as the case may be of the University established under this Act.
- (2) Any student of the ——— University or the colleges which become constituent colleges of this University who immediately before the aforesaid date for studying was eligible for any examination of the ——— University shall have the right to complete his course and preparation therefor and appear at the examination in accordance with the courses of study of the ——— University.

49. Transfer of certain colleges and institutions to the University

- (1) Notwithstanding anything contained in the ——— University Act or the Statutes, Ordinances and Regulations and orders made thereunder, the colleges of ——— etc. shall as from such date as the State Government may by notification in the official gazette specify be dis-affiliated from the ——— University and shall be maintained by the ——— Agricultural University as constituent colleges.
- (2) The control and management of the colleges specified in subsection(1) shall as from the appointed day stand transferred to the University and all properties and assets and liabilities and obligations of the State Government in re-

lation thereto shall stand transferred to, vest in, or devolve upon the University.

- (3) Notwithstanding anything contained in this Act or the Statutes and regulations made thereunder, any student of the college specified in subsection (1) who is studying for any examination of the-----University shall be permitted to complete his course and preparation therefor and the University shall make arrangements for holding for such students examinations for such periods as may be prescribed in accordance with the curriculum of studies of the-----University. Such students should appear at the examinations within 2 years of the normal period required for completing the said course of studies.
- (4) The control and management of all research and educational institutions of the Department of Agriculture, the Department of Animal Husbandry, and ----- Departments of the State Government and including the Gram Sevak and Gram Sevika training centres in the State shall as from such date as the State Government may by order specify be transferred to the University and thereupon all the properties and assets and liabilities and obligations of the State Government in relation to such institutions stand transferred to, vest in, or devolve upon the University, provided that this transfer shall be completed within a period not to exceed one year from the date of coming into force of this Act.
- (5) Every person employed in any of the Colleges specified in subsection (1) or in any of the institutions referred to in subsections (4) and (5) immediately before the appointed day or the dates specified in the order under subsections (4) and (5) as the case may be shall as from or the specified day become an employee of the University on such terms and conditions as may be determined by the State Government in consultation with the Board.
- (6) The Government employees working in the Colleges and research stations which are transferred to the-----Agricultural University and become employees of this University shall do so on the same terms and conditions as were applicable to them immediately before the said date or on conditions prescribed by the University for new

employees if acceptable to them.

50. Removal of difficulties

- (1) If any difficulty arises in giving effect to the provisions of this Act the State Government may by order published in the official gazette do anything which appears to it to be necessary for the purpose of removing the difficulty.
- (2) No order made under subsection (1) shall be questioned in any court of law on the ground that no difficulty as is referred to in the said subsection existed or was required to be removed.
- (3) Every order published under this section shall as soon as may be after its publication laid before both Houses of the State Legislature.

51. Delegation of powers

The Board may by Statute delegate to any officer or authority of the University any of the powers conferred on it by this Act or by the Statutes to be exercised subject to such restrictions and conditions as may be prescribed.

APPENDIX II

STATUTES OF THE UNIVERSITY OF AGRICULTURAL SCIENCES, HEBBAL, BANGALORE

In exercise of the powers conferred by sub-section (1) of Section 40 of the University of Agricultural Sciences Act, 1963 (Mysore Act 22 of 1963) the Vice-Chancellor of the University of Agricultural Sciences, Hebbal, Bangalore hereby makes the following first Statutes of the University of Agricultural Sciences, with the approval of the Chancellor, namely:

CHAPTER I

GENERAL

1. Title and Commencement

- (1) These Statutes shall be called the University of Agricultural Sciences Statutes, 1964.
- (2) They shall come into force on the twentieth day of October 1964.

2. Definitions

In these Statutes, unless the context otherwise requires,——.

- (a) "Act" means the University of Agricultural Sciences, Act, 1963 (Mysore Act No. 22 of 1963);
- (b) "Section" means a section of the Act;
- (c) "Council" means the Academic Council;
- (d) "Faculty" means the professional staff dealing with a broad subject-matter such as Agriculture, Animal Science, etc;
- (e) "College" means a physical unit of the University located in one campus such as Dharwar or and Hebbal;
- (f) Words and expressions used but not defined in these Statutes, shall have the meanings assigned to them in the Act.

CHAPTER II
AUTHORITIES AND COMMITTEES OF THE
UNIVERSITY

3. Board Members: Registered Graduates as Members of Board

Until the registered graduates of not less than five years standing of the University become available to enable the State Government to nominate two persons among them as members as provided under section 25 (2) (B) (iii) the Board shall be deemed to be duly constituted without the said two persons.

4. Academic Council: Co-opted Members

- (1) In addition to members provided in sub-section (3) of section 27, the following officers of the University shall be full-time members of the Academic Council:
 - (a) Registrar,
 - (b) Librarian,
 - (c) Comptroller,
 - (d) Estate Officer,
 - (e) Administrative Officer.
- (2) In the event of any reorganisation of Divisions to form new constituent colleges, the representation, provided under sub-section (3) of section 27, shall apply to such reorganised Divisions.
- (3) Till a Division is established the seat reserved for it shall remain unfilled.
- (4) In addition to the Divisions referred to in sub-section (1) of section 21 a Division of Agricultural Economics and Rural Sociology and a Division of Education and Extension shall be established as early as possible, subject to the approval of the Board. Other new Divisions shall be established by the Board when necessary.
- (5) The Academic Council shall advise the Vice-Chancellor on all academic matters as requested by the Vice-Chancellor and/or as deemed appropriate by the Academic Council. All recommendations of the Academic Council prior to implementation, shall be subject to the approval of the Vice-Chancellor.

5. Board of Studies

- (1) There shall be the following Boards of Studies, namely:
 - (a) The Board of Study of the Faculty of Agriculture.
 - (b) The Board of Study of the Faculty of Animal Science.
 - (c) The Board of Study of the Faculty of Basic Science and Humanities.
- (2) The Board of Studies of the Faculty of Agriculture shall consist of all Professors, all Associate Professors and two elected representatives of the Assistant Professors engaged in teaching, research and extension in the existing divisions of Plant and Soil Sciences, Horticultural Science, Agricultural Engineering, Home Economics, Agricultural Economics and Rural Sociology and Agricultural Extension and Education. The election of the two representatives from among the Assistant Professors shall be conducted under the supervision of the Chairman. The Director of Instruction, Hebbal and the Director of Instruction, Dharwar, shall be the Chairman of this Board of Studies alternately as determined by the Vice-Chancellor, the term of office being limited to one year at a time from the date of appointment.
- (3) The Board of Studies of the Faculty of Animal Science shall consist of all the Professors, all Associated Professors, and two elected representatives of the Assistant Professors engaged in teaching, research and extension in the existing division of Animal Science, Veterinary Science, Dairy Science and Fisheries Science. The Director of Instruction, Veterinary College, Hebbal, shall be the Chairman. The election of the two representatives from among the Assistant Professors shall be conducted under the supervision of the Chairman.
- (4) The Board of Studies of the Faculty of Basic Sciences and Humanities shall consist of all the Professors, all the Associate Professors and two elected representatives of the Assistant Professors engaged in teaching, research and extension in the existing division of Basic Sciences and Humanities. The Dean of the University shall be the Chairman. The election of the two representatives from among the Assistant Professors shall be conducted under the supervision of the Chairman.

- (5) Each Board of Studies shall be responsible to its respective Chairman and shall have the following duties, namely:
 - (a) It shall propose the establishment of such Divisions as deemed best and the scope of work to be done by the Board of Studies and the various Departments, and submit such plans to the Council, for submission to the Board,
 - (b) It shall subject to Statutes, develop Division curricula and course outline to meet the degree requirements of the University,
 - (c) It shall subject to the provisions of the Statutes, make Regulations on detailed conditions of admission of students to the various courses of study in the Faculty, methods of evaluating the progress and attainments of the students of the Faculty and bases for dismissal of students who fail to meet the academic requirements to the Faculty and the University,
 - (d) It shall recommend to the Chairman that degrees be conferred on students who have met satisfactorily the degree requirements of the Faculty and the University,
 - (e) It shall perform such other duties as may be assigned by the Vice-Chancellor and the Dean through the Chairman.
- (6) Each Board of Studies shall appoint committees representing each Division and it shall be the duty of such committees to consider the matters related to their respective Division and make recommendations to the Boards of Studies.
- (7) The Chairman of a Board of Studies may co-opt the services of other Officers and teachers to assist the Board in the performance of its duties.

6. Declaration of Other Bodies to be the Authorities of the University

There shall be a Research Council and one Extension Education Council which shall also be the authorities of the University.

7. Constitution of the Research Council

- (1) The Research Council shall consist of the following mem-

bers, namely:

- (a) Director of Research as Chairman,
 - (b) Director of Extension,
 - (c) Heads of Divisions,
 - (d) Librarian, and
 - (e) Research Specialists and technical advisors appointed by the Director of Research and approved by the Vice-Chancellor, not exceeding five in number.
- (2) The Research Council shall be responsible to the Director of Research and shall consider and make recommendations on all matters pertaining to research to be conducted by the University.

8. Constitution of Extension Education Council

- (1) The Extension Education Council shall consist of the following members, namely:
 - (a) Director of Extension, as Chairman,
 - (b) Director of Research,
 - (c) Heads of Divisions,
 - (d) Specialists and technical advisors appointed by the Vice-Chancellor, not exceeding five in number.
- (2) The Extension Education Council shall be responsible to the Director of Extension and shall consider and make recommendations on all matters pertaining to Extension Education, and especially with respect to:
 - (a) Training of College students in extension education,
 - (b) Preparation of education material for cultivators,
 - (c) Short courses, etc., for non-student rural people,
 - (d) Field extension programme for the benefit of cultivators,
 - (e) Agricultural production and marketing co-operatives,
 - (f) Programmes for cultivator families, rural youth, etc.

9. Travel Allowances and Authorisation

- (1) Travelling allowance to non-official members of the Board shall be paid as follows for attending its meetings and the meetings of the other authorities and committees of the University to which they are invited.
 - (i) Railway fare: First Class fare plus incidental charges at 6 paise per mile.

- (ii) Road Mileage: 50 paise per mile.
 - (iii) Journey by bus :
 - (a) Less than 20 miles-1½ times bus fare (limited to Road Mileage).
 - (b) 20 miles or above-1½ times bus fare plus daily allowance (limited to road mileage).
 - (iv) Air journey: Single Air fare plus incidental charges equal to one-fifth fare, subject to a maximum of Rs. 30/- in respect of each single journey.
Insurance for Air travel shall be limited to Rs. 10/- per trip (each way)
 - (v) Daily allowance:
 - (to members out-side Bangalore) Rs. 15/-
 - (vi) Sitting fees (to members from Bangalore) Rs. 10/-
- In adopting the above rates the rules contained in the Mysore Civil Services Rules, shall be followed.
- (2) Travelling allowance to Officers, teachers and other personnel of the University shall be determined by the Board and set out in the Regulations.
 - (3) The following persons shall be competent to authorise travel for the performance of the duties of the University within the State of Mysore, namely:
 - (a) Directors of Instruction and Directors of Research and Extension in the case of all personnel under their respective control.
 - (b) Dean in the case of Directors of Instruction and Directors of Research and Extension,
 - (c) Vice-Chancellor in the case of the Dean and other officers not specified above.
 - (4) The Vice-Chancellor shall undertake travel necessary for the performance of his duties, furnishing copies of his tour programme to the Officers of the University. A copy of the tour programme shall be marked for the University Notice Board.
 - (5) The Vice-Chancellor shall authorise all travel outside the State of Mysore after consultations with the Comptroller and the Dean.
 - (6) Travel outside India shall be subject to the approval by the Board based on the recommendation of the Comptroller and the Vice-Chancellor.

10. Special Aids

- (1) The University may accept aid or gift from any person or institution.
- (2) The Vice-Chancellor shall appoint a Committee to advise what aid or gift may be accepted and in what form or manner.
- (3) If the aid or gift is unconditional the Vice-Chancellor may, in consultation with the Committee constituted under clause (2), accept it. Any aid or gift involving conditions shall be accepted only with the approval of the Board.
- (4) The Vice-Chancellor shall implement the terms and conditions of the aid or gift and for that purpose determine, in consultation with the Committee referred to in clause (2), the details as regards the number of technicians or/and consultants needed and the qualifications to be possessed by them, the number of persons to be deputed for advanced training in India or abroad as well as the fields of training for each of them.
- (5) Where the aid is in the form of a gift of commodities the Vice-Chancellor shall, in consultation with the Committee referred to in clause (2), determine the particulars of commodities to be obtained.
- (6) Where by any terms of the aid, selection of personnel for higher training or study tours becomes necessary, the Vice-Chancellor shall consult the Committee consisting of the Dean as Chairman, Director of Instruction of the concerned College, Head of the concerned Division and the Donor or his representative.

Provided that if any of the Officer of the University has offered himself for selection, the selection shall be made by the Board whose decision shall be final.

11. Disciplinary Action

- (1) The following authorities shall deal with disciplinary cases and shall be vested with powers to inflict suitable punishment, subject to the appellate authorities as prescribed under this Statutes:
 - (a) A Committee consisting of Heads of Divisions with the Dean as Chairman in respect of disciplinary cases involving students and teachers and service personnel

- in the Divisions below the Heads of Divisions. Appeals from the decision of this Committee shall be dealt with by the Committee mentioned under clause (b) of this Statute in the case of students, teachers and service personnel below the rank of Assistant Professor, and by the Board in the case of all staff and Officers of the rank of Assistant Professor and above,
- (b) A Committee consisting of the Directors of Instruction and Directors of Research and Extension with the Dean as the Chairman in respect of disciplinary cases, involving teachers, Officers and staff of the rank equivalent to Heads of Divisions. This Committee shall be the appellate authority to deal with certain appeals specified under clause (a) of this Statute,
 - (c) The Board shall appoint a Committee to deal with disciplinary cases involving all University employees not mentioned under clause (a) and (b) of this Statute and other than those mentioned under section 9(1), (2) and (3) of the Act as well as to dispose of the appeals from the decisions of the Committee mentioned under clause (b) of this Statute.
 - (d) In cases of disciplinary action involving punishments of dismissal, removal or reduction in rank, the principle laid down in Article 311(1) of the Constitution with reference to Government servants, namely that such punishments shall not be inflicted except by the appointing authority or any authority to which the appointing authority is subordinate, shall be followed.

12. Evaluation of Staff

- (1) Every year and before the commencement of the academic year, there shall be a careful and objective evaluation of every officer, other than those mentioned under sub-section (1), (2) and (3) of section 9 and of every teacher and service personnel of the University, in order to have an estimate of the quantity and quality of work done and the attitude and behaviour of every individual.
- (2) The evaluation referred to in clause (1) shall be done by the following:
 - (a) The Vice-Chancellor in respect of all Officers other

- than those mentioned in sub-sections (1), (2) and (3) of section 9, based on the evaluation reports received from appropriate Officer; to be named by him concerning those under the supervision of the named Officers,
- (b) The Officers in respect of all their subordinates other than those mentioned above, based on the evaluation reports received from their appropriate subordinates to be named by them, concerning those under the supervision of the named Officers.
 - (3) The evaluation reports which shall be treated as confidential shall be prepared and transmitted, excepting in the case of the reports to be prepared by the Vice-Chancellor, to the Officers immediately above the rank of the person preparing the report, for safe and personal custody, to be filed along with the biodata of every individual. The Officer receiving these reports shall if necessary, record his own impressions of the concerned individual in these reports.
 - (4) Whenever promotion of an individual or disciplinary action against an individual is contemplated, due regard shall be had for the evaluation reports referred to in the preceding clauses.

CHAPTER III

OFFICERS OF THE UNIVERSITY

13. Additional Officers

In addition to the Officers mentioned in clauses (1) to (13) of section 9, the following shall also be Officers of the University, namely:

- (1) The Estate Officer,
- (2) The Director of Student Welfare,
- (3) The Administrative Officer.

14. Prescribing Qualifications for Appointment

- (1) The Academic Council shall, except in the case of the Chancellor, Pro-Chancellor and Vice-Chancellor and Heads of Divisions and Officers other than Comptroller, Estate Officer, Administrative Officer and Director of

Student Welfare, prepare a list of qualifications which should be possessed by the candidates for an office. If the Academic Council does not do so or has not done so, the Vice-Chancellor shall prescribe the qualifications. As regards Comptroller, Estate Officer, Administrative Officer and the Director of Student Welfare a Special Committee shall be appointed by the Vice-Chancellor to advise in the matter.

- (2) The recommendations of the Academic Council or the Committee referred to in clause (1) shall be subject to approval of the Vice-Chancellor. The approved list of qualifications shall be published and everytime posts are advertised shall be clearly set out in the advertisement.

15. Selection Committees. Appointments and Procedures

- (1) The Vice-Chancellor may from time to time appoint Selection Committees consisting of such number of members as he may determine to receive applications and make recommendations for appointment of any specified category of Officers. In the event of a member being not available, the Vice-Chancellor may appoint a substitute member.
- (2) (a) The Selection Committee shall invite applications for the posts and consider the qualifications of all applicants including University Officers and other employees who may be qualified for the post. If a qualified candidate(s) is found, the Committee shall recommend in order of merit not more than three qualified persons for appointment.
(b) In case no qualified person is recommended and/or appointed as under (2) above, the Selection Committee shall (a) contact various institutions and agencies (such as ICAR, State Departments, Colleges, etc) for the purpose of obtaining applications from qualified persons and (b) otherwise advertise for qualified applicants in such manner as may be approved by the Vice-Chancellor. On receipt of such further applications the Committee shall prepare a list of all applicants and shall recommend in order of merit, not more than three qualified persons for appointment.
- (3) If the Selection Committee fails to nominate an acceptable

person for an office, the Board shall take such steps as are necessary to select a suitable person.

- (4) Out of the qualified persons recommended by each Selection Committee, the Board shall choose the best individual for appointment in all cases of appointments to be made by the Board.
- (5) In the case of the Dean and the Comptroller, the Vice-Chancellor shall forward the recommendations made by each Selection Committee to the Chancellor along with the comments of the Board for making appointments.

16. Salaries and Conditions of Service

- (1) The Salary of an Officer shall be as fixed in these Statutes. The starting salary shall ordinarily be the minimum of the scale.
Provided that if in the best interests of the University as determined by the Board, the Board may, after recording reasons therefor, grant a higher starting salary.
- (2) Every Officer shall be entitled to leave, leave salary, allowances, and other benefits as prescribed in these Statutes.
- (3) An Officer, other than the Chancellor, Pro-Chancellor and Vice-Chancellor, shall not be entitled to be in the service of the University after he reaches the age of sixty years.
Provided that the Board may, on the recommendations of the Vice-Chancellor, extend the term of appointment of any Officer for a period not exceeding two years when such extension is in the best interests of the University and provided further that not more than two such extensions shall be granted.

17. Vice-Chancellor : Qualifications

The qualifications to be possessed by a person for appointment as Vice-Chancellor shall except in the case of the first Vice-Chancellor, be prescribed by the Chancellor regard being had to academic and research experience and accomplishments in agriculture and related sciences.

18. Dean : His Duties and Salary

- (1) The Board shall constitute a Selection Committee comprised of the following members:

- (a) A Technical Authority who has had experience of working in scientific, educational or administrative capacity in an Agricultural University in India or abroad.
 - (b) Two scientists or educationists with similar experience.
- (2) The Dean shall,
- (a) be responsible to the Vice-Chancellor for the administration of the academic affairs of the University,
 - (b) perform the functions of co-ordinating and supervising the academic activities of the constituent colleges which are under the control of the Directors of Instruction,
 - (c) perform all duties of the Vice-Chancellor in his temporary absence, except as otherwise provided by the Board and/or the Vice-Chancellor,
 - (d) exercise overall responsibility for the visual aid activities of the University such as films, charts, photography, mimeography, offset printing as well as the maintenance and distribution of University publications with the assistance of a publications Officer or a person of similar nature as the need may develop.
 - (e) be in charge of the timely preparation and publication of the University Catalogue and Time Table, assisted by the Registrar and Directors of Instruction.
 - (f) assume such other duties and powers as the Vice-Chancellor may assign to him.
- (3) The salary of the Dean shall be in the scale of Rs. 1,500-100-2000 per month.

19. Comptroller : His Duties and Salary

- (1) In addition to the powers and duties laid down in section 15, the Comptroller shall:
- (a) be responsible for the management of all funds of the University including the General Fund, the Foundation Fund and other funds in accordance with the Statutes, Regulations and provisions of the Act, subject to the overall directions of the Board and the Vice-Chancellor; expenditure exceeding Rs. 10,000 on a single item shall have received the approval of the Vice-Chancellor and those exceeding Rs. 50,000 on a single item

- shall have received the approval of the Board. Purchases exceeding Rs. 1,000 shall be made only on the basis of quotations or tenders; during the intervals between meetings of the Board the Vice-Chancellor shall be empowered to give provisional sanction, but such action shall be submitted to the Board for final approval,
- (b) collect income and fees, disburse payments, and be responsible for the day to day financial transactions of the University and for the proper accounting thereof, and all incidental matters including correspondence relating thereto,
 - (c) sign all contracts made on behalf of the University,
 - (d) exercise such other powers as may be prescribed by the Statutes and Regulations or as may be required, from time to time, by the Board or the Vice-Chancellor with respect to matters pertaining to accounts and finances of the University for which he shall be directly responsible to the Vice-Chancellor,
 - (e) assist the Vice-Chancellor in preparing the financial estimates as prescribed under section 37 (1) of the Act and the annual accounts and balance sheets as prescribed under section 38 (1) of the Act,
 - (f) be responsible to maintain accounts to the satisfaction of the auditors.
- (2) A receipt from the Comptroller or from the person(s) duly authorised in writing in this behalf by the Board for any money payable to the University shall be valid discharge for the same.
- (3) The salary of the Comptroller shall be in the scale of Rs. 1000-25-1500 per month.

20. Administrative Officer : His Duties and Salary

- (1) The Administrative Officer shall:
- (a) serve as administrative assistant to the Vice-Chancellor,
 - (b) make arrangements for reception of visitors, arrange their appointments and minister to their official and personal needs,
 - (c) organise receptions and entertainments of an appro-

private nature and other occasions consistent with the rank and status of the visitor, with expenses to be met from the Contingent Fund and expenditures paid by the Comptroller upon authorization by the Vice-Chancellor as provided for in the Regulations,

- (d) be responsible for the recruitment, selection and appointment of all service personnel of ranks and salary scales approved by the Board, and in the manner prescribed and for the maintenance of the service and leave records of service personnel in accordance with Statute 32,
 - (e) grant such leave as permissible under the Regulations for all Service personnel. He shall also assist the Vice-Chancellor in granting leave to the officers and teachers of the University,
 - (f) act as liaison officer between the University and the State and Indian Governments and other bodies under the instruction of the Vice-Chancellor,
 - (g) be responsible for the publicity functions of the University,
 - (h) handle for publication of the University journals and magazines with the assistance of a technical committee appointed by the Vice-Chancellor,
 - (i) be in charge of the establishment and maintenance of a University museum,
 - (j) organise, with the approval of the Vice-Chancellor, and make arrangements for the holding of convocations, conferences, symposia, seminars and such other meetings or lectures as may be deemed essential and/or desirable for the benefit of the staff, student body and the public. Any expenses incurred shall be met as provided for under sub-section (c) above.
- (2) The salary of the Administrative Officer shall be in the scale of Rs. 750-25-1,250 per month.

21. Registrar : His Duties and Salary

- (1) The Registrar shall in addition to discharging the duties set out in section 16:
 - (a) administer the Statutes and Regulations of the University with respect to the admission of students and

- their continuance as such;
- (b) prepare time schedules for academic courses as recommended by the Faculties, plan and direct the registration of students for various courses, and record transfers and drop-outs as recommended by the Faculties;
 - (c) maintain records of each student of the University including academic accomplishments, conduct as a student, etc;
 - (d) maintain records of non-student attendance in University programmes, as designated by the Director of Extension;
 - (e) maintain the records of all graduates of the University;
 - (f) be responsible to the Vice-Chancellor in the exercise of the powers and discharge of duties under the Act and Statutes.
- (2) The salary of the Registrar shall be in the scale of Rs. 1,000-25-1,500 per month.

22. Director of Student Welfare : His Duties and Salary

- (1) The Director of Student Welfare shall:
- (a) plan and direct, in collaboration with other University Officers, all non-curricular activities of students including clubs, recreation centres, co-operatives, etc., as may from time to time be approved by the University for the welfare of the students;
 - (b) co-operate with the staff in charge of the physical education programme, National Cadet Corps activities, and related activities of students as required by the University;
 - (c) deal, in consultation with the Director of Instruction concerned, with student misconducts, excessive absenteeism and other student irregularities from the point of view of maintenance of discipline, etc;
 - (d) supervise health programmes and medical facilities for students, according to the Regulations to be drawn for the purpose by a Committee to be appointed by the Vice-Chancellor;
 - (e) be responsible to the Vice-Chancellor in the exercise

of the powers and discharge of duties under the Act.

- (2) The salary of the Director of Student Welfare shall be in the scale of Rs. 750-25-1250 per month.

23. Estate Officer : His Duties and Salary

- (1) The Estate Officer shall :
- (a) maintain buildings and other physical facilities of the University and provide for protection against theft, fire, and other dangers;
 - (b) supervise the supply of electricity, water, telephone, and other services, the University vehicles;
 - (c) direct operations providing for cleanliness, sanitary and aesthetic conditions of the University faculties;
 - (d) provide for the installation, use and maintenance of University equipment. in co-operation with other Officers; and supervise the allotment and use of rooms, houses, buildings and grounds, as requested by the appropriate officers;
 - (e) direct the plans for construction and/or alteration of University buildings and grounds as ordered by the Board;
 - (f) perform the above duties and such other duties as may be assigned in connection with his responsibility to the Vice-Chancellor for the proper functioning of the physical facilities of the University;
- (2) Subject to the assignment of responsibilities by the Vice-Chancellor the Estate Officer shall, in collaboration with the Director of Student Welfare be responsible for the assignment of hostel rooms, maintenance and operation of cafeteria, canteen, stores, gymnasium and other recreational facilities including club houses, auditoria, and similar service agencies.
- (3) The Estate Officer shall have the assistance of Stores Purchasing staff, which shall be entrusted with the responsibility of maintaining the University Stores, inventory of all University property, purchasing through tenders furniture, equipment and supplies as may be required by the various Divisions, and for repair of all existing University property except buildings and he shall have the assistance of competent and adequate engineering staff for the construction,

maintenance and repair of buildings, roads, gardens, machinery, electric and water supply and drainage system, etc., for which he is responsible.

- (4) The Estate Officer shall have an adequate watch and ward staff to safeguard the interests and property of the University and of the personnel.
- (5) The salary of the Estate Officer shall be in the scale of Rs. 1,000-50-1,500 per month.

24. Director of Research : His Duties and Salary

- (1) The Director of Research shall :
 - (a) co-ordinate the planning and prosecution of research conducted by the University, excepting research done by students to meet degree requirements and by teachers of the University to improve their teaching ability;
 - (b) prepare annual budget estimates for such research as may be required by the University;
 - (c) assist the appropriate Directors of Instruction to meet their responsibilities for direct supervision of the members of the College faculties engaged on approved research programmes;
 - (d) require and supervise the publication of research results;
 - (e) be responsible to promote team approach to research problems and foster projectwise rather than Division-wise research and for this purpose he shall avail himself of the assistance and guidance of the Research Council with respect to evaluation of current projects, continuation or termination of projects and identification of new problems for research;
 - (f) be responsible to the Vice-Chancellor in exercise of the powers and discharge of duties under the Act and Statutes.
- (2) The Salary of the Director of Research shall be in the scale of Rs. 1,200-50-1,500-60-1,800 per month.

5. Director of Extension : His Duties and Salary

- (1) The Director of Extension shall:
 - (a) prepare yearly programmes and budget needs for the

education of cultivators and other non-students in connection with extension schemes;

- (b) supervise off-campus programmes of the University dealing with agricultural co-operatives, rural youth programmes, short courses for cultivators, training of non-students, etc;
 - (c) co-operate with the Directors of Instruction in developing courses and in teaching students in the various aspects of extension education;
 - (d) direct the development of information materials such as publications, films, etc., for use in all phases of the extension work;
 - (e) be responsible to co-ordinate all agricultural extension education work in the State with the assistance and guidance of the Extension Council. To this end it shall be the responsibility of every member of the teaching and research staff engaged in any form of extension education work to keep the Director of Extension informed as to all such activities involving conferences or correspondence.
 - (f) be responsible to the Vice-Chancellor in the exercise of powers and discharge of duties under the Act.
- (2) The Director of Extension shall be assisted by various subject-matter specialists in as many fields of activity as may be needed to serve the needs of the State's agriculture at all levels.
 - (3) The salary of the Director of Extension shall be in the scale of Rs. 1,200-50-1,500-60-1,800 per month.

26. Directors of Instruction : Duties Salary

- (1) The Director of Instruction shall:
 - (a) function as the Chief Executive Officer of the concerned college and exercise overall control of the teaching, research, and extension work of the Divisions of the College, in accordance with the overall plans of the University;
 - (b) prepare proposals for the College activities and budgets for the needs thereof, and be responsible that all College funds are handled in accordance with sanctions of the Board;

- (c) co-operate with the Director of Research on the development of plans and budgets for research programmes and on the preparation of reports as may be requested by the Director;
 - (d) co-operate with the Director of Extension on development of plans and budgets of non-curricular extension education work of the University, and on the development of informational material for the Extension Service;
 - (e) co-operate with the Estate Officer on the educational use of the buildings and rooms assigned to the College, and on the use and safety of equipment assigned to the College;
 - (f) perform such other duties as may be assigned by the Dean and/or the Vice-Chancellor to whom they shall be responsible.
- (2) The salary of each Director of Instruction shall be in the scale of Rs. 1,200-50-1,500-60-1,800 per month.

27. Librarian : His Duties and Salary

- (1) The Librarian shall :
- (a) exercise overall control of the libraries of the University, and organise their services in a manner most beneficial to the needs of the teaching, research, and extension programmes of the University;
 - (b) prepare annual budgets for the development and operation of the libraries of the University;
 - (c) do such other things in connection with the libraries and improvement thereof as may be required by the Vice-Chancellor to whom the Librarian shall be responsible.
- (2) The salary of a Librarian shall be in the scale of Rs. 750-25-1,250 per month.

28. Heads of Divisions: Selection, Duties, Salary

- (1) The Head of a Division shall be appointed by the Board from among the Professors on the recommendation of the Vice-Chancellor based on the proposals made by a Committee consisting of the Directors of Instruction with the Dean as the Chairman.

- (2) The Head of a Division shall :
- (a) be responsible for the administration of his Division;
 - (b) make recommendation to the Director of Instruction on the welfare of his Division and its relations to other Divisions as well as matters relating to appointments, promotions, grant of leave, etc;
 - (c) hold meetings of the Divisional Staff for discussing matters relating to budget, development of curriculum and curricular changes;
 - (d) prepare and submit reports of progress as required by the Director of Instruction;
 - (e) act as advisor to students majoring in his Division;
 - (f) attend to other duties as may be required by the concerned Director of Instruction.
- (3) A Professor becoming Head of Division shall in addition to his salary as Professor be also paid Rs. 200.00 per month.

29. Extra Remuneration of Officers

The Board shall decide on the additional work and remuneration of Officers, provided that such additional activity is not deemed by the Board to be detrimental to the best interests of the University.

CHAPTER IV

EMPLOYEES OF THE UNIVERSITY OTHER THAN OFFICERS

Teachers and Service Personnel

30. Teachers: Grades, Qualifications, Selection, Duties, Salary

- (1) A Teacher (including Research and Extension workers) shall be appointed by the Vice-Chancellor with the approval of the Board in any of the following grades:
 - (a) Professor,
 - (b) Associate Professor,
 - (c) Assistant Professor,
 - (d) Instructor.
- (2) A visiting Professor, a visiting Research Scientist or Extension Specialist may be employed on a temporary basis by

- the Board as a Professor for a period not longer than one academic year at a salary and under service conditions to be fixed by the Board.
- (3) The qualifications of teachers, scientists and extension specialists shall be as recommended by the Council and approved by the Vice-Chancellor. All persons eligible for selection to the Post of Professor or/and Associate Professors shall have ordinarily obtained the degree of Doctor of Philosophy in the concerned field of specialisation or have an equivalent degree of accomplishments.
- (4) The Selection Committee for these posts be appointed by the Vice-Chancellor and shall be comprised of at least three of the following members:
- Three scientists or educators of not less than ten year's experience, outside the University, and fully conversant with the working of an Agricultural University, of whom one shall be the Chairman,
 - Dean of the University,
 - Director of Instruction in the College concerned in the case of teachers, Director of Research in the case of research scientists, and Director of Extension in the case of extension personnel.
- The Selection Committee shall proceed in accordance with the Statute 15 (2) (3) and (4).
- (5) Duties and powers of the teachers (including research and extension workers) shall be as follows:
- Conduct teaching, or/and research, or/and extension work of the highest possible order in his field of specialisation,
 - Serve the University in any capacity for which he is qualified and according to assignments made by the appropriate authorities of the University.
- (6) The scales of pay of teachers per month shall be as follows :
- | | | |
|-------------------------|-----|-----------------------|
| (a) Professor | ... | Rs. 1,000-50-1,500 |
| (b) Associate Professor | ... | Rs. 700-40-1,100 |
| (c) Assistant Professor | ... | Rs. 400-30-640-40-800 |
| (d) Instructor | ... | Rs. 200-15-500 |
- 7) Ordinarily, teachers shall be started on the minimum for the grade. But the Board may when necessary to meet the

best interests of the University give a higher starting salary after recording the reasons therefor.

- (8) No teacher shall be entitled to be in the service of the University after he reaches the age of 60 years; Provided that the Board may, on the recommendations of the Vice-Chancellor extend the term of appointment of any teacher for a period not exceeding two years when such an extension is in the best interests of the University and provided further that not more than two such extensions shall be granted.

31. Fees for External Examinations

In view of the interruption of the teaching and research programmes of the teachers and officers of the University, as a result of conducting external examinations in other institutions or universities, the University as a general policy, shall discourage the acceptance of external examinations. In exceptional cases the Vice-Chancellor may grant permission for an Officer and/or Teacher to conduct such examination and accept the fees therefore, provided that the time taken for such a purpose shall be charged to the leave for which the Teacher or Officer is eligible.

32. Service Personnel: Duties, Salary

- (1) Service Personnel shall be appointed by the Administrative Officer with the approval of the Board in any of the categories of posts as determined by the Board from time to time and published as Regulations. Provided that service personnel to such of the category of posts carrying a basic salary of not more than Rs. 70/- shall be appointed by the Administrative Officer with the approval of the Vice-Chancellor. A report of such appointments shall be placed before the Board.
- (2) Qualifications of service personnel in different categories shall be as determined by the Board and published as Regulations.
- (3) The Selection Committee for these posts shall be appointed by the Vice-Chancellor and shall be comprised of not less than three members, of whom two shall be from among the Officers of the University.

- (4) The Selection Committee shall review applications for the posts and consider the qualifications of all applicants including University employees who may be qualified for the post. If qualified candidates are found the Committee shall recommend in order of merit all such candidates for appointment and/or to be placed on reserve list. The Vice-Chancellor shall place these recommendations before the Board along with his comments, if any.
- (5) Duties and powers of the service personnel shall be as determined by the Board and published as Regulations.
- (6) The scales of pay of service personnel shall be as determined by the Board from time to time and published as Regulations.
- (7) Ordinarily all service personnel shall be started on the minimum for the grade. But the Board may, when necessary, to meet the best interest of the University give a higher starting salary on the recommendations of the Selection Committee or after recording the reasons therefor.
- (8) The conditions of service of all the service personnel in different categories shall be determined by the Board and published as Regulations.
- (9) No member of the service personnel shall be entitled to be in the service of the University after he reaches the age of 60 years.

CHAPTER V

PROVIDENT FUND AND GRATUITIES

33. Definitions

In this Chapter, unless the context otherwise requires:

- (a) "Salary" means monthly salary, and includes all fixed monthly allowances by way of pay plus any extra compensation, but does not include any other allowances;
- (b) "Servant" means a whole-time officer, teacher or service personnel of the University excluding persons or casual labourers drawing salary or wages less than Rs. 60/- each per month, but including other persons authorised to receive, keep, carry or spend on behalf

of the University and also those whose services have been placed at the disposal of the University by the Government.

- (c) "Subscriber" means a servant on whose behalf a deposit is made under these Statutes;
- (d) "Savings Bank" means the Post Office Savings Bank;
- (e) "Interest" means the interest which is paid on a deposit in the Post Office Savings Bank, as may be determined from time to time for deposits in the Post Office Savings Bank, and credited to the account of the Subscriber;
- (f) "Dependant" means any of the following relations of a deceased Subscriber to a Provident Fund, namely a wife, husband, parent, child, minor brother, unmarried sister, deceased son's widow and child and where no parent of the Subscriber is alive, a paternal grandparent.

34. Subscriptions to Provident Fund : By Subscriber and University

- (1) A servant of the University other than those deputed by Government with deputation allowance or enjoying pensionary benefits or similar benefits in the form of Gratuities shall subscribe to the Provident Fund at the rate of $8\frac{1}{4}$ % of his salary for which an account shall be opened at the Savings Bank. He may raise his subscription to the Provident Fund up to seventeen per cent of his salary either permanently or for a specified period of not less than six months. Subscriptions by a Servant when on leave on less than full pay shall be based on full pay. A deduction shall be made by the University upon every salary bill presented. In the calculation of this deduction; fractions of a rupee shall be disregarded.
- (2) The University shall make a contribution at the rate of eight and one-third per cent of salary in the case of every subscriber.
- (3) The amount deducted in accordance with clause (1) together with the contribution by the University shall be deposited in the Savings Bank. The deposit in respect of the monthly deduction and contribution shall, so far as possible, be made into the Bank within four days of the receipt

of the money in order that interest may accrue. The Post Office shall open an individual account for a Subscriber to the Provident Fund. The University will arrange that all sums to be credited to an account shall be sent to the post office accompanied by.

- (a) the Post Office Savings Bank Pass Book, and
- (b) a list in a Form approved by the Comptroller, showing in detail the amount to be credited to the account.

35. Investment in Post Office Cash Certificates

Investment in Post Office Cash Certificates or in other Government securities through the Post Office from the account of a Subscriber shall be permissible if the Subscriber so desires, provided that no security of the face value of less than Rs. 100.00 is purchased at one time and that the securities are kept in the custody of the Accountant-General, Posts and Telegraphs, and the custody receipts are kept with the Comptroller. Such action as above shall not deprive a Subscriber of his right to open an ordinary private account in the Post Office Savings Bank or to purchase Post Office Cash Certificates and other Government securities through the Post Office with personal funds.

36. Payment of Premia on Life Insurance out of Provident Fund

The Comptroller may, under such conditions as may be laid down by him with the approval of the Vice-Chancellor, permit the payment of premia on life insurance policy or policies on the life of the Subscriber out of his personal subscription to the Provident Fund account. The amount to be deposited in the Post Office in the Provident Fund account of the Subscriber shall be reduced to the extent of such premia.

37. Withdrawals from Provident Fund

- (1) Withdrawals from the Provident Fund shall be permitted when a Subscriber's service in the University comes to an end by his retirement, resignation, death, or otherwise, Provided that:
 - (a) an employee whose service with the University has been terminated on the ground of gross misconduct,

- he shall not be entitled to receive the amount of the contribution made by the University on his behalf and the interest thereon,
- (b) an employee shall not be entitled to receive the amount contributed by the University on his behalf and the interest thereon, if he quits the service of the University in less than 12 months from the date he has been allowed to subscribe to the Provident Fund.
- (2) Any contribution and interest thereon retained under this Statute shall belong to the University and shall be credited to the University account.

38. Provident Fund Loans to Subscribers : Conditions of Loan and Repayment

- (1) A Subscriber may borrow from his Provident Fund under the following conditions:
 - (a) In the case of severe illness of the Subscriber or a family member, purchase of land for his home, and/or other urgent necessities as may be approved in advance by the Comptroller,
 - (b) The amount borrowed shall not exceed six months pay of the Subscriber or one-third of the sum contributed by the Subscriber (plus interest) and remaining in the Fund whichever is less. The amount borrowed shall be evenly divisible by 24.
- (2) The amount borrowed under clause (1) (a) above shall be repaid to the Provident Fund in 24 equal monthly instalments, provided that the Subscriber may repay two or more instalments at the same time. The repayments shall start with the first full month's salary after the loan was made. Repayments shall be made by compulsory deductions from salary, and shall be in addition to the regular subscription payments.
- (3) The interest payable by the Subscriber on loan from the Provident Fund shall be at such rates as may be determined by the Board.

39. Nomination of Beneficiary, Freedom from Liability

- (1) A Subscriber shall file in the Office of the Comptroller, a declaration in a Form approved by the Comptroller, show-

ing how he wishes the amount of his accumulation in the Fund to be disposed of in the event of his death or becoming insane. If the Subscriber has dependent(s), he shall not be permitted to nominate a non-dependent. The Subscriber may, from time to time, change his nominee(s) by a written notice, duly witnessed, to the Comptroller. A register of such nominee(s) shall be kept in the University Office under the custody of the Comptroller.

- (2) Any sum, standing to the credit of a Subscriber to the Fund at the time of his death and payable to a dependent or a nominated beneficiary of the Subscriber or to such other person as may be declared by law, shall be subject to deductions to satisfy debts to the University, but shall not be attached because of any other debt or liability incurred by the dependent or beneficiary before the death of the Subscriber.

40. Gratuities for Employees in Low Salary Scale

An employee of the University, whose maximum salary is Rs. 60.00 or less per month and who is not entitled to the benefits of the University Provident Fund, may be granted a gratuity on the following scale and subject to the following conditions:

- (a) A gratuity, for each completed year of approved service with the University, shall be paid to an employee when he leaves the service of the University, provided he has been permitted by the Board to retire from the service of the University on account of his incapacity to continue in its service or because his services are no longer required by the University, as follows:
- (i) Tenth to nineteenth year—one month's salary.
 - (ii) Twentieth and more years—one and a half month's salary.
- (b) Should the employee die while in the service of the University, the amount due to him shall be paid to his family. The expression 'family' means a person(s) who, in the opinion of the Board, depended on the employee at the time of his death. The decision of the Board in this matter shall be final.
- (c) No gratuity shall be paid to an employee (or his

dependent)

- (i) who has not served the University for at least ten years, or
- (ii) who leaves the service of the University without the permission or order of the Board.

CHAPTER VI

ACADEMIC PROGRAMMES, ADMISSIONS, PERFORMANCE

A. Organisation of Teaching

41. Academic Programmes—Definitions

The terms used herein with respect to academic programmes of the University shall have meanings, as follows:

- (a) *Academic Year*:—A twelve-month period during which a cycle of work is completed;
- (b) *Trimester*:—A fourteen weeks period, there being three such periods in an academic year;
- (c) *Curriculum*:—A series of courses designed to provide learning opportunities to meet the requirements for a degree;
- (d) *Course*:—A series of classes and work experiences extending over a trimester and being an integral and specific part of a curriculum;
- (e) *Course Outline*:—A short description of the subject-matter of a course, carefully correlated with other course outlines to avoid undesirable omission and/or duplication of subject-matter in a particular curriculum;
- (f) *Course Credit*:—The measure of quantity of work done in a course. It represents one hour of lecture or recitation work (plus two hours of outside preparation) per week or three hours of laboratory or field work per week through a trimester.
- (g) *Hours of Effort*:—Approximately fifty minutes devoted to class, library, laboratory, field, or home work. Two hours of library and/or home work shall be expected for each hour of class work.
- (h) *Course Load*:—About sixteen course credits which a

student may carry each trimester. A somewhat typical Course Load might be, for example only:

	Hours per week to be spent by the student			Course Credits
	Class required	Laboratory or field required	Library or home work expected	Hours of effort divided by 3
Agricultural Economics	3	0	6	3
Biochemistry	2	9	4	5
Entomology	2	6	4	4
Field Demonstration	0	6	0	2
Farm Tools	1	3	2	2
	8	24	16	16

(1) *Course Grade*:—A measure of the quality of work done in a course. It is an alphabetical designation of the degree to which a student has met the full requirements of a course:

	Grade Value
Excellent = A (91—100%)	4
Good = B (81—90%)	3
Average = C (71—80%)	2
Passing = D (60—70%)	1
Incomplete = E	—
Failure = F Below 60%	0

- (2) *Credit Grade Average*:—Course credit multiplied by Grade Value for each course completed during a trimester. The average is the sum of the products divided by the total number of course credits:—

Example:

Course	Credits	Grade	Grade Value	Credit X Grade
Agricultural Economics	3	B	3	9
Biochemistry	5	C	2	10
Entomology	4	A	4	16
Field Demonstration	2	F	0	0
Farm Tools	2	C	2	4
	16			39

39 divided by 16=2.438 Credit Grade Average.

42. Basic Curricula

The Basic Curricula for the various Bachelor degrees of the University with provision for a major in certain subject-matter fields, provided the course offerings, facilities and staff are adequate, together with a stipulation as to the number of Course Credits required in each major field shall be as determined by the Academic Council.

Provided that the Basic curricula for the B.V.Sc. Degree will not contain any major field of specialization.

43. University Calendar : Academic Year Trimesters, Catalogue

- (1) The Academic Year shall start approximately on July 1, or on such other date as may be recommended by the Council, and published in the University Catalogue.
- (2) The University shall publish as frequently as may be de-

med desirable or necessary, a Catalogue containing, but not limited to, such matters as:

- (a) The Academic Calendar;
- (b) A historical sketch of the University;
- (c) Outline of the Organisation of the University including housing, classroom, laboratory and field experimentation facilities;
- (d) Qualifications of and maximum number of students which may be admitted to the various Colleges during each year;
- (e) Fees to be charged for registration, tuition, laboratories, student affairs, hostels, medical service, extra-curricular activities etc;
- (f) Scholarships, Student Loans, and other sources from which students may meet their financial needs;
- (g) Degrees, diplomas, medals, etc., awarded by the University, and the requirements therefor;
- (h) Basic curricula;
- (i) Lists of Courses offered in each Faculty during each Trimesters; including the contents, course credit, prerequisites, etc., for each course;
- (j) Requirements for students to maintain satisfactory standing in courses and the University, conditions of probation, and causes for dismissal;
- (k) Hostel Regulations;
- (l) The roster of administrative and faculty personnel;
- (m) Any other information deemed essential or desirable.

B. Student Admission, Performance, Etc.

44. Qualifications for Student Admission

- (1) The minimum academic attainment for admission to a Faculty of the University shall be recommended by the Council and shall not be below a pass in the Higher Secondary School.
- (2) In addition to the prescribed academic attainments, a candidate for admission to the University shall possess good moral habits and such other personal and physical prerequisites as may be determined by the Director of Student Welfare, with the aid of a Committee to be nomi-

nated by the Vice-Chancellor.

- (3) A candidate who has been found to be qualified for admission to the University shall be notified of his admission by the Registrar.

45. Credit for Previous Studies and Experiences for Advance Standing

- (1) An enroled student may be granted course credit(s) for academic attainment procured outside the University, subject to the approval of the Admissions Committee on the following conditions:
 - (a) Satisfactory completion of a similar course in another University which has reciprocity standing with the University; and/or
 - (b) The student demonstrates, by a comprehensive examination given by the appropriate Faculty, that he earned grade B or above in the subject covered by a course(s) in the curriculum for the degree. Any such credit granted to an enroled student shall be entered on the record of the student as Approved Transfer Credit(s) for a specific course or courses.

46. Evaluation of Student Performances

The course grade earned by an enroled student shall be determined by the teacher who is in charge of and conducts the course. In accordance with Regulations proposed by the Board of Studies and approved by the Council, consideration shall be given by the teacher to (a) daily class performance, (b) interim examinations, (c) terminal examination, and (d) other factors specified in the Regulations.

47. Student Probation, Dismissal

The Regulations and procedures governing Student probation and dismissal shall be drawn by an appropriate Committee to be appointed by the Vice-Chancellor and the recommendations shall be approved by the Academic Council.

48. Extra Curricular Activities of Students

- (1) Any enroled student shall not be permitted to participate

in University's extra-curricular activities when such activities interfere with satisfactory performance of his studies as recommended by the Teacher and approved by Director of Student Welfare.

- (2) An enroled student shall not engage in work for the University or outside the University for or without compensation, when such work is found by the Director of Student Welfare to interfere seriously with the quality of the student's class work.

C. Scholarship and Loan Funds : Student Fees

49. Scholarship and Student Loan Funds

- (1) The University shall establish and maintain scholarship funds utilising either the grants already available and to be made available for the purpose from different agencies or a portion of the money available under general funds with the prior approval of the Board, and from these amounts, grants may be made to an enroled student (a) to assist him in meeting his expenses while attending the University and/or (b) to award him for outstanding performance in the University. In accordance with the requirement of donor(s), if any, the Council shall make Regulations governing the operations of the University Scholarship Fund.

The award of Scholarships and Free-student-ships for the students enroled in the various Colleges of the University shall be made by a Committee consisting of the following members:

- | | |
|---|------------|
| 1. Dean | Chairman |
| 2. Directors of Instruction of the
Constituent Colleges. | |
| 3. Director of Student Welfare | |
| 4. Comptroller | |
| 5. Registrar | Secretary. |

The administration of this fund shall be done by a Committee with the Dean as Chairman and with the Registrar and Comptroller as members.

- (2) The University shall establish a Student Loan Fund, utilising either the grants already available and to be made

available for the purpose from different agencies or a portion of the money available under general funds with the prior approval of the Board. From this loan fund, money may be loaned to an enrolled student when such assistance is needed to help him meet the costs of attending the University. The Council shall make Regulations governing the operation of the University Student Loan Fund. The Comptroller shall grant the loans in accordance with the Regulations. The Administration of this fund shall be done by a Committee with the Dean as Chairman and with the Registrar and Comptroller as members.

50. Student Fees : Registration, Tuition, Laboratory, Others

- (1) At the time of registration in each trimester, an enrolled student shall pay a registration fee as determined by the Board. Registration for the trimester shall not be complete until the fee is paid, except as under clause (4) below, and such fee shall not be refunded once the student is registered for courses in the University.
- (2) At the time of being admitted to a course in the University, an enrolled student shall pay tuition, course and laboratory fees as fixed by the Board for various courses. Attendance in classes shall not be permitted until the fee has been paid except under clause (4) below and such fee shall not be refunded except in accordance with rules established by the Council with respect to transfers or withdrawals from courses.
- (3) In accordance with regulations made by the Board, the University may require an enrolled student to pay special fees with respect to the use of libraries and other University facilities.
- (4) The Board may make Regulations with respect to exempting indigent persons from the payment of fees as prescribed in clauses (1), (2) and (3) above. Furthermore, on the recommendation of the Council, the Board may make Regulations regarding exemption from fees for other enrolled students when such exemption is deemed to be in the best interests of the University.

CHAPTER VII

UNIVERSITY DEGREES, DIPLOMAS, AWARDS,
DISTINCTIONS**51. Bachelor's Degrees : Kinds, Requirements, Distinctions**

- (1) The University shall, when so approved by the Board, grant to an enrolled student who has met the academic requirements of the University a Bachelor's Degree, as follows:
 - (a) Bachelor of Science in Agriculture (B.Sc., Ag.);
 - (b) Bachelor of Veterinary Science, (B.V.Sc.);
 - (c) Bachelor of Science in Animal Husbandry, (B.Sc., A.H)
 - (d) Bachelor of Science in Home Science (B.H. Sc.);
 - (e) Bachelor of Science in Agricultural Engineering, (B.Sc., Ag. Eng.);
- (2) An enrolled student, in order to earn a Bachelor degree shall creditably have completed in the University, or acquired by Approved Transfer, 192 course credits applicable to the particular degree except for B.V.Sc. in which case 240 course credits shall be required, and shall have earned a Credit-Grade Average of 2.25 for all courses completed in the University. In addition to the above, the student shall, in the judgment of the Faculty, possess good moral habits and a high standard of honesty.
- (3) A Bachelor's degree shall require the completion of a curriculum of courses developed by the Board of Studies and approved by the Council.
 - (a) The curricula of all Bachelor's Degrees except the B.V.Sc., degree shall include courses in (1) Basic Sciences and Humanities, (2) Concerned Basic Agricultural Sciences, (3) Courses in closely related fields, (4) Courses in a major field of specialisation and (5) Elective courses, all of which provide opportunities for a student to gain basic and usable knowledge to make him capable of dealing reasonably well with all facets of agriculture and rural life and especially with the particular activities for which he has taken special courses.
 - (b) The curriculum for the B.V.Sc. degree shall include

- courses in (1) Basic Sciences and Humanities, (2) Concerned Basic Veterinary Sciences and (3) Courses in closely related fields, which would provide opportunities for the student to gain basic and applied knowledge to make him capable for dealing reasonably well with all facets of Veterinary Science.
- (4) An enrolled student, who has met the requirements of the University for a particular degree in a superior manner as determined by his credit-grade average, shall be awarded his degree with such academic distinction as may be recommended by the Council.

52. Advanced Degrees : Kinds and Requirements

- (1) The University may, when so recommended by the Council and approved by the Board, offer such post-graduate instruction and research training as will qualify students for the following degrees:
- (a) Master of Science (Agriculture),
 - (b) Master of Veterinary Science,
 - (c) Master of Science (Animal Husbandry),
 - (d) Master of Science (Home Science),
 - (e) Master of Science (Agricultural Engineering),
 - (f) Master of Science (Horticulture),
 - (g) Master of Science (Dairy Science),
 - (h) Master of Science (Fisheries),
 - (i) Master of Science (Agricultural Economics).
- In accordance with details developed by the concerned Board of Studies and approved by the Council, a student shall have completed in a creditable manner in the University at least 64 credits applicable to the particular degree inclusive of the credits which will be allotted for the thesis submitted by the student in completion of research project. Provided that not less than 9 credits shall be allotted for completing the reasearch project on thesis work. In addition the student shall have satisfactorily passed an oral examination covering his thesis and post-graduate work.
- (2) The University shall have authority to offer post-graduate instruction and research training leading to the degree of Doctor of Philosophy at such future time when adequate staff and facilities become available as determined by the

Council and approved by the Board.

In accordance with the detail set out by the Board of Studies and approved by the Council a student shall have completed in a creditable manner in the University or acquired by approved transfer atleast 144 credits beyond the Bachelor degree inclusive of credits allowed for a comprehensive research project, and submitted as an acceptable thesis, to meet the requirements of the degree of Doctor of Philosophy.

Provided that not less than 30 credits shall be allotted for completing the research on thesis work.

In addition, a student shall also have demonstrated in a conclusive manner, as decided by the examination body of the Faculty, that he possesses outstanding competency in the field of specialisation.

53. Honorary Degrees

As a matter of policy the University shall be conservative in the matter of granting honorary degrees. They shall be awarded only to persons who have distinguished themselves in the fields of agricultural education or research or have rendered outstanding service to Indian agriculture. No honorary degree shall be conferred unless the proposal shall have received a four-fifths majority vote in both the Council and the Board. Such degrees shall not be conferred unless the candidate is present and receives the same at a public University convocation.

54. Diplomas, Certificates, Medals

In accordance with Regulations promulgated by the Council, the Vice-Chancellor may award to enroled students, and to other persons who complete non-degree work sponsored by the University, appropriate diplomas, certificates, medals, etc., as deemed by the Council and Vice-Chancellor to be in the best interests of the University.

55. Withdrawals of Degrees, Diplomas, etc.

The Board may, on the recommendation of the Council, by resolution passed with the concurrence of not less than two-thirds of the Board members, after providing an

opportunity for the concerned person to explain his action or to be heard in person, withdraw a degree, diploma, certificate or other academic distinction conferred by the University provided that the withdrawal of an honorary degree shall be with the concurrence of the Chancellor.

CHAPTER VIII

ASSOCIATIONS RELATED TO THE UNIVERSITY

56. Student Association

There may exist within, but not as an official authority of the University, an organisation of the student body to be known as the Student Association. Enroled students may, under the guidance of the Director of Student Welfare, prepare a Constitution and Bylaws for a Student Association and submit such proposal through the Director of Student Welfare to the Council. If approved by the Council, the students may adopt such Constitution and Bylaws and carry out the responsibilities and functions prescribed therein. Amendments of a substantive nature, as determined by the Vice-Chancellor shall be considered by the Council in the same manner. The Council, by a two thirds majority of members may recommend to the Board the dissolution of the Student Association when such action is deemed to be in the best interests of the University.

57. Alumni Association

There may exist within, but not as an official authority of the University, an organisation to be known as the Mysore Agricultural University Alumni Association. University degree holders and former students who have spent not less than one year in training in the University shall establish such an Association as under Statute 56 above under the guidance of the Vice-Chancellor. Active membership in the Association shall be automatic for all graduates and all former students who had spent not less than a year in the University.

The purpose of the Alumni Association shall be to encourage the University in its various activities, to assist in

promoting its growth, and to help strengthen the University's capacity to render effective service to the agriculture of Mysore State and to the Nation.

It shall also be the duty of the Association to propose a panel of five names of registered graduates of not less than five years' standing of the University for membership on the Board. Such panel shall be the basis for the nomination by the State Government of two persons to the Board as laid down under section 25 (2) (B) (iii).

CHAPTER IX

STAFF HOUSING, STUDENT HOSTELS AND OTHER ACCOMMODATIONS

58. Employee Housing and Other Accommodations

- (1) The University may procure, construct, own, maintain, and use houses for University employees as determined by the Board to be desirable for the proper functioning of the University. A Committee consisting of the Dean, who shall be the Chairman, Comptroller and Estate Officer shall draw up and adopt Regulations for the proper administration of staff housing matters.
- (2) As recommended by the aforesaid Committee, the Board may provide and operate for employees of the University, health, recreational, and other facilities when such are deemed by the Board to be desirable for the proper functioning of the University. Any such facilities shall be administered as provided in Regulations prepared and adopted by the aforesaid Committee.

59. Student Quarters, Cafeterias and Other Accommodations

- (1) An enrolled student of the University shall live in (a) his own home or the home of his parents, (b) in a University Hostel, or (c) an approved accommodation for students. Regulations on this subject shall be drawn and adopted by a Committee appointed by the Vice-Chancellor and the Regulations shall be administered by the Director of Student Welfare.
- (2) The University shall provide and operate for enrolled students of the University such cafeterias, health, recrea-

tional, shopping, and other facilities as may be deemed by the Board to be in the best interests of the University. Regulations on the subject shall be prepared and adopted jointly by the aforesaid Committee and Council, and shall provide for participation by the Student Association. The Regulations shall be administered by the Director of Student Welfare and/or by such other person(s) as he may designate with the approval of the Vice-Chancellor.

60. University Hostels

- (1) The University shall provide and operate, as deemed by the Board to be in the best interests of the University, Student Hostels and other housing facilities for enrolled students of the University.
- (2) An enrolled student who occupies a hostel or other housing facility of the University shall pay to the University a hostel fee in an amount and in a manner as shall be prescribed by the Board. The cost of meals and matters related thereto shall not be covered by the hostel fee, but shall be handled separately.
- (3) Regulations on hostel management and the conduct of student occupants shall be prepared by a Committee appointed by the Vice-Chancellor from among the members of the Council and Student Association, and such Regulations shall be administered by the Director of Student Welfare. The Regulations shall provide for participation of enrolled students in the management of hostels occupied by them, as is consistent with good management of a University facility.

CHAPTER X

CONVOCATIONS AND OTHER IMPORTANT UNIVERSITY EVENTS

61. Convocations and other Events

There shall be convocations held by the University for the conferment of degrees. The date and place of convocations and other important events of the University shall be recommended by the Vice-Chancellor for the approval of the Board. The Vice-Chancellor in consultation with

other officers of the University shall arrange for the details of the programme including the persons to be invited for the event.

CHAPTER XI

REMOVAL OF DIFFICULTIES

62. Removal of Difficulties

If any difficulty arises in giving effect to the provisions of these Statutes, the Board may by order published in the Official Gazette do anything which appears to it to be necessary for the purpose of removing the difficulty, provided such orders issued by the Board are not repugnant to the provisions of the Act.

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