POLICY
PAPER
6

Reorienting Land Grant System of Agricultural Education in India

NAAS

NATIONAL ACADEMY OF AGRICULTURAL SCIENCES, INDIA
December 1999

Reorienting Land Grant System of Agricultural Education in India

Introduction

The establishment of the agricultural universities in India, on the pattern similar to that of the land grant colleges of the United States, made a landmark in reorganising and strengthening agricultural education system in India during the post-independence period. The contributions made by these universities, as partners of the National Agricultural Research System (NARS), are well recognised. The green revolution, with its impressive social and economic impact, would have not been possible without the significant contributions made by the agricultural universities, both in the form of trained scientific manpower and the generation of new technologies.

We can legitimately take pride in these achievements. However, of late, there has been a widespread concern about the sustainability of the system so also the gradual decline both in academic standards, and excellence in research. The agricultural universities continue to do good work, but high academic standards of earlier years seem to have suffered a setback, due to various obvious reasons. Accordingly, the need for reviewing the system has been felt to have a better understanding of the issues in order to take corrective measures for revamping the system.

The higher agricultural education system in the country, based on the concept of Land Grant system of education, adopted in various states, (education being a state subject) consists of 33 agricultural universities i.e. 25 state agricultural universities (SAUs), one state level university of horticulture and forestry, two state level universities of veterinary and animal sciences, one central agricultural university, and four national research institutes (one each in agriculture, dairying, veterinary and fishery) enjoying the deemed to be university status. Besides, agricultural education is also being imparted by a number of private/government colleges and faculties affiliated to the general universities, not following the land grant system.

The task of coordinating and supporting the existing agricultural education system in the country had been assigned by the Government of India to the Indian Council of Agricultural Research (ICAR) during sixties on the pattern similar to that of the University Grants Commission without conferring any statutory authority. The ICAR, therefore, rightly undertook this task in an advisory/participatory mode and developed a Model Act in 1966 for adoption by State Agricultural Universities with such changes as were deemed necessary. The Model Act was revised twice, once in 1984 and again in 1994. The SAU Acts in some cases, however, do not conform to the required provisions of the Model Act, especially in terms of governance. Ten states now have more than one agricultural university, each having jurisdiction over a part of the state territory. In the states of Tamil Nadu and West Bengal, the initially established agricultural universities have spawned off veterinary and animal sciences universities, and in Himachal Pradesh a horticultural and forestry university. Most of the universities have constituent colleges at more than one location in the area of their jurisdiction, some due to incorporation of distantly located pre-existing colleges, while others due to proliferation and dispersal of teaching campuses to satisfy regional/political demands, despite the fact that the dispersal of the teaching function under multi-location situations lowers the quality of education even in universities having adequate financial and appropriate managerial resources.

In agricultural universities, teaching, research and extension education functions are integrated to mutually re-inforce each other. Teachers are directly involved in deciding the course content, methods of teaching and also the evaluation mechanism. The system provides for quick communication of new knowledge to students, extension workers and farmers. Teachers and students are made to be responsive to the changing needs that agricultural development poses in terms of requirement for technical manpower. Agricultural universities have been enjoying fair amount of organisational and operational autonomy. It has proved beyond doubt, that semester system is better than the traditional system. Agricultural universities have served as pivotal heads of new knowledge, and instruments for increasing agricultural production and transforming the rural life.

During the course of implementation and execution of new agricultural education system in India, some pitfalls, discrepancies and errors have crept in with regard to uniformity of system of education, admission of students, curriculum, quality of teaching and teachers, practical training including work experience, modernisation of laboratories and equipments, etc. However, the ICAR has made some efforts to remove many of these problems through constructive recommendations of high level committees on various aspects of agricultural education which will eventually involve development of sound policies in order to bring effective change in meeting the challenges of the next millennium.

It is also a fact that despite four decades of existence of these institutions it has not been possible to ensure a stable funding mechanism commensurate with their requirements. As a result, most of them face acute financial hardship frequently. Often, the flow of funds is irregular and a major percentage of it is diverted for payment of salaries, leaving very little for research, teaching and extension education activities.

Initially, most of the SAUs had adopted a progressive policy, in recruitment of teachers as well as admission of students which enabled cross fertilisation of ideas and enhancement of academic standards. Gradually, the process of inbreeding and the lack of proper linkages among various academic institutions has resulted in deterioration in quality of teaching and research.

The adopted system has proved beyond doubt extremely beneficial and various faculties *viz*. Agriculture, Veterinary and Animal Sciences, Engineering and Technology, Home Science, etc. have all come under a common umbrella. In addition, integration of teaching, research and extension functions has, by and large, been achieved. As already mentioned the Land Grant pattern of education in India has met with problems during the course of implementation. Hence, the need to reorient the system has become imperative.

Policy Recommendations

1 Policy Issues

1. The Government of India should ensure that the ICAR has the required statutory power to promote, support and coordinate higher agricultural education in India on par with that of University Grants Commission.

2. The agricultural universities may also redefine their mission, taking into consideration the present state of Indian agriculture, as a result of the

tremendous progress made since independence. The new mission statement should recognise that Indian agriculture now has expanded clientele including NGOs and the private sector, and above all, a faster-growing middle class population of more than 200 million people with increased purchasing power.

3. The Government of India should constitute a Standing Committee for each state with Secretary, Department of Agricultural Research and Education (DARE) as Chairman; respective State Agricultural Production Commissioners as Vice-Chairmen with respective Vice-Chancellors, Secretaries of Departments of Agriculture, Horticulture, Animal Husbandry, Fisheries and Forestry as members and Deputy Director General (Education), ICAR as Member-Secretary for periodic monitoring of the functioning of agricultural universities and for providing timely guidance and support for solving their problems and making mid-course corrections, as considered necessary.

4. Effective mechanisms for impact assessment and evaluation of agricultural universities are required to be put in place, including accountability for the administrative, financial and academic achievements. At the same time, they be given proper funding support and freedom to perform.

5. The present practice of proliferation of agricultural universities through creation of new universities, campuses, colleges and through bifurcation of existing universities is indeed counterproductive and not in the interest of quality education. This practice needs to be stopped at the state level. On the other hand, there is an obvious need for the consolidation and downsizing of existing institutions for efficient utilisation of limited resources.

6. Agricultural universities must ensure adherence and effective implementation of the concept of each faculty member getting involved in at least two of the three basic functions *viz.*, teaching, research and extension education.

7. Both at the level of staff recruitment and student admission, the practice of inbreeding adversely affects the teaching and research standards. While responding to the specific regional problems of the states, agricultural universities must lay emphasis in maintaining greater national perspective in faculty building.

8. Students should be discouraged to take more than two degrees from the same university in order to curb inbreeding which often has deleterious impact on quality education.

9. Agricultural universities must encourage admission of students on an all-India basis in order to attract the best available talent. The current practice of admission of 15 per cent of the undergraduate and 25 per cent of the postgraduate through all-India entrance test conducted by the ICAR should continue and the proportion be gradually increased.

2. Strengthening of Agricultural Education

10. It is absolutely essential to bring private/government colleges and faculties in general universities offering programmes in higher agricultural education into the fold of agricultural universities and the ICAR for improving the quality of education after careful evaluation and screening.

11. The central and the state governments should strengthen the existing agricultural universities in order to equip them for making India a developed nation and to meet the challenges of the next century. India is expected to not only have sustainable food security but also become a leading exporter of agricultural products and services.

12. To strengthen the agricultural education system, the ICAR be encouraged to conduct an overall review of agricultural universities by involving eminent educationists, scientists and administrators. The proposed review must focus on important aspects, such as, university governance, financial sustainability, personnel policies, teaching, research and extension education as also their linkages with other institutions and organisations in the public and private sector.

3. Funding of Agricultural Universities

13. The state governments must ensure proper financial support to the agricultural universities by allocating at least 15 per cent of the total budget of the departments of agriculture, animal husbandry, fishery, horticulture, forestry and any other related to agriculture.

14. The central and state governments may devise a mechanism to provide, to respective agricultural universities, a lumpsum grant as core fund to be used in future, exclusively for the maintenance and renewal of existing infrastructural facilities on the campus. This will mitigate the effects of uncertain funding.

15. The development grant provided by the ICAR to agricultural universities under plan allocation should be reviewed and adequately enhanced.

4. Course Curricula

16. The Land Grant pattern of academic institutions permits a great deal of flexibility to the students, especially at the postgraduate level so as to plan their course of study according to their requirements and capability. This provision is however, not uniformly availed by students for various reasons. This needs to be implemented uniformly.

17. There is a need for rationalisation of policies with regard to admission, duration of the programmes, requirement of credits, evaluation and grading and updating as well as revision of curricula at regular intervals for various degree programmes in the agricultural universities.

18. Complete transparency is required to be introduced in the internal evaluation system at the undergraduate and postgraduate levels with an inbuilt system of checks and balances that ensure proper record keeping of the performance of the students with the concerned teachers for future reference.

19. With social, economic and scientific changes, several new disciplines such as agri-business management, biotechnology, molecular taxonomy, environmental sciences, plant and animal genetic resources, intellectual property rights in relation to World Trade Agreement, Biodiversity Convention and other international commitments have become important. These disciplines and emerging areas must find a place in the teaching programmes of the agricultural universities.

20. With the technological revolution, which is presently getting a momentum through effective use of genetic engineering and molecular biology, basic research is assuming pivotal importance to provide a sound base for competitive technological advances. Basic sciences, therefore, need to be given adequate importance by agricultural universities both in terms of resource allocation and faculty involvement.

21. Social and behavioural science components need to be given specific emphasis in view of our understanding of the interdisciplinary character of the problems of the farming community.

5. Human Resource Development

22. A suitable mechanism is required for periodic assessment of the scientific and technical manpower requirement for agricultural R&D institutions in the country. This will help maintain a reasonable balance between the manpower generated and opportunities for their gainful employment.

23. To attract talent and avoid inbreeding, admission for postgraduate programmes in the agricultural universities should be made open to students from basic sciences and engineering in the related disciplines. Such students should, however, be given remedial courses in the discipline of agriculture.

24. To ensure technological empowerment of women the home science education should be made broad-based by redefining the goals, changing the nomenclature of the programme, introducing market-driven enterprises and sustainable management of natural resources.

25. A system of recognising outstanding performance of teachers, linked with appropriate incentives and rewards, is required to be put in place by all the agricultural universities.

26. More scientists and teachers in the agricultural universities should be trained through summer-institutes/refresher courses so that they are better equipped for the assigned tasks. Facilities available for training in advanced countries through bilateral and multilateral agreements should be made use of.

6. Linkages

27. There is need to provide proper linkages between agricultural universities, The ICAR institutions and agro-based industries. There should be an effective system of exchange of teachers and researchers for short durations through linkups with the universities and academic centres of good standing. Joint programmes of research should be developed with foreign universities and research institutions.

28. For better appreciation of the needs of the industry for technological development, it would be advantageous to implement fellowship programmes for movement of the university faculty to the industry and *vice-versa*.

29. There is a need to develop proper linkage with general universities and the UGC for improvement of educational standards in affiliated colleges imparting agricultural education.