

Reorienting Our National Agricultural Education System



Education is the foundation of economic and social development. This fact was well-recognized by our ancestors who built such magnificent educational institutions as Nalanda and Takshashila universities and gave to the world the Gurukul system of education. After independence, successive governments developed educational policies and established universities and other educational institutions throughout the country to meet the growing need for well-qualified and trained human resource.

The present government has been making multi-directional efforts towards improving the quality, equity, and integrity of the primary as well as higher education systems so that emerging expectations of learning outcomes are fully met. The National Education Policy (NEP) 2020 outlines a road map for very comprehensive education system that is aligned with the aspirational goals of 21st century education in India.

The current agricultural education system of the country is largely based on the Land Grant System which integrates three pillars of agricultural growth: (i) education, (ii) research and (iii) extension. In India, the first agricultural university based on this system was established in 1960 at Pant Nagar. By now, the number has grown to 76 State Agricultural Universities (SAUs) - including Veterinary, Horticulture, Fisheries and Organic Universities, 4 ICAR Institutes as Deemed Universities, and 3 Central Agricultural Universities producing around 87,411 graduates and post-graduates annually. These institutions have played very significant role for achieving the Green, White and Blue revolutions - making India a food



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secure nation. According to Dr Norman Borlaug, known as father of Green Revolution, the cradle of success in India had been the policy support, institutions and competent human resource, which obviously lacked in Africa where he tried to achieve similar results but could not succeed.

Challenges and Constraints

Despite these achievements, over the last six decades, the agricultural education system has faced various challenges such as: i) proliferation of universities established with inadequate planning, infrastructure and meagre resources, ii) bifurcation of multidisciplinary universities into sectoral based universities like: Veterinary, Fishery, Horticulture, etc., iii) political interference and lack of autonomy, iv) inadequate funding, v) high staff vacancies, vi) disintegration of teaching, research, and extension functions, vii) lack of alignment with the new education policy which demands flexibility, diversity, multidisciplinary environment, greater accountability and relevance to emerging societal needs, viii) lack of merit based transparent review system, and ix) non-existence of student-based teacher evaluation system.

Policy Reorientation - A Must

Considering the above challenges, there is an obvious need to revitalize our agricultural education system to train youth (including women) to embrace diversified, ecologically sustainable and economically viable agriculture and allied enterprises. For this, there is need to ensure acceptable inter-institutional compatibility in governance, faculty development, curriculum building and high educational standards.

Towards this, it is high time that a "National Commission on Agricultural Education" is set-up by the Government, on pattern similar to that of National Commission on Agriculture set up in 1970 and later the National Farmers Commission in 2004 to suggest reforms and strategy for implementation, while ensuring needed harmony with the New Education Policy (NEP) - 2020.

Also, to improve quality of agricultural education, there is an urgent need to establish an "Agricultural Education Council", either through a Bill or an Act, on par with Veterinary Council of India (VCI) under the Department of Agricultural Research and Education (DARE). This will provide a single window system of higher education at the national level. Towards this, the delegation of responsibility by the Ministry of Education has to be accorded to ICAR/DARE on priority. Similar delegation has so far been exercised by ICAR on behalf of UGC, which was duly approved by the cabinet.

Considering the national and state relevance and interdependence for agricultural technologies and products generated by the institutions as national public good, agricultural education to be appended to the Concurrent List of the Constitution, like general education, leaving aside the responsibility for



agricultural development with the states. This will ensure much desired integration and generation of technologies that often transcend state boundaries. In future, approval of ICAR/DARE for opening new agricultural college/university must be made mandatory and the funding support by ICAR be extended only to those universities who comply with the Model Act.

Institutional Reforms for Excellence

Over the years, need has been felt to reorient the agricultural education system so that it continues to produce competent and skilled human resource capable of accelerating our agricultural growth. Specific guidelines need to be developed for the establishment of new agricultural education institutions. In keeping with the spirit of NEP-2020, the future institutions should offer only integrated education in all agriculture and allied disciplines as well as in basic sciences, medicine, engineering and humanities. Also, a paradigm shift is required from formal to informal education through vocational short-term diploma/certificate courses aimed at skill development of school or college pass outs. Efforts are also needed by the States and ICAR to prevent and rather reverse the discipline-oriented fragmentation of agricultural universities. Gross Enrolment Ratio (GER) be also based on the data for human resource needs both at the state and national level. Also, the teacher: taught ratio in SAUs, which currently is 1:7, has to be increased substantially with emphasis on creative potential development, as envisaged under NEP.

Enhanced Funding Needed

A White Paper on human resource need in agriculture by the Education Division of ICAR will be timely. In order to fulfil the

mandate under NEP- 2020, greater focus be henceforth on leadership entrepreneurship, employment and discovery (LEED). Selection process of faculty positions starting from the top (Vice-Chancellor) needs to be broad and merit based with greater transparency. In State Agricultural Universities, the career progression be in synchrony with other national agricultural institutions.

Institutional inbreeding has also to be minimized through innovative measures such as: i) promotion of post-graduate Sandwich Programs in collaboration with world class universities; ii) undertaking focused fundamental and strategic research in collaboration with national/international institutions of excellence, and, iii) provision of Adjunct Professors of proven eminence linked with creation of national/international Academic Chairs

Most SAUs are currently starving for funds. Hardly 4-10 per cent of budget is available for operational expenses. Hence, substantial increase in public funding of agricultural institutions is urgently needed. Also, the universities need to be encouraged to generate resources from other sources such as: different government science departments, private and international joint ventures, agricultural industry, philanthropic/ endowment funds, by sale of seed and agriculture produce, etc. In order to revitalize and bring in organizational and management reforms, a one-time catch-up grant, as done in late nineties, be again ensured by the ICAR through special grant from the Government or from Higher Education Funding Agency (HEFA).

Revisiting Land Grant System

There is strong need for revisiting the existing Land Grant System, which is almost 60 years old. For this, a high-level expert committee be constituted urgently to have wider consultation with experienced faculty, industry experts, students, progressive farmers, etc. and suggest needed reforms in our agricultural

education system. Given the fast-globalizing world and increasing appreciation of the One-Health One-World reality and the pivotal role of agriculture in realizing it, the Land Grant System needs to be changed to World Grant System to implement Resilient Agricultural Education System (RAES). The agricultural course curricula should also include courses on basic sciences and humanity to produce highly competent and empowered agricultural graduates. The agricultural education system should also enhance entrepreneurship, vocational programs and startups.

As recommended in the NEP-2020, the curricula should lay due emphasis on local and traditional knowledge and emerging technologies while being cognizant of emerging challenges and the critical issues like declining land productivity, farm income, and concerns of climate change, etc. Technology integration should be given due thrust to make the Teaching-Learning and Evaluation process more effective. To take full advantage of emerging digital technologies, the agricultural universities should benefit from the National Educational Technology Forum (NETF), set-up as an autonomous body under the Ministry of Education. To be more relevant and useful, the students need to be linked more effectively with the farmers/stakeholders right from the first year of course work, as envisaged under RAWE when started in late nineties, changed now to student READY (rural entrepreneurship awareness development yojna) program funded exclusively by ICAR.

Strengthening Accreditation System

Agricultural education institutions need to develop a robust performance and impact assessment system without which ranking of the institutions will remain a challenge. In this context, as stated earlier, the accreditation needs to be made compulsory for all. The composition of these committees be broad-based and the process made transparent – keeping in line with that of National Accreditation Council (NAC).

The Think Tanks like TAAS, NAAS, IAUA should continue deliberating the process of reorientation of our agricultural education so critical for accelerated agricultural growth in India.