

**NATIONAL EDUCATION POLICY-2020:  
CHALLENGES AND STRATEGIES FOR AGRICULTURAL EDUCATION**

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Food and nutrition security is the basic need of human beings, which are emphasized by the Sustainable Development Goals (SDGs) and agriculture is central to achieving these goals. Indian agriculture, agribusiness and agro-industry have a unique and strategic importance in contributing to job creation, food and nutritional security and broad-based economic development as the sector supports livelihood of 50% of its population. Development of quality human resource is crucial for sustainable and overall development of agriculture. The essential requisite for the agricultural education system is to create rich learning environments and prepare the learners for their role in society. Development of appropriate knowledge and skills assumes the highest significance for sustainable development of agriculture.

**Current challenges of higher education system in India**

The National Education Policy-2020 (NEP-2020) has identified the following issues as major challenges currently faced by the higher education system in India.

- A severely fragmented higher educational ecosystem
- Less emphasis on the development of skills and learning outcomes
- A rigid separation of disciplines, with early specialization and streaming of students into narrow areas of study
- Limited teacher and institutional autonomy
- Lesser emphasis on research at most universities and colleges

**Principles and Philosophy of NEP-2020**

In this context, the NEP-2020 of India has proposed several changes in the education system of India. The NEP-2020 has provided various policy directives to address the challenges faced by the agriculture education sector over the years. These recommendations were mainly emanated based on the following principles:

- ❖ Fostering the unique capabilities of each student, by promoting holistic development in both academic and non-academic spheres.
- ❖ Flexibility to choose their learning trajectories and programmes according to their talents and interests.
- ❖ Emphasis on conceptual understanding rather than rote learning and learning-for-exams.
- ❖ Focus on regular formative assessment for learning rather than the summative assessment.
- ❖ No hard separations between arts and sciences, between curricular and extra-curricular activities, between vocational and academic streams, etc. in order to eliminate harmful hierarchies between different areas of learning;
- ❖ Multidisciplinary and a holistic education across the sciences, social sciences, arts, humanities, and sports to ensure the unity and integrity of all knowledge;
- ❖ 'Light but tight' regulatory framework to ensure integrity, transparency, and resource efficiency of the educational system while encouraging innovation and out-of-the-box ideas through autonomy, good governance, and empowerment;

In this background, based on the above stated principles and philosophy of NEP-2020, a roadmap has been prepared for agricultural education to comply with various provisions of NEP-2020.

**Enhancement of skill based agricultural education**

The NEP-2020 has observed that although Agricultural Universities comprise approximately 9% of all universities in the country, enrolment in agriculture and allied sciences is less than 1% of overall enrolment in higher education. It also recommended that both capacity and quality of agriculture and allied disciplines must be improved in order to increase agricultural productivity through better skilled graduates and technicians, innovative research, and market-based extension linked to

technologies and practices. Earlier, a study on Assessment of Future Human Capital Requirements in Agriculture and Allied Sectors under National Agricultural Innovation Project (NAIP) showed a substantial gap between demand and supply of manpower in agricultural and allied sciences to the tune of 50 per cent. Further, the study revealed about shift in demand for agricultural human resources from the public to the private sector. The shortfall was high in the case of rapidly growing sectors of agriculture which require substantial trained manpower to achieve the targeted growth.

Instead of starting a new college at new place, the existing colleges may be developed as clusters/hubs of higher education in other streams with emphasis on skill enhancement in agriculture education. It is important to introduce agriculture as one of the subjects of the school curricula with an integrated approach across all levels of education from school education to higher education. Primary and high school education may include modules on farming, from production to processing and value addition. This could help young people see agriculture as a potential career. Further, to promote agricultural education, particularly among poor and rural students, a national-level policy is needed to provide support to meet the tuition fee for meritorious and marginalized sections as the cost of higher education is escalating over the years. The fee reimbursement schemes can be used effectively to enhance agriculture education as an option among the students and also increases the Gross Enrolment Ratio. Looking at the rapid growth of private sector in agriculture and agro-based industries, the academic programs in agriculture and allied sciences need to be reoriented to include entrepreneurship-focused courses, to build avenues for off-farm work and also to facilitate technology transfer from lab-to-land.

### **Integration of skill based education with higher agricultural education**

Agricultural education needs to evolve in tune with fast changing national and international scenario. The present situation demands a renewed thrust for enhanced quality and relevance of higher agricultural education so as to facilitate and undertake human capacity building for developing self-motivated professionals and entrepreneurs in view the changing scenario of globalization of education and emergence of new areas. Thus, India's present higher agricultural educational system needs to be strengthened in order to generate skilled manpower capable of achieving higher productivity with available limited resources making full use of advanced technologies or generating need based technologies.

Further, there is a need for agricultural graduates having knowledge, skills, ability and also entrepreneurship to provide a class of village-based services such as diagnostic laboratories, advisories on new innovations and good agricultural practices, markets and avenues of development assistance for corporate and contract farming. However, as per the estimates of the 12th Five-Year Plan, only a very small percentage (<5%) of the Indian workforce in the age group of 19–24 received formal skill based education compared to South Korea (96%), Germany (75%) and USA (52%). These numbers clearly underline the urgency of the need to hasten the spread of skill based education in India especially in agriculture and allied sciences as the sector is mainly dependent on skills.

The NEP-2020 has proposed to revamp academic program structure with an innovative system of multiple entry and exits with options to award certificate, diploma, UG degree general, or degree research, and one or two years of Master's degree. Accordingly, VI Deans' Committee has been constituted by ICAR for restructuring UG curricula of agriculture and allied sciences to integrate skill based education with higher agricultural education.

### **Towards a more holistic and multidisciplinary education**

The national educational policy emphasizes multidisciplinary and holistic education across the sciences, social sciences, arts, humanities, and sports for a multidisciplinary world to ensure the integrity of all knowledge. Courses on agriculture and allied sciences need to be introduced in the General/Central Universities as per the new NEP-2020 to fulfill the requirement of a multidisciplinary approach.

The institutions offering academic programmes in agriculture must adapt to the rapidly changing agricultural sector and its increasing knowledge intensity, and prepare the high-quality human resources essential for any technology and innovation system to succeed. There is a strong

justification for massive intervention in agricultural education front to usher in reforms in the arena of education quality, relevance of research programmes and efficient delivery of extension services, commercialization and revenue generation. The policies should enable the institutions to foster partnership with industry which is essential for the industry to obtain well-trained agricultural professionals in cutting edge technologies for international competitiveness.

The multidisciplinary approach in agricultural education is expected to infuse frontier science areas such as nanotechnology, information and communication technology, artificial intelligence, Robotics, GIS, remote sensing etc to support various diverse activities of agriculture especially precision and climate-resilient agriculture. This approach is also essential to gain the advantages of secondary agriculture in terms of processing, value addition, food safety and quality.

In view of the importance of agriculture at the global and national levels, there is a need to create and nurture future human resources. The essential requisite for the agricultural education system is to create rich learning environments and prepare the learners for their role in society. With the advances in science and technology in general and agriculture and allied sectors in particular, changing economic status, life styles, food habits and demand for processed/value added foods, the academic programmes need to be reoriented accordingly. Considering the current status and prospects of the agriculture and allied sectors, concerted efforts are needed to implement the strategies as envisioned in NEP-2020.

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