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Nep-2020 And Indian Agricultural Education system

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ABSTRACT

The NEP 2020 places a strong emphasis on the idea that the greatest approach to utilise and develop our nation's abundant potential and resources for the benefit of each and every person, as well as society, the nation, and the world, is to provide universal access to high-quality education. In keeping with this, ICAR/DARE/SAUs pursue quality assurance in higher agricultural education through accreditation, the development of minimal standards for higher education, academic rules, personnel policies, course curriculum and delivery system reviews, support for the creation and enhancement of infrastructure and facilities, enhancement of faculty competency, and student admission via the All-India Examination. The course curricula have been reorganised in response to the ICAR's Fifth Deans' Committee Report of 2016 in order to support graduates' self-employment, entrepreneurial aptitude, leadership abilities, and confidence, as well as their ability to attract and retain young people in the agricultural field. In addition, the Committee suggested that all degrees in the field of Agricultural Sciences be designated as professional degrees, with the aim of reaching the highest standards of academic excellence worldwide. It has also offered guidelines for founding new universities.

Being Vocal for Local has developed region-specific courses including Hill, Coastal, and Tribal agriculture, among others. The fields of genomics (biotechnology), nanotechnology, GIS, precision farming, conservation agriculture, secondary agriculture, hi-tech cultivation, speciality agriculture, renewable energy, artificial intelligence, big data analytics, mechatronics, plastics in agriculture, dryland horticulture, agro-meteorology and climate change, waste disposal and pollution abatement, food plant regulations and licensing, food quality, safety standards and certification, food storage engineering, food plants. This will require a change in pedagogy as well as more excellent human resources.

Keywords:*Agriculture, education, ICAR, Vocal for Local, NEP 2020*

Introduction and History of Indian Education

Higher education has a long history in India, extending back approximately 6,000 years, particularly from the Vedic era. The Government of India launched a number of initiatives to address the issue of illiteracy after gaining independence in 1947. In order to establish a consistent education system across the nation, Maulana Abul Kalam Azad, the country's first minister of education, envisioned a strong central government role in education. To create recommendations for the modernisation of the educational system, the government established the Kothari Commission (1964–1966), the University Education Commission (1948–1949), the Secondary Education Commission (1952–1953), and the University Grants Commission (1964–1966). The establishment of top-notch scientific education institutes like the Indian Institutes of Technology was the goal of the government's Resolution on Scientific Policy.

The National Council of Educational Research and Training (NCERT) was established by the government in 1961 as an independent body to provide guidance to the federal and state governments on the development and execution of education policies. The Government of India announced the first National Policy on Education (NPE 1968) based on the Kothari Commission's recommendations. The NPE 1968 called for a "radical restructuring" to achieve equal educational opportunities, national integration, and greater cultural and economic development. It demanded that all children receive compulsory education up until the age of 14, as required by the Indian Constitution. Additionally, it promoted the

teaching of Sanskrit, an antiquated language that is a vital part of India's cultural legacy. The NPE 1968 recommended raising education funding to 6% of the GDP.

A new National Policy on Education was released by the Indian government in 1986. It placed a strong emphasis on closing gaps and ensuring equal access to education, particularly for women and members of Scheduled Tribes (ST) and Scheduled Castes (SC). In order to do this, it proposed developing new institutions, offering housing and services, increasing adult education, hiring more teachers from the SCs, increasing scholarships, encouraging impoverished families to attend their kids to school regularly, and developing adult education programs. It also emphasised a primary education strategy that is centred on the kid. The establishment of Indira Gandhi National Open University (IGNOU) in 1985 marked the expansion of the Open University System under the NPE 1986. It also advocated for the establishment of a rural university paradigm to support grassroots social and economic development. It also re-iterated an increase in spending on education equaling 6% of the GDP.

1992 saw changes to the NPE 1986. The "Programme of Action (PoA) 1992" was a new policy that was introduced in 2005. For admission to professional and technical programs, a common entrance exam was to be administered across India, according to the NPE 1986. By Resolution dated October 18, 2001, the Government of India established a three-examination scheme for Engineering and Architecture/Planning programs. The national exams are JEE and AIEEE, while state-level institutions administer State Level Engineering Entrance Examinations (SLEEE). The option to enrol in AIEEE is provided to address the issue of varying admission standards across different programs, support the upkeep of professional standards, and address the challenges posed by the proliferation of entrance exams.

Agriculture Education in India

Additionally, agricultural education has a long history in India. The universities of Takshila and Nalanda included agriculture in their courses. With the founding of an agriculture college in Saidapet, in the then-Madras state, in 1877, education in agricultural sciences got underway. Three veterinary colleges were then established in Bombay (1886), Calcutta (1893), and Madras (1903). Five agricultural colleges were subsequently founded in Sabour (1908), Pune (1907), Kanpur, Coimbatore, and Nagpur (1905). There were seventeen agricultural colleges, four veterinary colleges, and one agricultural engineering institution in the nation at the time of independence. Recognising the role that agriculture had in the Indian economy, the Indian government launched a number of reforms as soon as the country gained independence. Food production became centred on achieving self-sufficiency. The first Prime Minister of India, Pandit Nehru said, “Everything else can wait but not agriculture”.

The Indian University Education Commission, led by Dr. S. Radhakrishnan, was established by the Indian government shortly after independence to assess the state of higher education and provide recommendations for reforms to fulfil the country's human resource needs. The 1949 publication of the Commission's report and its recommendations had a significant impact on the future of higher education in India. The Commission said that the nation's record on food production was dismal, with reference to agriculture education. The Commission had an idea that rural universities will lead the way in producing and applying the new knowledge, skills, and technology required for India's development. Regarding scientific manpower, the Commission reported that between 1938 and 1949, only 260 PhD and DSc degrees in six basic sciences were awarded, or 26 per year on average.

The Commission emphasised that the nation requires a steady supply of scientific leaders as well as labourers. India's production of food grains increased dramatically, from 51 million tonnes in 1951 to over 308 million tonnes in 2020–21. The foundation of this achievement has been the development of postsecondary educational institutions, which produced skilled labour for the creation and use of new technology. The farming community's high level of responsiveness and sensible government policies were major contributors to this. The development of human resources in agriculture was aided by the 1958 Deemed University status and the founding of the Postgraduate School at the Indian Agricultural Research Institute (IARI). The first Agriculture University was founded in 1960 at Pantnagar, Uttar Pradesh, following the Land Grant Pattern of the USA, which envisioned the integration of education, research, and extension.

This was done in response to the suggestions of the first and second Indo-American Joint Teams. Other states followed suit with the founding of agricultural institutions along the same lines. Due in large part to the integration of teaching, research, and extension, the wide expansion of agricultural universities and colleges has created opportunities for higher agricultural education and yielded significant benefits. It represented a significant shift from the conventional educational framework. The Land Grant Universities' early support was crucial to the effective implementation of the USA's Land Grant Pattern, which was founded on the Morrill Act (1862).

In terms of endowment/corpus fund, it called for primary (50%) support from the federal (central) government and state (35%) funding for maintaining the university's autonomy, with the university to raise the remaining funds. At the beginning, every state offered full assistance because they were eager to advance agricultural education. Thirty to forty percent of its funding was supplied by the Indian Council of Agricultural Research (ICAR), another important source of support. As a result, agricultural universities were founded and developed across the nation (ICAR, 2013). The ICAR created a Model Act in 1964 to guarantee consistent organisation and efficient governance across agricultural institutions. It was repeatedly changed, with the most recent revision occurring in 2009.

In order to ensure high-quality agriculture education, the ICAR established an Accreditation Board in 1996. This board oversaw the thorough process of accrediting State Agricultural Universities (SAUs), as well as the periodic review of course curricula and academic regulations through the Deans' Committees. The ICAR's initiatives have yielded significant benefits; yet, there is still more need to improve the quality of education, governance, financial stability, and human resource development. To improve the system's capacity for educational planning, quality assurance, institutional partnerships, and networks, as well as to create an atmosphere that fosters innovation and creativity, new initiatives must be implemented at both the university/institution and system levels.

Importance of NEP 2020 in Agricultural Education

The Dr. K. Kasturirangan committee's recommendations served as the foundation for the development of the New Education Policy 2020. Throughrevolutionary revamping' India's educational system and providing equal opportunities for education to all, this program sought to achieve greater economic and cultural growth as well as national integration. India's 74 agricultural institutions now provide degree programs with multiple entry and exit points, and the establishment of academic credit banks are just two examples of how NEP has significantly changed the country's agricultural education system. Because Academic Credit Banks enable students to transfer between and within universities, they will facilitate the integration of campuses and distant learning systems. Facilitating the integration of skills and experiences into a formal credit-based system may be made easier by providing a credit recognition mechanism.Accredited Higher Education Institutions (HEIs) will be able to digitally save their academic credits, which can then be redeemed to receive a certificate, diploma, or degree. Experiential education is mentioned in the NEP, and it has pushed for a switch to four undergraduate degrees. There are now four programs for agricultural degrees, and many of the courses' curriculum is set up so that theory and practical instruction on the same subjects can take place at the same time. Making sure that all students have access to experiential learning will be a significant task if the various entry-exit systems are implemented. With many entry and exit choices, students can graduate with a diploma or an advanced diploma and have the flexibility to return whenever they're ready to continue their education (Kumar et al., 2022).

Concerns that need to be addressed by policy include the challenge of multidisciplinary: Because farmers need comprehensive solutions to their problems, agricultural institutions have been modelled after the land grant model, emphasising research and extension as well as close community relations. But in the fields of horticulture, veterinary medicine, and fishery sciences, a number of domain-specific colleges have recently surfaced. It could be challenging to integrate the social sciences and humanities in certain contexts. NEP expects the new higher education regulatory framework to maintain ICAR's standards-setting role. It is unclear, though, if under the new system it will still carry out its grant-making

and accrediting duties. The curriculum has been in charge of fostering an entrepreneurial mentality and developing much-needed agricultural skills.

Through science-based policy alternatives and actions, they are encouraged to launch their companies, increase the security of their rural livelihoods, and quicken the transformation of agriculture. Precision farming, high-tech cultivation, artificial intelligence, mechatronics, nanotechnology, food storage, developing food processing, and many other cutting-edge disciplines have already seen the introduction of numerous new courses by AUs that are fully compliant with the NEP guidelines. Students will have access to more scholarship options for stipends, boarding and accommodation, and not simply tuition exemptions thanks to the NEP's proposed National Scholarship Portal. As part of the NEP, AUs are required to work with international universities to meet the highest standards possible for agricultural education quality. They must also offer platforms for cutting-edge research and innovation, enhanced industry-academic collaboration, and interdisciplinary research that spans the, medical sciences, humanities and social sciences.

Agricultural Education's Status and Problems

Seventy-five Agricultural Universities (AUs) that integrate teaching, research, and extension are part of India's agricultural education system. These AUs are organised according to the USA's Land Grant model. Out of these, there are four Central universities with agricultural faculty, five Deemed Universities, three Central Agricultural Universities, and sixty-three State Agricultural Universities. India's National Agricultural Research and Education System (NARES), when combined with its 106 ICAR institutes, 721 Krishi Vigyan Kendras (Agriculture Science Centres), and 69 All India Coordinated Research Projects (AICRP), is the biggest in the world. With the help of NARES, India is now the world's second-largest agrarian economy and a significant exporter of agri-food products. This transformation from Ship-to-Mouth to Right-to-Food status has been achieved via the generation of scientific workforce, teachers, and technologies.

Higher education in agriculture is a state topic, but because it is listed on the Concurrent List in our Constitution, the implementation strategy must be adjusted. Unlike typical colleges, the mission of Agricultural colleges is to conduct research, provide instruction, and conduct extension with a primary focus on farmers. For this reason, the ICAR needs to keep raising the bar for agriculture education while also adhering to the National Education Policy 2020 (NEP 2020). Adding agriculture to the Concurrent List may be a good idea at this time. India's agricultural development has slowed down in recent years, and there are significant disparities in the expansion of agriculture driven by science.Intriguingly, India is home to one-fourth of the world's malnourished and hungry people, particularly stunted and wasted children. This is in addition to the stark disparities in income and standard of living between farmers and non-farmers.

The following flaws may be somewhat to blame for the above:

1. A growing gap between education, research, and extension; inadequate academic rigour and contextualisation of the emerging challenges and opportunities;
2. A reduction in the importance of basic sciences in agriculture courses; a shortage of faculty members; a lack of quality and quantity of academic staff;
3. A limited internalisation of pertinent global trends and developments;
4. A lack of interest in agriculture among young people.Inadequate skills, entrepreneurship, and experience learning;
5. A disconnect between agricultural education and employment; and
6. A low employability rate for graduates in the field.

Extensive inbreeding and limited agricultural education access for rural kids, particularly for those from indigenous and underprivileged backgrounds. Limited digitalisation; ineffective governance; and a deficient system of evaluation, monitoring, impact assessment, accountability, and incentives. Insufficient funding and dwindling financial reserves in agricultural universities and colleges; the establishment of new establishments devoid of corresponding resources and regulations; careless

division of agricultural universities; insufficient resource planning; and inadequate cooperation between the Centre and the states.

Approaching A New Agricultural Education Policy Considering NEP 2020

A new form of multi-disciplinary

The NEP 2020 shall support the development of a comprehensive New National Agricultural Education Policy (NNAEP) to revolutionise agriculture and create New India, keeping in mind that agriculture is the mother of all cultures. Reviving agricultural education with related fields governed and assisted by the ICAR is deemed necessary under the NEP 2020. The National Education Policy 2020, which is built upon the five pillars of access, equity, quality, affordability, and accountability, must be in line with the New National Agricultural Education Policy. A new model of multidisciplinary, research-intensive Higher Education Institutions (HEIs) is being considered, along with course curricula, the academic structure of the degree, diploma, and certificate system, the credit banking system, and partnerships between HEIs, universities, industry, and other stakeholders. The emphasis on agriculture will continue, albeit along the lines of medical education, in order to provide high-quality higher education in the agriculture-food system with equity and inclusion. With the largest youth population in the world expected in the next ten years, India will be able to offer high-quality education thanks to this arrangement.

The unprecedented Covid-19 pandemic, climate change, rising biotic and abiotic stresses, socioeconomic crises, biosafety and food safety concerns, rapidly depleting natural resources, including biodiversity, and risk assessment and management are just a few of the new and emerging issues that the educational system needs to contextualise.Producing More from Less for More (MLM) would become doubly crucial in terms of academic legitimacy. In light of the aforementioned, SDG 4-which calls for ensuring inclusive and equitable quality education and promoting chances for lifelong learning for all-is especially pertinent. The entire educational system, from pre-school to post-secondary education, needs to be set up to facilitate quicker learning. Therefore, the two main objectives of agricultural development, SDG1 (alleviation of poverty) and SDG2 (eradication of hunger), will be directly impacted by SDG4.

In order to achieve the Sustainable Development Goals (SDGs) and preserve India's customs and value systems, the New India must take on the challenges of 21st-century development and work to reform the country's governance, laws, and educational system. Everyone's creative potential must be increased, and their social, moral, and emotional intelligence must be strengthened. At the August 7, 2020 education conference, the Prime Minister expounded on the objectives of the National Education Policy and spearheaded the commitment to execute it with efficacy, starting with the provision of Rupees 100,000 crores. The NEP envisions an educational system that produces decent people with talent and knowledge who can directly contribute to the sustainable transformation of our country into a dynamic, egalitarian knowledge society. By giving our students a top-notch education, we will transform them into global citizens and establish NEP as the cornerstone of New India. Teacher, student, and related staff retraining, upskilling, and retooling; bridging the gap between education and research through the adoption of a holistic approach; bolstering vocational education; giving institutions autonomy; and creating an independent domestic ranking system for Indian educational institutions, are the cornerstones of the NEP 2020. As a result, the Ministry of Education (MoE) has replaced the Ministry of Human Resource Development (MoHRD). The NEP envisions a knowledge society that is both lively and equitable, with the following key goals:

- Establish India as a worldwide knowledge superpower.
- Students who respect the Constitutional Values and Fundamental Duties;
- Students who take pride in their Indian heritage in terms of intellect, thought, and behaviour.
- Become really global citizens by developing your knowledge, abilities, values, and dedication to human rights, sustainable development, and global well-being.

The NNAEP ought to be progressive, forward-thinking, and student-focused, just like the NEP. As envisioned in the NEP 2020, this will ensure holistic development by promoting flexibility, multidisciplinary,

and internationality in accordance with people's needs, aspirations, voices from the ground (Janvani), and a science-informed amalgamation of indigenous and endogenous traditions, knowledge, and cultural heritage (Bhartiyata Ka Dharatal). Additionally, it must provide for numerous entry and departure points as well as horizontal and vertical mobility, all supported by Credit Bank. This will promote aptitude-based decision-making and self-paced advancement in accordance with affordability, equity, and accessibility. Less than 1% of students engage in higher education for courses related to agriculture and associated disciplines, despite the fact that agricultural universities make up over 9% of all universities, according to the NEP 2020.To boost agricultural productivity, it is necessary to enhance the capacity and calibre of agriculture and related fields through the hiring of more qualified graduates and technicians, creative research, and market-based extension that is connected to techniques and technologies. A significant increase should be made in the programs that prepare professionals in the fields of agriculture and veterinary sciences through integration with general education.

According to the NEP 2020, agricultural education is designed with the goal of producing professionals who can comprehend and apply traditional knowledge, local knowledge, and emerging technologies while also being aware of important issues like declining land productivity, climate change, and the need to feed a growing population. Establishing Agricultural Technology Parks to encourage the incubation and diffusion of new technologies is one way that institutions providing agricultural education can directly benefit the local community.

Agriculture University System Transitioning from Land Grant to World Grant

The NAAS has been vocally advocating for the cessation of SAU splitting and the establishment of multidisciplinary, research-intensive holistic institutions, which should delight the planners of NEP 2020. The NAAS supported the idea that India's Agricultural University System should switch from the Land Grant to the World Grant system, as has occurred in many Land Grant Universities in the USA, in keeping with the Reform, Perform, and Transform philosophy and acknowledging that local and global are no longer autonomous. The new courses, curricula, and topics should be constantly changing to dynamically incorporate the latest global efforts, like the Global Zero Hunger Challenge, the Knowledge Economy, the Digital Economy, and the Global Green Economy. It is proposed that science, technology, engineering, and mathematics (STEM) be combined with agriculture, arts, and humanities (A) to create STEAM, a combination that emphasises the importance of social sciences and agriculture as change agents. In order to make our students really global citizens and globally relevant, India should also work towards ranking its SAUs in accordance with the National Academy of Agricultural Sciences' (NAAS) recommended indicators for improving the level of knowledge domains, meritocracy, and governance. Combining relevance and quality, NARES is promoting innovative methods for developing skilled labour, such as creating internship, innovation, and incubation facilities and creating specially created Massive Open Online Courses (MOOC).

Additionally, it has developed a mentoring roadmap that highlights the significance of aligning mentors' experience and knowledge with mentees' learning requirements. This will facilitate the creation of connections between different levels of the hierarchy, strengthen change management, improve work ownership and responsibility sharing, and broaden the learning ecosystem and best practices. This aligns with the Department of Science and Technology's (DST) programs, particularly the Innovation in Science Pursuit for Inspired Research (INSPIRE) program and the Ministry of Human Resources Development's (MoHRD), now the Ministry of Education (MoE), Global Initiatives of Academic Network (GIAN). Reviving agricultural education will thus succeed the government's Study in India program by drawing in international students and transforming the agrarian sector.

According to NEP 2020, the NARES shall evaluate the workforce requirements of the rapidly changing, knowledge-intensive agriculture in order to make the required modifications to curricula and skill development, with a focus on exposure to national and international challenges and experiential learning. In the fields of ICT, digitalisation, biotechnology, nanotechnology, agro-processing, artificial intelligence, precision agriculture, and systems simulation, there will probably be more technological interventions. In order to strengthen the feedback mechanism, set the right priorities to address farmers'

problems, and make the local extension more sensitive to the challenges at the micro level, a pluralistic, multidisciplinary, holistic approach and public-private partnership are required. These partnerships should concentrate on business, marketing, and income orientation. Promoting entrepreneurship and Agri-Startups, fostering market-led extension initiatives, and intense use of electronic media should be appropriately covered in the educational curricula, hence enhancing each other's effects: Corporate Social Responsibility (CSR) and Scientific Social Responsibility (SSR).

Additionally, there will be a strong emphasis on market access, learning technology exchange, online instruction, and training. The Open Distance Learning (ODL) style of agricultural education must be institutionalised by guaranteeing the required high-quality technological infrastructures for continuous system operation.

Use of ongoing projects to integrate NEP 2020 into agricultural education policy

The following measures and actions should be incorporated into the new National Agricultural Education Policy, taking into account the NEP and recommendations from the NAAS's XIth Bhubaneswar Conference and Declaration (2013), the ICAR-Committee for Developing Policy for Higher Agricultural Education in India (2013), and the Fifth Deans Committee (2016), which was presided over by Prof. R. B. Singh.

- Create a top-notch agricultural university system that is equipped to handle possibilities and challenges on a local, national, and worldwide scale by embracing agricultural education for development (AE4D) as a crucial part of the national agricultural strategy.
- Create sizable MERUs (multidisciplinary educational and research universities), ideally with one or more close to each district.
- Make sure that meritocracy, open governance, prudent resource allocation, and responsible monitoring, impact assessment, and assessment processes are established and maintained. In agricultural education and research, minimise inbreeding and foster institutional linkages by emphasising standards, norms, and accreditation; fortify foundational and emergent sciences; and cultivate centres of excellence.
- Reaffirm the integrity of academic positions and institutional leadership by appointing faculty members on the basis of merit and advancing their careers through teaching, research, and extension services.
- Create the National Research Foundation to provide funding for exceptional, peer-reviewed research at colleges and institutions. • High-caliber, independent boards with administrative and academic independence oversee HEIs. • Fortify and expedite the Center-state alliance through distinct yet repetitive duties.
- Ensure that there are ample opportunities for excellent public education; that private philanthropic universities offer scholarships to students; that online learning and Open Distance Learning (ODL) are viable options; and that all educational resources and infrastructure are accessible to and usable by students with disabilities.
- To guarantee honesty, openness, economical use of resources, and sound governance, higher education should adopt a Light but Tight regulatory framework overseen by a single regulator.
- Update curricula, methods of instruction, and pedagogy to draw in top talent and get the next generation ready for leadership roles in agriculture.
- In order to foster professionalism, promote improved student experiences, institutionalise entrepreneurship, skill development, and experiential learning programs, and make investments in non-formal education and vocational training in agricultural technology.

Encourage the growth of robust, long-term international cooperation; revitalise and reproduce models of effective collaboration; and initiate trilateral, South-South, and South-North partnerships.

Agricultural education quality assurance through NEP-2020

The idea that universal access to high-quality education is the best way to harness and develop our country's rich potential and resources for the benefit of every individual, as well as society, the nation, and the world, is strongly emphasised in the NEP 2020. In keeping with this, ICAR/DARE/SAUs pursue quality assurance in higher agricultural education through accreditation, the development of minimal standards for higher education, academic rules, personnel policies, course curriculum and delivery system reviews, support for the creation and enhancement of infrastructure and facilities, enhancement of faculty competency, and student admission via the All India Examination. In response to the ICAR's Fifth Deans' Committee Report of 2016, the course curricula have been restructured to enhance graduates' capacity for self-employment, entrepreneurship, confidence, leadership, and leadership skills, as well as their capacity to draw and keep young people in the agricultural sector. Additionally, in order to meet the highest standards of academic achievement in the world, the Committee recommended that all degrees in the subject of Agricultural Sciences be classified as professional degrees. It has also provided recommendations for the establishment of new colleges.

Being Vocal for Local has created courses that are tailored to certain regions, such as coastal, hill, and tribal agriculture. the fields of plastics in agriculture, dryland horticulture, agro-meteorology and climate change, waste disposal and pollution abatement, food plant regulations and licensing, food quality, safety standards and certification, food storage engineering, precision farming, conservation agriculture, secondary agriculture, hi-tech cultivation, speciality agriculture, renewable energy, artificial intelligence, big data analytics, mechatronics, and plastics in agriculture This will necessitate both improved human resources and a shift in pedagogy.

The Fifth Deans' Committee has created a one-year program in all UG disciplines that includes the following elements: (i) experiential learning, including international experiential learning when possible; (ii) work experience in rural agriculture; (iii) in-plant training/industrial attachment; (iv) hands-on training (HOT) / skill development training; (v) student projects; and (vi) the Agricultural Science Pursuit for Inspired Research Excellence (ASPIRE) program. This program is in accordance with the Student READY program, which was introduced in 2015 and is shown below.

In terms of gender sensitivity, between 2014–15 and 2019–20, there were 7% more female candidates in UG and PG programs, and 11% more in PhD programs. An additional analysis revealed that although the percentage of agriculture graduates admitted grew over time, from 3982 in 2011 to 5669 in 2015, the percentage of agriculture graduates placed across India during that same period was rather low, ranging from 20 to 22 percent. In order to create job possibilities and facilitate knowledge transfer, it further highlights the necessity of revamping the agriculture education system (Rana, Agnihotri, & Agrawal, 2020). Furthermore, the ICAR is working hard to attract talent, expose gifted students to a variety of socioeconomic and cultural contexts, and develop them into high-caliber labourers through its dynamic All India Entrance Examination policy and educational quality enhancement programs.

In a September 12, 2020, article in the daily Pioneer, Dr. T. Mohapatra, Secretary DARE and Director General, ICAR, and Dr. R.C. Agrawal, Deputy Director General (Agricultural Education), ICAR, acknowledged the key components of NEP 2020 but also emphasised that the ICAR has been pursuing a number of initiatives that align with its goals. Some of these include entrepreneurship, multidisciplinary undergraduate and graduate curricula, a focus on innovation and research-based learning, practical training and field experience, and the promotion of science-based policy options and actions.

They also emphasised that in order to meet Agenda 2030, the ICAR has taken action to draw talent to agriculture education, support internationalisation, foster ongoing professional development, and encourage AUs to become self-governing institutions. These actions have resulted in stronger links between academia and industry as well as inter-disciplinary research that spans the humanities and social sciences, as shown in the NEP. To encourage career preparation and professionalism, the ICAR will assist universities in implementing various entry and exit mechanisms in their undergraduate programs. The following elements were emphasised by the R.S. Paroda Committee (2019) in their study on luring and keeping young people in agriculture:

- National Mission on Youth in Agriculture
- Youth - Agriculture Nexus
- Plough-to-Plate Initiative
- "Youth as a Farmer" to "Youth as a Value Chain Developer"
- Institutionalization of Incentive and Award/Reward System
- Successful Entrepreneurs as Role Models for Youth
- Agri-Youth Innovation Corpus Fund
- Creation of Department of Youth in Agriculture
- ICT Knowledge Enabled Youth.

Building on earlier World Bank initiatives, especially NATP and NAIP, the current World Bank-supported National Agricultural Higher Education Project (NAHEP) is enhancing the abilities of academics and other staff members across all levels. Its goal is to strengthen ties between the national system with the worldwide knowledge economy, enable global experiential learning, and encourage learning-centered education, deepen alliances with business sectors, and increasedigitalisation as well as remote learning online. Provisions for enticing young and empowering women in agriculture must be included in the NAHEP.

India with the greatest number of young people (almost 400 million in the 10–24 age range) in the Only 5% of young people in rural areas worldwide work in agriculture, despite the fact that over 60% of rural residents make a living through farming and related pursuits.Therefore, the idea of youth as farmers must give way to that of youth as value chain developers and agribusiness owners. To help with this transition, zonal platforms for Motivating and Attracting Youth in Agriculture (MAYA) may be created around the nation. The AUs must take the lead in this movement by introducing cutting-edge, new technology to young people. Furthermore, in order to successfully address the inequality and associated socioeconomic difficulties, NAHEP must take a gender perspective. The fact that there are now much more female students in the AUs is encouraging, and this trend needs to continue. The following activities have resulted in a notable increase in the number of students applying to agriculture-related UG, PG, and PhD programs:

S. No.	Programme	No. of Applicants		Increase in number of applicants (%)
		2016-17	2020-21	
1	UG	1,24,995	1,97,837	58.27
2	PG	25,545	28,830	12.85
3	Ph.D.	4,709	14,080	199.00

Restructuring and implementing the academic program for agriculture education based on NEP 2020

S. No.	Restructured Academic Programme of Agriculture Education	Period	Timeline
1	4 year B.Sc./B.Tech.programme - running	On-going 4 years	Up to 2025
2	4year B.Sc./B.Tech.programme First-year: CERTIFICATE COURSE (2 semesters) (theory and hands-on training) exit option with certificate	Year one – exit option with certificate	By 2025
3	4 year B.Sc./B.Tech.programme Second year: DIPLOMA COURSE (2+2 = 4 semesters) (theory and practical) exit option with diploma	Year two – exit option with a diploma	By 2025

4	4-year B.Sc./B.Tech.programme 3rd year, semesters 5 &6, intensive course work and practical	Year three	By 2025
5	4-year B.Sc./B.Tech.programme 4th year, semesters 7&8, advanced course work/specialization	Year four Completion of B.Sc./B. Tech. degree	By 2025
6	M.Sc. 2 yearprogramme, current system to continue as it is.	2 years	Continuing
7	PhD. 2-3 yearprogramme, current system to continue as it is.	2-3 years	Continuing

Conclusion

To ensure high-quality education and the creation and prudent implementation of regulatory mechanisms to reshape the system so that the necessary and proven technology/product reaches the end-user as soon as possible to meet the SDGs, an Agricultural Education Board should be established as a single regulatory body in Mega ICAR. The Board should be proportionately represented by the four verticals of the Higher Education Commission of India (HECI), which are the National Higher Education Regulatory Council, National Accreditation Council, Higher Education Grants Council, and General Education Council.

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