

Krishi Vigyan Kendras: engines for skill-intensive agriculture*

The agriculture sector akin to other sectors in India is facing severe labour shortage due to unavailability of skilled workforce. Farmers and rural youth are opting out of agriculture because of widening disparity in per capita income between farm and non-farm businesses. Thus retaining youth in agriculture will be a huge challenge. The next green revolution certainly needs exploiting demographic dividend and a paradigm shift from grain production to food processing and marketing. The present agricultural scenario implies a strong case for upgrading skills of all the stakeholders. Taking into account the need of skill development in agriculture, the Indian Council of Agricultural Research (ICAR), New Delhi, organized a national conference which was attended by over 2000 delegates, including eminent scholars and researchers from all over the country.

On this occasion, the 87th Foundation Day of ICAR was also celebrated; the event was inaugurated by the Prime Minister Narendra Modi. In his inaugural address, the Prime Minister called upon agricultural scientists and planners to design the second green revolution with a new vision, dimensions and objectives to address agricultural challenges in the modern era. Emphasizing the 'Lab to Land' initiative, he urged agricultural scientists to make farmers their fellow travellers in the development and refinement of farm technologies. He also suggested refining and revalidating traditional knowledge available with the farmers. The Prime Minister also launched ICAR's new schemes like 'Farmers' FIRST', 'ARYA', 'Student READY' and 'Mera Gaon – Mera Gaurav', and conferred the National Awards of ICAR.

A. K. Singh (ICAR, New Delhi) during the technical session, informed that there are 642 Krishi Vigyan Kendras

(KVKs) across the country for assessment, refinement and demonstration of technologies/products to cater the needs of the farming community and other stakeholders in the districts. While highlighting the salient achievements of KVKs, he also mentioned initiatives meant for climate-resilient agriculture, strengthening of custom-hiring centres, rainwater harvesting, value addition, aquaculture, etc. He highlighted the need of developing mechanisms for on-line data management, convergence of KVKs with Agricultural Technology Management Agency (ATMA), and district level pre-kharif and pre-rabi interfaces. He also mentioned about restructuring of Zonal Project Directorates (ICAR-ZPD) to Agricultural Technology Application Research Institutes (ICAR-ATARI) with enhanced manpower and three new such institutions to be established at Patna, Pune and Guwahati for better coordination. While describing the initiatives for strengthening KVKs, he informed that specialists in the emerging areas like agri-business, processing and value addition will be recruited in each KVK to cater future needs. Similarly, at least one woman scientist at every KVK will look after special needs of the farm women. For further strengthening infrastructure of KVKs, 195 soil and water testing laboratories, 183 rainwater harvesting structures, 221 minimal processing facilities, 85 carp hatcheries, 509 integrated farming systems, 434 technology information units, 60 micronutrient analysis facilities and 119 mini seed processing facilities will be set up in them based on the specific need of the area. Moreover, 51 KVKs will be developed as Centres of Excellence. Two new projects entitled 'All India Network Project on New Extension Methodologies and Approaches' and 'Network Project on Expert System' will be initiated for reforming extension mechanism of KVKs and impact analysis. Provision of Revolving Fund and Farm Innovation Fund has been made for enabling KVKs to become self-reliant and promoting innovations respectively; whereas Disaster Management Fund is dedicated to meet contingency necessities. Effective deli-

very of services by the KVKs will be ensured through regular monitoring and evaluation. A joint action plan for KVK in association with ATMA will be framed for better coordination and convergence in each district.

Singh also elaborated on novel schemes of ICAR such as 'Mera Gaon – Mera Gaurav', which aims at developing Personal Social Responsibility amongst scientists towards farming community. A group of four agricultural scientists will work with five identified villages in a multi-disciplinary mode. Thus, around 20,000 agricultural scientists will be involved for facilitation of information to the farmers by issuing timely alerts and advisories. The scheme 'Farmers' FIRST' (Farmers' Farm, Innovations, Resources, Science and Technology) aims at enriching farmers–scientists interface for technology development and application. It will be achieved with focus on innovation, feedback, multiple stakeholders' participation, multiple realities, multi method approaches, and vulnerability and livelihood interventions. Attracting and Retaining Youth in Agriculture (ARYA), is another ICAR initiative in which network groups of farm youth will be established to take up resource and capital-intensive activities like processing, value addition and marketing, and to demonstrate functional linkages with different institutions and stakeholders. To begin with, 25 selected KVKs (one from each state) will develop skills of 200–300 rural youth in entrepreneurial activities in different enterprises.

D. Rama Rao (ICAR-National Academy of Agricultural Research Management, Hyderabad) elaborated upon the capacity development interventions for the KVKs with respect to changing roles. He also mentioned about the competency framework for KVKs, which includes human resource, communication and task competencies that have to be developed to face future challenges. Satender Singh Arya (Agriculture Skill Council of India (ASCI), Gurgaon) talked about institutional framework for skill development in Indian agriculture. He discussed about National Skill Qualification Framework which aims to bring unified institutional

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structure and standardization in vocational training programmes. He also enlisted various sponsors for skill building from different industries, government bodies and boards, farmers' associations, commodity exchanges and training institutions. He also explained collaboration possibilities of ASCI with KVKs for successful skill training delivery. R. K. Tripathi (Ministry of Agriculture, Government of India) discussed diverse avenues for convergence of activities of KVKs with the programmes and schemes of the Department of Agriculture and Cooperation (DAC). He also explained various bottlenecks in skill development in agriculture like low levels of education, lack of supporting infrastructure and market-oriented training, etc. Phanihar Palakoti (Virtual AGRI Services) briefed about enabling smart agriculture with functional components like input aggregation, agri-production, market linkage, and farming and produce analytics.

G. Trivedi (former Vice-Chancellor, Rajendra Agricultural University, Bihar) in another technical session expressed that KVKs have the potential to become agri-led skill centres and referred KVKs as the best models of technology transfer. Directors of all ICAR-ZPDs and selected KVKs presented salient activities undertaken in their respective domains. Role of skill-building as an imperative

for retaining youth in agriculture was re-emphasized, 'TEAM-KVK' was termed as the engine of skill development in agriculture. Classical examples of protected cultivation in Himachal Pradesh, mushroom village in Kaithal, Haryana and bee-keeping in Punjab were shared. During the presentation, specific experiences of unique case studies were shared like potential of skill-based secondary agricultural enterprises; value addition with modern virgin coconut oil extraction method; preparation and marketing of weaning food; repairing and maintenance of farm tools and implements; bamboo boring for low-cost irrigation; land configuration and shaping under waterlogged condition; ornamental fish and bird rearing; hydroponic fodder production; meadow orchard technology; betelvine production; silkworm production; precision farming; value addition in millets, etc.

The Union Agricultural Minister, Radha Mohan Singh, in his valedictory address, spoke about his commitment to transform KVKs into knowledge hubs of agriculture by increasing the number of scientific positions and cadre strength of KVKs from 16 to 22. He announced establishment of three new Agricultural Technology Application Research Institutes (ATARIs), and reorganization of jurisdiction of ATARIs in terms of inclusion of States for better monitoring of

KVKs. He urged the scientific community for effective and timely implementation of the novel schemes of ICAR to enhance 'Lab to Land' outreach. He also presented awards for the best KVKs and best farmers in different categories.

During the conference, an interactive session with Vice-Chancellors, Directors of Extension, Zonal Project Directors, Directors of ICAR Institutes and Program Coordinators of KVKs was organized under the chairmanship of S. Ayyappan (Secretary, DARE and DG, ICAR). In this session, various administrative, financial and managerial issues related to the functioning of KVKs were discussed in length. The major recommendations that emerged from the conference include major thrust on the second green revolution in eastern states of the country, enhancement of production of pulses and oilseeds, major thrust on skill development, pursuing enterprises like bee-keeping, processing and value addition, organic farming and developing joint action plan of KVKs and ATMA for better convergence.

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