

KRISHI VIGYAN KENDRA: PROMOTING SCIENTIFIC TEMPER

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KVKs are emerging as the regional knowledge hubs and gaining trust of the farmer community. KVKs are the integral part of the national agricultural research and extension system and the strength of this entity is embedded in its multidisciplinary structure, multi-stakeholder ownership and multifarious activities. KVKs conduct training and emphasize on learning by doing. These are the core substances of scientific temperament. Hence we may consider KVKs as the vital promoters of scientific temper among the farmers.

Innovation in agriculture has always shaped the destiny of a promising country like India. The diffusion of science, technology and innovation in agriculture is rather the key to increase agricultural production in a sustainable manner. Role of science and technology in agriculture is pertinent to not only ensure national food security, but it also provides farmers to maintain affordability of food items for the public. In order to draw true potential of farmers towards the state of the art technologies for the betterment of agriculture, Indian government has set up a big chain of over 700 Krishi Vigyan Kendras (KVKs) across the country.

Krishi Vigyan Kendras are present in almost whole geography of our country. They are doing yeoman service to the agriculture sector even in the most difficult areas of the country. KVKs are emerging as the regional knowledge hubs and gaining trust of the farmer community. KVKs are the integral part of the national agricultural research and extension system and the strength of this entity is embedded in its multidisciplinary structure, multi-stakeholder ownership and multifarious activities. KVKs conduct training and emphasize on learning by doing. These are the

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Origin, Philosophy & Objectives of KVK:

The concept of Krishi Vigyan Kendra was given by Dr. M. S. Swaminathan, initiator of green revolution in India and the father of Indian agricultural research. Dr. Swaminathan convinced Government of India that there is dire necessity to develop Krishi Vigyan Kendra in each district of India with an objective to cater activities such as technology assessment, refinement and demonstration of technology product. In light of this inspiration, the Government of India established first KVK in Pondicherry during 1974 with the financial support and able guidance of Indian Council of Agriculture Research (ICAR). In Kargari Village of West Medinipur district, the first KVK in West Bengal and second in India was established in the year 1976. Since then, KVKs have been established in all Indian states and the number continues to grow. Presently, around 695 Krishi Vigyan Kendras are existing in different districts of India. A KVK can be created under a variety of host institutions including agricultural universities, state departments, ICAR institutes, other educational institutions or NGOs. A KVK must own about 20 hectare of land for the purpose of testing advanced agricultural technologies.

KVK is in fact an agricultural extension centre in our country. The meaning of KVK is 'farm science centre'. Usually associated with a local agricultural university, these centres serve as the vibrant



link between the Indian Council of Agricultural Research and farmers, and aim to apply agricultural research and development in a localized ambience. ICAR has 11 Agricultural Technology Application Research Institutes (ATARIs) throughout the country and all the Krishi Vigyan Kendras fall under ATARI. The objective of the ATARI is to plan, monitor, evaluate and guide the programmes of the KVK and judge the performance of KVKs time to time.

The objectives cum activities of Krishi Vigyan Kendras can be summarised as below:

i) On Farm Testing of new Technologies:

KVK act as a small laboratory and extension centre for agricultural research. Each KVK operates on a small farm to test new technologies related to seed varieties or innovative farming methods, developed by ICAR institutes. Through this platform, new technologies are tested at the local level before being transferred to the farmers. In this way, KVK serves as a centre to try and test forthcoming agricultural technologies.

ii) Frontline Demonstration Centre: Because of the KVK's farm and its proximity to nearby villages, it organizes programmes to show the efficacy of new technologies on farmer fields. Such frontline demonstration outlets showcase new agricultural technologies to be introduced in the farming community.

iii) Capacity Building: KVK also hosts capacity building programmes and workshops to discuss modern farming technologies with group of farmers and cultivators.

iv) Multi sector Support and Advisory Services:

Krishi Vigyan Kendras offer support to various private and public initiatives through its local network and expertise. Government research institutes in general, leverage the network of KVKs while performing surveys with a wide range of farmers. Due to the growing use of ICT, KVKs have implemented technologies to provide farmers information, such as weather advisories or market pricing, through radio, mobile phones and social media.

In each of the above mentioned activities, the KVK focuses on crops and methods specific to the local climate and industry. Some factors which may impact this rational decision are soil type, crops grown, water availability, seasonal temperatures and allied sectors such as dairy and aquaculture etc. In addition to addressing local factors, KVKs are also mandated to increase adoption of practices that align with profitable agriculture, climate smart agriculture and dietary diversification. Some KVKs also host social activities to facilitate close pact between the institutions and the local community.

Apart from above activities, KVKs also conduct training programmes for farmers to update their knowledge and skills in modern agricultural technologies. In this programme, extension personnel are trained to orient target farmers in the frontier areas of agricultural technology development. These KVKs also work as resource and knowledge centres of agricultural technology for supporting initiatives of public, private and voluntary sector for improving the agricultural economy of the district.

Aligned to strengthen the efficiency of KVKs, a study was conducted by the National Institute of Labour Economics Research and Development (NILERD), an autonomous institute under NITI Aayog in the year 2017. The aim of this study was to find out the impact of KVKs on dissemination of improved practices and technologies, in terms of outreach, knowledge, accessibility





etc. The study intended to examine the efficacy of KVKs' services, assess them in terms of infrastructure and human resources, impact of new knowledge and practices on farmers' farming methods and the impact of new knowledge adoption by farmers on their income and quality of life. This study was based on field survey of 46 KVKs, covering about 1800 farmers in five States (Rajasthan, Madhya Pradesh, Maharashtra, Tamil Nadu and Arunachal Pradesh) following stratified random sampling technique. To substantiate, focused group discussions were organised with various stakeholders and best practices were earmarked.

The study found that KVKs are playing a prominent role in transferring new technology at field level with beneficial impacts. They have an edge in technology transfer over other service providers by virtue of their having better technical expertise and demonstration units. About 40% farmers reported that they implemented the technology immediately after its dissemination by KVK and that 25% did so from the next agricultural season. With the intervention by KVKs, about 80% of the farmers have modified their agricultural patterns which were related to diversification of crops and changes in cropping pattern, seed planting technique, use of fertilizers and pesticides, changes in machinery used and in water use pattern. More than 50% of the farmers have mechanized their farm operations; however,

ownership of farm machinery and technology adoption increased with the size of holdings and education level of the farmers.

This study predicts a better future of KVKs. It exhibits that through KVKs, agriculture related technological development is getting momentum and the final outcome of this expedition is to support national development through a scientifically tempered approach.

KVK: A tool for promoting Scientific Temper

The Indian agriculture faces many challenges on a broad perspective. High number of small land holder farmers, lack of supply chain infrastructure and extreme weather conditions are such major challenges. A key strategy in addressing such issues, in addition to policy support and a functioning market, is using science and technology in an innovative manner to better understand and adapt to complex challenges. This approach is called rational and scientific method. Scientific method comprises of five major components i.e. observation, hypothesis, experimentation, analysis and conclusion. The person who applies this approach of thought process in his/her daily life, then it means he or she is taking rational and justified decision in all walks of his/her life. This temper or attitude is commonly known as scientific temper or attitude. This is a form of mindset which can be found both amongst educated and illiterate persons. Farmer is a good

example in this context. Those farmers, who are not educated, apply scientific temper and take right decisions at the right moment of time in their farming practices. In this to happen, their past experiences, observation and analytical mind play a crucial role.

If we see the methodology of a KVK, we may definitely consider it as the vital agent or promoter of scientific temper in the society. KVK arranges the testing of any improved technology along with farmers' practice in their field with active participation of both the scientists and farmers. In this method having scientific approach, improved technologies are tested to compare and verify the results.

According to the suggestions and input of the farmers as well as local soil and climatic conditions, the improved technology may slightly be modified by the scientists of KVK to get maximum crop production. All these functions of the KVK are undertaken as per the suggestion and approval of the Scientific Advisory Committee. Meeting of the Scientific Advisory Committee is held once in a season to review the work done by the KVK and provide suggestions for future plan of work. The future technical programme of the KVK is prepared as per the suggestion of the farmers of that particular area. In these programmes, farmers' experiences are considered as one of the core backgrounds. In addition to these activities, each KVK has got different demonstration units such as mushroom unit, bio-fertilizer unit, vermicomposting unit, bee keeping unit, fruit preservation unit etc. These units help the villagers along with the farmers to increase his/her confidence on a particular enterprise.

The KVKs are the core centres of Indian agricultural extension system, comprising scientists from different disciplines of agriculture. A farmer who approaches KVK can get information in all the relevant areas of his farming. The KVK also provides intensive training to the farming community through the programmes conducted both within and outside the KVK premises. These programmes help support farmers to enhance their knowledge and skills related to farming as well as make them aware about new agricultural technologies in a rational manner.

Krishi Vigyan Kendra Portal: Extended Arm to the Farmers

Till the recent past, the efficacy of KVKs was difficult to measure due to the large number of farmers served by a single KVK and largely offline communication between the KVK and farmers. For this reason, research over the last 25 years has focused on the capacity of KVKs to make use of ICT for the purpose of a better management of communications with farmers. Plenty of applications have been developed, sharing advisories such as weather information and market pricing, supplementing the KVK's communication with its beneficiaries. However, many of these initiatives are of short impact, since the teams at each KVK often do not have the capacity to maintain software applications or because farmers do not find the information useful.

In 2016, Indian government launched Krishi Vigyan Kendra Portal to provide the information and advisory to the farmers and facilitate online monitoring of the KVK activities. At this portal, major events are reported on regular basis and reports are submitted online on monthly basis. This portal provides information of future plans and programmes of KVKs which benefit farmers, entrepreneurs and youth in joining different training programmes being organised by KVKs. Visitors can give their feedback on the content of the portal and programmes of KVKs. This component helps in order to improve the objectives of the portal and KVKs.

It has also been found that the technologies adopted by KVKs led to higher productivity, enhanced income and reduction of drudgery. The KVKs reported that a number of technologies were gender sensitive and had helped in reduction of drudgery, income enhancement and development of self confidence among women. Enhanced income is spent in construction of house, better education and health for family and better inputs for agriculture.

KVKs aim at comprehensive rural development and hence training on employment and income generating activities like wire basket making, tailoring, preservation techniques, agarbatti making, leather bag production, rope making, candle making, bee keeping, goat and pig rearing and such many other agriculture based training are

organized for school drop outs, especially women, so as to make them earn during off season. These trained people can start their own enterprises in local areas generating employment for the local rural youth. Thus, farmers are not the only beneficiaries of KVK but also the rural masses in one or another form are benefitted from the activities of KVKs. KVKs also formulate specific programmes for school children. Seminars, awareness camps, training programmes and study tours are also organized for school children on biodiversity conservation, kitchen gardening and tree planting. These activities sow seeds of creativity and scientific temper among the children right from beginning.

Conclusion:

Krishi Vigyan Kendras provide requisite knowledge through trainings and other activities to improve the skill and attitude of the people

particularly farmers towards new technology and approach in farming, provide proper guidance to solve any problem faced by the farming community in agriculture and allied fields. Scientists working under KVKs provide inspiration, constructive and constant advice to the people of that area to start new entrepreneurship for their livelihood and show them a proper way when needed. Krishi Vigyan Kendra acts as a lighthouse of new knowledge and technologies in agriculture. It develops scientific temper among the farmers, general public, women and youth to enhance skill which further enable them to contribute in the national development.

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New Scheme to Promote young Entrepreneurs in Cooperatives

To cater to the needs and aspirations of the youth, the National Cooperative Development Corporation (NCDC) has come up with a youth-friendly scheme 'Yuva Sahakar-Cooperative Enterprise Support and Innovation Scheme' for attracting them to cooperative business ventures. The newly launched scheme would encourage cooperatives to venture into new and innovative areas.



The scheme will be linked to Rs 1000 crore 'Cooperative Start-up and Innovation Fund (CSIF)' created by the NCDC. It would have more incentives for cooperatives of North Eastern region, Aspirational Districts and cooperatives with women or SC or ST or PwD members. The funding for the project will be up to 80% of the project cost for these special categories as against 70% for others. The scheme envisages 2% less than the applicable rate of interest on term loan for the project cost up to Rs 3 crore including 2 years moratorium on payment of principal. All types of cooperatives in operation for at least one year are eligible.

NCDC, being the most preferred financial institution in the world of cooperatives, has also embarked on Sahakar 22, a Mission for Doubling Farmers' Income by 2022. The NCDC has the unique distinction of being the sole statutory organisation functioning as an apex financial and developmental institution exclusively devoted to cooperative sector. It supports cooperatives in diverse fields apart from agriculture and allied sectors. It is an ISO 9001:2015 compliant organisation and has a distinctive edge of competitive financing. It has extended financial assistance of Rs 63702.61 crore during 2014-2018 (as on November 13), 220% more than Rs 19850.6 during 2010-14.