Krishi Vigyan Kendras (KVKs) – a Powerful Tool to Transform Agriculture
(By Dr. Yogesh Suri)

An agricultural invention-and-innovation continuum in all facets of agriculture and allied activities with its effective diffusion is key to sustainably increase the agricultural production and productivity with environment sustainability. With half of the workforce engaged in agricultural sector in India, the role of science and technology in agriculture is pertinent to not only ensure food security of the country, but also to provide farmers a competitive edge and to maintain affordability of the food items for the public at large. To realize their true potential, farmers must have access to the state-of-the-art technologies, necessary inputs and related information. In this context, the Government of India through Indian Council for Agricultural Research (ICAR) has established a large network of over 600 Krishi Vigyan Kendras (KVKs) across the country with an aim to conduct technology assessment and refinement, knowledge dissemination and provide critical input support for the farmers with a multidisciplinary approach.

To find out the impact of KVKs on dissemination of improved practices and technologies, in terms of outreach, knowledge, accessibility etc. a study was recently awarded by the ICAR to the National Institute of Labour Economics Research and Development (NILERD), an autonomous institute under NITI Aayog. 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 practices and the effect of new knowledge adoption by farmers on their incomes and quality of life. It was based on field surveys of 46 KVKs, covering about 1800 farmers in five States viz. Rajasthan, Madhya Pradesh, Maharashtra, Tamil Nadu and Arunachal Pradesh following stratified random sampling technique. To substantiate, focused group discussions (FGDs) were conducted with various stakeholders and best practices were culled out.

The study found that KVKs are playing a proactive 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 percent farmers reported that they implemented the technology immediately after its dissemination by KVK and that 25 percent did so from the next agricultural season. With the intervention by KVKs, about 80 percent 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 percent 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.

It has been found that the technologies adopted resulted in higher productivity, enhanced incomes and reduction of drudgery (Figure 1). 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 incomes are spent in construction of
house, better education and health for family and better inputs for agriculture; some improper use of enhanced income has also been observed, which needs to be guided more to channelize into better use.

**Figure 1: Major impacts reported by KVKs on their technologies disseminated**

![Figure 1: Major impacts reported by KVKs on their technologies disseminated](image)

A controlled group of farmers was also studied to better understand the intervention impact and it was found that a much larger proportion of the farmers in the beneficiary group (93.7 percent) had changed their farming methods during the last five years than the comparison group (62.7 percent). Interactions by state government officials, NGOs, fellow farmers, academia and also industry personnel etc. have made farmers somewhat cognizant of new technology and development in agriculture. However, with the intervention of KVKs, there has been an increase in adoption of new technology, improved production and income much more among the beneficiary group than the controlled group (Figure 2), indicating the positive contribution to farm incomes through KVKs’ technology transfer.

**Figure 2: Distribution of farmers by change percentage in Production and Income**

![Figure 2: Distribution of farmers by change percentage in Production and Income](image)
The study has brought out certain areas which require further researches to make the technologies more effective and efficient as per local needs; for instance, research is needed for short duration varieties of crops that can withstand the vagaries of nature or seeds that require less irrigation due to scarcity of water, research on cutting the cost of production, suitable equipments for small farms and hilly regions and so on. Some factors that hamper technology transfer and adoption include limited alternatives and difficulty in getting suitable technologies; inadequate input delivery system, availability of planting material and other farm inputs; poor socio-economic status of farmers and small holdings; lack of forward and backward linkages especially post harvesting management; issues pertaining to marketing, value addition, and so on.

The study highlights the need to strengthen the KVKs more in terms of infrastructure, human resources, reviewing and expanding the mandate and address the shortcomings to cater to the changing needs. It recommends that there is a need for a uniform procedure for transfer of technology from research labs to KVKs at a faster pace; measures to be adopted to increase the outreach of KVKs by adopting innovative techniques (such as forming farmers groups, train farmers’-trainers, redefining cluster approach, continuous interaction at village level, improved demonstration and use of Information & Communication Technology), exemption of KVKs from unrelated duties and re-look into the existing policies regarding subsidies, capacity building of KVK staff, better distribution of inputs, etc.

For improved operation, implementation and better outcomes, it is necessary to develop KVKs as resource centres on farm technologies; technology transfer should come as a complete package covering backward-forward linkages; modernization of soil testing labs; defining responsibilities of each organization involved with transfer of technology; keeping the farmers needs in focus while providing training; focus upon new emerging areas like climate change, pro-harvest management and non-farm activities.

The study reveals that the KVKs can play an important role in transforming rural India. It came out that interventions of KVKs should target the family and not the individual farmer. KVKs should come out of ‘inside the wheel’ approach and should also cater to the needs of small and marginal farmers with innovative mind sets. A number of farmers are doing various innovations that should be taken a note of. There is also a need to follow bottom-up approach and researches done at field level should reach the laboratories for validation.

There are increasing efforts from the part of the Government to strengthen the existing 642 KVKs and setting up 109 new ones during the Twelfth Plan period, to carry out its wide range of mandated activities and initiation of new components, for which the Cabinet has approved Rs.3900 crore. The UnionBudget 2016-17 has proposed to hold a national level competition amongst KVKs with a prize money of Rs.50 lakh to foster positive competition amongst them. It
is expected that in due course of time KVKs would play an increasingly important role in transforming agriculture, a key ingredient to transform India.

(Dr. Yogesh Suri is Adviser, NITI Aayog and Director General, National Institute of Labour Economics Research and Development, an autonomous Institution under NITI Aayog.)

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