



Role of Krishi Vigyan Kendras (KVKs) in Capacity Building

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INTRODUCTION

Krishi Vigyan Kendras (KVKs) are the flagship grassroots-level institutions of the Indian Council of Agricultural Research (ICAR), conceptualized as centers of knowledge and resources to drive agricultural growth through efficient extension services. Set up in each district of the nation, KVKs serve as district-level technology assessment, development, and dissemination centers. Their central function is to bridge the divide between leading-edge agricultural research and the actuality of field-level implementation.

By offering locally applicable, need-based interventions, KVKs enable the farming community with enhanced practices, tools, and technologies. Perhaps the most revolutionary function of KVKs is capacity building, which means enabling stakeholders not merely with information but with skills and confidence needed to adapt innovations and act proactively to resist threats like climate change, market volatility, and resource constraints.

By means of systematic training programmes, Skill Development programmes, Internship Programmes, on-farm demonstrations, on-farm trials, and advisory services, KVKs create a farmer education and skill development and entrepreneurship development ecosystem. This helps to directly boost productivity, bring food and nutritional security, and provide livelihood opportunities in rural India.

1. Concept of Capacity Building in Agriculture

Agricultural capacity building is more than information dissemination it is a holistic and long-term process of equipping people and institutions with the skills they require to work efficiently and responsibly in a changing agricultural environment.

For Indian agriculture, capacity building comprises:

Skill Development: Offering practical and vocational education in new-farm-practice techniques, resource conservation, post-harvest management, and value addition.

Knowledge Improvement: Enhancing awareness and knowledge of climate-smart agriculture, integrated farming systems, and government programs.

Behavioral and Attitudinal Change: Fostering scientific temper, innovation tolerance, and risk-taking capacity among farmers and rural youth.

Institutional Support: Facilitating the establishment and management of Farmer Producer Organizations (FPOs), Self-Help Groups (SHGs), and rural cooperatives in order to enhance collective action.

Promotion of Entrepreneurship: Facilitating rural youth and women to start agri-based businesses through technical support, business planning, and market linkages.

Adaptive Capacity: Building stakeholders' capacity to react to uncertainties like climate variability, pest infestations, and market fluctuations through well-informed and prompt decision-making.

Capacity building is thus an indispensable pillar of agricultural change, as it enables farmers not only to raise output, but also resilience, loss reduction, and better interaction with markets and institutions.

Building capacity in agriculture essentially involves the creation of human capital and institutional systems capable of sustaining innovation, enhancing livelihoods, and driving rural prosperity. KVKs, through their holistic training and extension strategies, are the key drivers of this change at the grassroots level.

2. KVKs as Nodal Institutions for Capacity Building

KrishiVigyanKendras (KVKs) are important institutions in reinforcing the capacities of the stakeholders in the entire value chain of agriculture through a variety of specialized programs.

a. Training Programmes:

KVKs provide on-farm and off-farm training programmes, customized for farmers, farm women, rural youth, and extension staff of line departments and NGOs. Trainings are in a wide range of subjects including crop production, horticulture, animal husbandry, fisheries, natural resource management, agro-processing, organic farming, and value addition. The objective is to provide scientific education and enhance technical skills for sustainable agriculture.

b. Skill Development Initiatives

Under programs such as the National Skills Qualification Framework (NSQF) and AtmaNirbhar Bharat, KVKs offer vocational training and certification for skills in nursery rearing, dairy farming, bee-keeping, mushroom

culture, and poultry management. The programs have the objectives of providing rural employment and encouraging agri-based entrepreneurship among women and youth.

c. On-Farm Testing (OFT) and Front Line Demonstrations (FLDs):

KVKs carry out On-Farm Testing (OFT) to determine the location-specific performance and adaptability of farm technologies. They also arrange Front Line Demonstrations (FLDs) to demonstrate the efficacy of enhanced crop varieties, pest and disease management, and efficiency in resource use methods on farmers' land. They are followed by field days and feedback sessions, reinforcing farmer learning by observation and involvement.

d. ICT-Based Knowledge Dissemination

To enhance their reach and real-time advisory services, KVKs are increasingly relying on Information and Communication Technologies (ICTs). These include mobile apps, WhatsApp groups, community radio broadcasts, YouTube channels, and digital portals to disseminate timely information like weather forecasts, pest warnings, market prices, and crop advisories.

e. Support to Farmer Producer Organizations (FPOs):

KVKs also have a vital role in facilitating the establishment and growth of Farmer Producer Organizations (FPOs). They provide training in business planning, record keeping, value addition, branding and packaging, and direct marketing strategy. These activities strengthen the institutional and managerial capacity of FPOs to allow improved access to markets and collective bargaining for smallholder farmers.

3. Target Groups and Influence

KVKs are knowledge and resource centers that are active, responsive to the requirements of different target groups in the agricultural area. Their activities are designed to produce inclusive growth, skill development, and rural change.

a. Farmers and Farm Women:

KVKs empower farm women and farmers by providing them with practical training on climate-resilient agriculture, integrated farming systems, post-harvest management, and nutritional security at the household level. Women farmers are given special attention, as they receive major benefits from the introduction of drudgery-reducing technology and methods. They are also trained in generating income from ventures like food processing, value addition,

tailoring, mushroom production, and backyard poultry, which enable them to become economically independent and enhance family livelihoods.

b. Rural Youth:

Rural youth are one of the key areas of focus of KVKs. With the help of skill development courses and vocational trainings, youth are provided with advanced farming methods like precision agriculture, protected cultivation, drone use and digital technology application in agriculture, and integrated nutrient and pest management. They are also trained to become entrepreneurs in agri-enterprises like nursery operation, dairy and goat rearing, food processing, and organic input production. These interventions help the youth consider agriculture a lucrative and sustainable career, and hence discourage rural-to-urban migration.

c. Extension Functionaries:

KVKs periodically conduct capacity building programmes for line department extension personnel, non-governmental organizations (NGOs), cooperatives, and other development agencies. Refresher courses, exposure visits to exemplary farm models, technical briefings, and workshops are some of the activities to keep extension agents current with new developments and best practices in agriculture. This enhances the efficiency of their outreach effort to help them better assist farmers at the grassroots level.

4. Success Stories and Models

There have been several success stories of KVK interventions where farmers learned new technologies and significantly enhanced yield and revenue. Models such as the "Farmer Field School," "Custom Hiring Centres," and "Technology Cafeteria" have been proven to be successful capacity-building models under KVKs.

5. Challenges and Way Forward

While Krishi Vigyan Kendras (KVKs) have made considerable progress in agricultural development and capacity building, they remain faced with a range of operational and structural challenges. The lack of technical manpower is one of the primary issues that hinders the timely implementation and follow-up of field-level activities. Secondly, insufficient and irregular funding tends to limit the scope and quality of trainings, demonstrations, and maintenance of infrastructure. Most KVKs also

work from old facilities and do not have access to sophisticated digital tools, which restricts their capacity to deliver real-time advisories and services to far-flung farmers. Moreover, there are issues with the last-mile connectivity, especially in hilly terrains or unorganized zones, which restricts the reach and utilization of new technologies.

In order to overcome these issues and empower the role of KVKs towards transforming agriculture, a number of strategic steps are essential. To begin with, greater coordination and synergies among KVKs, State Agricultural Universities (SAUs), ICAR institutes, and private sector partners should be promoted to facilitate knowledge sharing, collaborative innovations, and sharing of resources. Secondly, upgradation of infrastructure in the form of modern ICT facilities, mobile soil testing laboratories, and demonstration units should be given top priority to enhance efficiency and outreach. Finally, placing more emphasis on participatory strategies involving farmers, local self-help groups (SHGs), and community-based organizations (CBOs) will help ensure improved need-based planning, tailoring of technology, and grassroots-level adoption across the board.

KVK Sribhumi: Pillar of Capacity Building in Barak Valley, Assam

Krishi Vigyan Kendra (KVK) Sribhumi, part of Assam Agricultural University, stands as a cornerstone of rural advancement in the Barak Valley. Through dynamic community engagement, KVK Sribhumi empowers farmers, women, youth, and agricultural extension workers, creating ripples of transformation across the region. The center achieves its mission by blending field-based interventions, tailored training, and technology transfer, always adapting to the local context.

KVK Sribhumi's programs are designed to address the actual challenges faced by people on the ground. Short-term training sessions are offered both on campus and in villages, focusing on improving crop management, maintaining soil health, and introducing water-saving practices. These trainings enable farmers to adopt practical methods for better yields and resource use. For rural youth, the center organizes hands-on courses in areas such as mushroom and vegetable cultivation, poultry rearing, dairy management, and nursery development, opening up new paths to income and entrepreneurship.

The Kendra pays special attention to input dealers those who supply seeds, fertilizers, and other essentials to farmers by delivering scientific training that enhances their ability to advise farmers effectively. To encourage rural mechanization, KVK Sribhumi demonstrates and teaches the use of modern machinery such as weeders, power tillers, and mini rice mills, which help reduce labor and increase productivity.

Agricultural students also benefit from KVK Sribhumi through internships and field visits, gaining real-world experience beyond textbooks. These exposures foster a deeper understanding of farming and rural realities, helping students become effective contributors to the sector.

The center doesn't stop at general training. It actively conducts demonstration trials in farmers' fields to showcase high-yielding, climate-resilient varieties of rice, pulses, and oilseeds. Farmers get to see the benefits of new seeds and improved cultivation methods in their own environment. The effectiveness of organic inputs, new pest management approaches, and different crop varieties are tested and shared with the community through practical trials.

In step with modernization, KVK Sribhumi has begun using drones for crop monitoring and pesticide application. This digital approach introduces local farmers to the future of precision agriculture, improving efficiency and reducing risks.

Government development schemes find practical ground at KVK Sribhumi. For example, its partnership with the Coconut Development Board includes establishing nurseries and promoting best practices in coconut farming, processing, and integrated cropping. Collaboration with forage researchers brings new varieties of fodder grass to local farmers, ensuring year-round feed for livestock. Programs for marginalized communities, such as the Scheduled Caste Sub-Plan, help integrate different farming components—crop, livestock, fish—into family farm systems, providing livelihoods and stability.

Beyond crops and technologies, KVK Sribhumi pays close attention to fostering a sense of community and participation. It organizes events around World Environment Day and International Yoga Day, involving farm families in resource conservation and wellness activities.

The Kendra also conducts special camps to help farmers register for government programs and resolve challenges in accessing public benefits.

Women in the Barak Valley are offered targeted training in kitchen gardening, tailoring, food processing, and small-scale business development—empowering them to contribute more actively to their families and communities. Initiatives for young people emphasize entrepreneurial skills, such as organic compost production, nursery management, and the use of modern agricultural machinery.

To strengthen local farmer groups and women's associations, KVK Sribhumi assists in organizing, keeping financial records, building market connections, and adopting digital solutions. These efforts help make local producer groups more resilient and competitive.

In conclusion, KVK Sribhumi is more than just a training and resource center. It is a driving force for inclusive, sustainable growth in Assam's Barak Valley. By combining hands-on technology, grassroots outreach, and alignment with national development goals, the center helps farming families become more enterprising and resilient, building a brighter future for the entire region.

CONCLUSION

Krishi Vigyan Kendras are key drivers of transformation in rural India. Through systematic strengthening of farmers', youth', and extension workers' capacities, they are not just transferring technologies but also encouraging innovation, entrepreneurship, and adaptability in the agriculture value chain. Further strengthening of the KVKs will help hasten India's path towards sustainable, inclusive, and knowledge-led agricultural development.

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