aesa Sharing, learning and networking for innovation Blog 46: April 2015

Agricultural Extension in South Asia

The Krishi Vigyan Kendras (KVKs) in India: The full potential yet to be unleashed!

Krishi Vigyan Kendra (KVK) is the only institution at the district level in India for technological backstopping in agriculture and allied sectors. While some of the KVKs have been effectively contributing to the technology development and promotion process, many are plagued with several problems. Though solutions to address these problems were pointed out by several committees, the implementation has been uneven. A lot more needs to be done to improve its performance including the public perception on the role and contribution of KVKs, argues Dr Mahesh Chander.

CONTEXT

The KVKs (Farm Science Centres) have been largely regarded as an institutional innovation that effectively link agricultural research and extension at the district level in India. So far, 642 KVKs have been established across the country with 100% funding support from the Indian Council of Agricultural Research (ICAR). Though established initially to promote new technologies through demonstrations and training, its present mandate covers assessment and refinement (if needed) of newly released technologies, training of field extension functionaries and production and sale of inputs such as planting materials. Several committees have evaluated the performance of KVKs from time to time. While several recommendations were made to improve their performance, many of these are yet to be implemented. A lot more needs to be done to enhance the contribution of KVKs to agricultural development.

KVKs: A brief history

The Education Commission (1964-66) recommended that a vigorous effort be made to establish specialized institutions to provide vocational education in agriculture and allied fields at the pre and post-matriculate levels to cater to the training needs of a large number of boys and girls coming from rural areas. The Commission, further, suggested that such institutions be named as 'Agricultural Polytechnics'. The recommendation of the Commission was thoroughly discussed during 1966-72 by the Ministry of Education, Ministry of Agriculture, Planning Commission, ICAR and other allied institutions. Finally, the ICAR mooted the idea of establishing KVKs (Farm Science Centres) as innovative institutions for imparting vocational training to the practicing farmers, school dropouts and field level extension functionaries. The first KVK, on a pilot basis, was established in 1974 at Puducherry (Pondicherry) under the administrative control of the Tamil Nadu Agricultural University, Coimbatore.

The Planning Commission approved the proposal of the ICAR to establish 18 KVKs during the Fifth Five Year Plan Period (1974-79). Since then, several new KVKs were established by ICAR during each 5 Year Plan Period. On the occasion of the Independence Day Speech on 15th August, 2005, the Prime Minister of India announced that by the end of 2007 there should be one KVK in each of the rural districts of the country. By the end of the Tenth Plan (2002-07), the number of KVKs grew to 551. So far, the ICAR has established 642 KVKs across the country and these are hosted by different agencies such as Agricultural/Veterinary Universities, Deemed Universities, State Governments, NGOs, Public Sector Undertakings and other educational institutions. Every KVK on an average receives about Rs. 10-15 Million (200,000 USD) each year from ICAR.

KVK MANDATE

KVKs are to provide a key facilitating role in the refinement of technologies to specific conditions, by acting as a two-way link between research and farmers. Application of technology/products through assessment, refinement and demonstration for adoption, thus, is the main mandate of the KVKs. To achieve this mandate effectively, each KVK is expected to perform following activities:

- On-farm testing to identify the location specificity of agricultural technologies under various farming systems

- Frontline demonstrations to establish its production potentials on the farmers' fields.
- Training of farmers and extension personnel to update their knowledge and skills in modern agricultural technologies.
- Work as resource and knowledge centre of agricultural technologies for supporting initiatives of public, private and voluntary sector for improving the agricultural economy of the district.
- Produce and make available technological products like seed, planting material, bio agents, young ones of livestock etc to the farmers.
- Organize extension activities to create awareness about improved agricultural technologies to facilitate fast diffusion and adoption of technologies in agriculture and allied sectors.

All KVKs are envisaged to reduce the time lag between generation of technology at the research institution and its application to the location specific farmer fields for increasing production, productivity and net farm income on a sustained basis. As technology transfer is the responsibility of the state line departments and ATMA, KVKs are playing only a limited role in field extension activities. The KVK technology demonstrations are called "frontline" as it happens for the first time in an area, whereas, line departments and ATMA conduct field demonstrations on large scale.

The High Powered Committee on Management of KVKs (ICAR, 2014) in its report has suggested a new vision, mission and mandate for the KVKs. This committee has defined the activities for each KVK as follows:

- On-Farm Testing (OFT) to assess the location specificity of agricultural technologies under various farming systems.
- Out scaling of farm innovations through Frontline Demonstration (FLD) to showcase the specific benefits/ worth of technologies on farmers' fields.
- Capacity development of farmers and extension personnel to update their knowledge and skills in modern agricultural technologies and enterprises.
- Work as Knowledge and Resource Centre for improving overall agricultural economy in the operational area.
- Conduct frontline extension programmes and provide farm advisories using ICTs and other media on varied subjects of interest to farmers.
- Data documentation, characterization and strategic planning of farming practices.

PERFORMANCE OF KVKs

In over four decades, several committees assessed the performance of the KVKs. Invariably every committee appreciated the huge potential of KVKs in delivering technologies to the farming communities including training farmers, farm women and rural youth (Box 2). Most of these committees suggested several changes required towards streamlining their performance. Unfortunately, many of the observations, suggestions and recommendation of these review committees were not taken up for implementation.

For instance, "van den Ban (1994) noted that many KVKs were found under resourced & have inexperienced staff. The World Bank (1990) found that many KVK training courses were under subscribed, raising doubts about their relevance. It was suggested to initiate an objective and scientific evaluation of all KVKs so that a case-by-case assessment could be made to guide the type and level of any further support. To intensify and enlarge such activities, it might be necessary to provide a few field level staff in each KVK (Farrington et al, 1997). Likewise, the Evaluation Committee on KVKs (1980), suggested that after imparting training to the farmers, these need to be followed up (ICAR, 1980). The 1996 Report on the Review of Extension System of

ICAR also made several recommendations to strengthen the KVKs (ICAR, 1996). However, many of these suggestions have not been followed up

Box 2: Achievements of KVKs

Some of the achievements of the KVKs during 2013-14 (DARE Annual Report, 2013-14) are as follows:

► **Technology Assessment and refinement**: Conducted 4189 on-farm trials on 537 technologies to identify their location specificity under different farming systems. 2,174 technological interventions were assessed by laying out 23,568 trials on the farmers' fields on various crops under different thematic areas. Besides, 452 technological interventions were assessed at 701 locations through 5,918 on-farm trials on animals covering a broad range of areas. Also, 143 farm-women specific appropriate technological interventions were assessed at 225 locations through 1,848 trials under the thematic areas, namely drudgery reduction, family resource management, health and nutrition, child care, processing and value addition and production and management.

► **Demonstrations:** A total of 1,897 trials were conducted at 309 locations to refine 253 technologies under different thematic areas. 1.71 lakh FLDs were organized by KVKs including 90,384 on crops covering an area of 26,399 ha. For popularization of improved tools and farm implements, 5,388 demonstrations on 3,229 ha farm area; 11,180 demonstrations on livestock enterprises; and 4,113 demonstrations on other enterprises including gender-specific technologies for women empowerment were organized. Out of the total FLDs, as many as 51,956 demonstrations were conducted exclusively on climate-resilient technologies under NICRA project.

► **Capacity Development/Training:** 61,495 training programmes were organized, wherein, 16.06 lakh farmers/farm women, rural youths and extension personnel participated. Skill-oriented training courses (7,489) were organized for 1.77 lakh rural youth, including 63,517 young women (36%) during the year. Capacity development programmes (5430 courses) were conducted for 1.18 lakh extension personnel, out of which, 28,289 were women extension personnel working in government and non-government organizations who were directly or indirectly related with the development of agriculture sector. The Zonal Project Directorates through their HRD programmes upgraded the knowledge and skills of 3,988 staff of KVKs by arranging 93 training programmes at various SAUs and ICAR Institutes in the frontier areas requiring capacity development of trainers.

► **Distribution of farm inputs**: 167.19 lakh quality planting materials of elite species of commercial crops, vegetables, fruits, ornamental, medicinal and aromatic crops, plantation crops, spices, tuber crops, fodder and forest species were produced and provided to 2.35 lakh farmers. Bio-products, namely, bio-agents, bio-pesticides, bio-fertilizers, vermi-compost, mineral mixture etc. were produced and supplied to the extent of 1.79 lakh q and 6.87 lakh numbers benefitting 13.74lakh farmers. Animals of improved breeds of cattle, sheep, goat and buffalo including breeding bulls were produced and supplied to 800 farmers. Apart from poultry birds, pigs, rabbits, a total of 102.53 lakh fish fingerlings of different types of fishes were produced and supplied to 23,887 farmers.

► **Input Analysis:** A total of 2.91 lakh samples (soil, water, plant, and manure) were analyzed related to 2.29 lakh farmers of 0.37 lakh villages, with a revenue generation of Rs. 144 lakh.

►**Technology week**: under public-public and public-private partnership mode, was organized by KVKs benefitting 7.62 lakh farmers, farm-women, extension personnel, rural youth and members of self-help groups.

►**Mobile Advisory Services**: As a part of application of ICT in KVK system, Kisan Mobile Advisory (KMA) was initiated by the ICAR during 2010-11 to provide timely and need-based information to farming community. 3.89 lakh short text messages were sent to 16.28 lakh farmers on various aspects of agriculture, horticulture and animal husbandry, weather forecast and pest and disease control. In addition, 148 KVKs also sent 1,749 voice messages on different aspects of agriculture and allied enterprises to 30,752 registered farmers, which cumulatively benefitted as many as 10.04 lakh farmers.

The Performance Audit of Agricultural Extension activities in the ICAR by the Comptroller and Auditor General (CAG, 2008) is perhaps most revealing one about the state of affairs of KVKs and Zonal Coordinating Units. Based on a sample of 180 KVKs (13 from ICAR, 97 of SAUs, 53 of NGOs, 8 of State Governments and 9 Others) across the country, audited during May to November 2007, the CAG found:

- Eligibility criteria for possession of minimum cultivable land were not observed in establishment of 50 KVKs (28 *per cent*). Most of the NGO KVKs (99 *per cent*) were yet to mortgage their land to ICAR. Further, improper site selection resulted in subsequent requests for change of selected sites and delay in conducting activities.
- 117 KVKs (65 *per cent*) did not assess location specific training needs based on interaction with farmers and 53 *per cent* of the KVKs did not conduct training impact assessment. Shortfall in training courses for practicing farmers, rural youth and extension functionaries was observed in 121 KVKs.

- 94 KVKs (52 *per cent*) were still demonstrating older crop varieties released between 1948 and 1997 in Frontline Demonstrations. Average shortfall of 69 *per cent* was observed in 41 *per cent* of KVKs.
- 131 KVKs (73 *per cent*) did not conduct adequate number of on-farm testing.
- Inadmissible expenditure of Rs.5.70 crore was incurred by 123 KVKs on account of payment of salaries in higher pay scales and deployment of excess manpower.
- 44 KVKs (39 *per cent*) out of 114 established prior to the X plan were yet to fully establish mandatory infrastructural facilities. Further, infrastructure already constructed at a cost of Rs.8.15 crore remained unutilised in 46 KVKs. e-Linkage facility approved at a cost of Rs.41.02 crore for 200 KVKs during the X Plan was yet to be established as of January 2008.
- Only 0.34 *per cent* of the total rural youth trained were able to gain self employment.
- Coordination and monitoring of KVK activities by ICAR, ZCUs and KVKs were inadequate and needed to be strengthened. Shortfalls were observed in conducting meetings of monitoring bodies like Regional Committees and Scientific Advisory Committees.

Based on their observations, the CAG recommended that the KVK system must have updated, detailed and precise guidelines with clarity and precision. ICAR should formulate guidelines in respect of administrative and financial procedures for NGO KVKs.

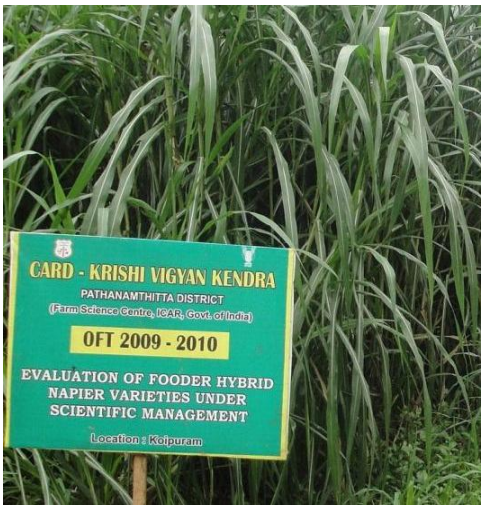
The XII Plan Working Group on Agricultural Extension (Planning Commission, 2012) made following recommendations to make KVKs more effective:

- The KVK Farms should be developed as centres of excellence as role model for farmers. It needs to be ensured that every extension staff, including supervisory and administrative level officials, possesses superior competency, skills and knowledge.
- Extension support is weak or non-existent in the case of animal husbandry and fisheries. As separate extension machinery for animal husbandry and fisheries are not going to be feasible in many states, this has to be integrated with ATMA. In districts where livestock and fisheries play a major role, staffing structure within ATMA and KVKs should be modified to include more staff with specialization in these sectors.
- The changing roles of and expectations from KVKs necessitate regular capacity building of its professionals. Hence, exclusive capacity building programmes shall be designed and conducted (like induction training, refresher courses, management and executive development programmes) for effective implementation of the mandated activities and image building/ branding of KVK system. NAARM, Agricultural Extension Division of ICAR and Zonal Project Directorates will jointly take up the responsibility for this.

To make KVKs more vibrant and visible, the ICAR recently constituted a High Power Committee (HPC), to review all issues pertaining to KVK system and suggest measures for improving their efficiency and relevance so as to meet the current expectations of stakeholders. This committee, since then has submitted its report (January, 2014), suggesting measures to improve relevance, efficiency and guidelines for implementation of policies for KVKs (http://icar.org.in/en/node/8017). The Committee has made recommendations on the mandate and domain of KVK activities; establishment and infrastructure; co-ordination, implementation and monitoring; convergence and linkage; administrative guidelines; financial management and visibility of the KVK System (http://www.icar.org.in/en/node/7158).

The key recommendations from this committee are as follows:

a. The KVK Scheme is being funded from the Plan Budget since its inception (1974). Hence, the funds required for efficient functioning are often not available to the required extent as major component goes for staff salary. Therefore, it is critical now to project a part of the expenditure under Non-Plan instead of booking the entire expenditure under Plan. Accordingly, It is proposed that the requirement of funds in respect of eight ZPDs and KVKs (Salary, Travelling Allowance (TA), contingencies, HRD etc.) established till the end of X Plan (those in existence for more than five years) be allowed to be included under Non-Plan from the beginning of XII Plan period.



b. With ever-growing nature and quantum of workload of each KVK, the existing six SMSs are finding it difficult to cope up with their responsibilities. It is, therefore, recommended that four additional posts of SMSs (Scientists) should be created in each KVK, thus, increasing the number of SMSs to 10. This is especially more important since lot of additional work is being entrusted to KVKs time to time, for instance, the KVKs undertook activities under NAIP (National Agricultural Innovation Project) and NICRA (National Initiative on Climate Resilient Agriculture). (http://www.nicra-icar.in/nicrarevised/index.php/technology-demonstration).

PERCEPTION ON PERFORMANCE

Over the past few years, there have been several reports in the media on the selection and governance of KVKs. Many of these reports have been highly critical of the way these KVKs were sanctioned to politicians and their affiliates (http://archive.indianexpress.com/news/seeds-of-political-patronage/1116240/).

- Appreciably the current government has taken note of such reports and constituted six member enquiry committee (http://indianexpress.com/article/india/india-others/panel-to-inquire-into-functioning-of-kvks/) in December 2014, headed by a former Agriculture Secretary. This panel has since then submitted its report (http://indianexpress.com/article/india/india-others/follow-norms-says-krishi-kendra-review-panel/). Based on its visit of just 4 KVKs (three run by Agriculture Universities and one run by an NGO) close to Delhi, it found that the KVKs don't follow norms and mostly they lack expertise in the area of processing and value addition; agro-meteorology; agri-business; and diagnostic services. This panel has recommended that:In the case of NGOs, their credentials of dedicated working for espousing the cause of farmers and development of agriculture may be thoroughly examined before sanctioning KVK. The basic norms and criteria of quality sizeable land and potential of the host organisation to effectively implement the KVK activities should not be compromised.
- Skill Development training for rural youth has to be given more emphasis by KVKs. The process of skill development may be strengthened by establishing linkages of KVKs with National Skill Development Council.
- KVKs should forge PPPs at the district level to technically support the initiatives of private extension service providers.
- Apart from the quinquennial (recurring every five years) review, external evaluation may also be initiated for critical monitoring and evaluation of KVKs. The number of Zonal Project Directorates may be increased for better monitoring.
- KVKs should be linked up with *Sansad Adarsh Gram Yojna* and *Pradhanmantri Sinchai Yojna* and MNREGS, so as to proactively identify suitable technologies, service providers, experts and organisations.

Implementation of all these recommendations is important to improve the effectiveness of the KVKs. Even with many of the limitations pointed out by the different committees, the KVKs have made important contributions to improving production, productivity and farmers' income. The ICAR has also made tremendous efforts to recognize and reward the innovative and good work done by KVKs. Over the years, several KVKs have won the ICAR Best KVK award at Zonal Level as well as at the National level. These KVKs can be role models for other KVKs and in fact such KVKs should come forward to train the staff of underperforming KVKs.

Several KVKs have been doing outstanding innovative work in their mandated activities across the country, but the good practices being followed by these KVKs are not highlighted properly outside the KVK conferences and KVK Zonal workshops. Such innovative KVKs and their success stories need to be brought to the notice of wider extension/development community. This can be done effectively, if good practices are published on online portals like AESA (Agricultural Extension in South Asia, which encourages such documentation (http://www.aesa-gfras.net/).

KVKs AND ATMA: THE NEED FOR COORDINATION AND CONVERGENCE

With the support of the Ministry of Agriculture, Agricultural Technology Management Agency (ATMA) is currently under implementation in 614 districts of 28 States and 3 UTs in the country. ATMA provides an institutional mechanism for coordination and management of Agricultural Extension System in the district (Box 3).

Box 3: Agricultural Technology Management Agency (ATMA)

Agricultural Technology Management Agency or (ATMA) is responsible for all the technology dissemination activities at the district level through linkages with the line departments, research organizations, NGOs and other agencies associated with agricultural development in the district. Research and Extension units within the project districts such as ZRS or substations, KVKs and the key line Departments of Agriculture, Animal Husbandry, Horticulture and Fisheries etc. are constituent members or Key stakeholders of ATMA. Each Research-Extension(R-E) unit retains its institutional identity and affiliation but programmes and procedures concerning district-wise R-E activities are determined by ATMA Governing Board to be implemented by its Management Committee (MC).

The objectives of ATMA are as follows:

- To strengthen research – extension – farmer linkages
- To provide an effective mechanism for co-ordination and management of activities of different agencies involved in technology adaption / validation and dissemination at the district level and below.
- To increase the quality and type of technologies being disseminated.
- To move towards shared ownership of the agricultural technology system by key shareholders.
- To develop new partnerships with the private institutions including NGOs.

KVKs & ATMA are expected to work in true partnership mode, wherein, the KVK function as a frontline extension system, while, ATMA- as a field extension agency work for large scale technology dissemination/adoption, out-scaling of successful technologies/innovations through large-scale demonstrations and further verification/validation etc.

A joint circular was issued in January 2011 by the ICAR (Department of Agricultural Research and Education) and Department of Agriculture and Cooperation (Ministry of Agriculture, Government of India) on required linkage between KVKs and ATMA, elaborating their joint responsibilities (https://drive.google.com/file/d/0B0TX5SvS4lMReTUtMWNra0xYVFU/view?usp=sharing).

The guidelines provide mechanism for close involvement of agricultural research system represented by ICAR Institutes, SAUs and KVKs and State agriculture and allied departments by pooling funds, resources, programmes and manpower to enable the farmers to draw full benefits of technological advancements as per

local needs. The Ministry of Agriculture issued new guidelines for ATMA in 2014 and this also emphasized the need for better coordination and convergences between ATMA and KVKs (Box 4).

Box 4: ATMA and KVKs: Roles expected in the Modified ATMA Guidelines-2014

These new guidelines were issued for better coordination & convergence between ATMA & KVKs. The salient points from this guideline are as follows:

- The Programme Coordinators (PCs) of KVKs in the district should not only regularly participate in the ATMA GB & Management Committee, but also should have an interface meeting with the Project Director (PD), ATMA once a month during the cropping season and work out a strategy of providing crop advisories to farmers for various stages of crop growth.
- The SMSs of KVKs will advise and mentor Block Technology Teams in identifying technological needs in various Blocks in the District and programmatic interventions to meet such needs.
- Comprehensive District Agriculture Plan (CDAP) or District Agriculture Action Plan (DAAP) under ATMA developed on the basis of the Strategic Research and Extension Plan (SREP) should be refined in the process jointly by ATMA and KVKs from the Block level and acted upon for the purpose.
- PD ATMA and PC of KVK should jointly visit at least five villages every month in the District to guide and supervise the extension related work assigned to scientists and the extension officers, including BTM & SMSs supported under ATMA.
- At the end of the month, a joint progress report will be submitted by the PD, ATMA and PC of KVK, to the Secretary (Agriculture)/Director (Agriculture) of the State and the SAU.
- In consultation with the Secretary (Agriculture) of the State, the Vice-Chancellor(s) of the University(ies) will allocate districts to specific scientists in the SAU, who would interact again with the ATMA and KVK of the assigned districts and provide technological inputs to the farmers through this mechanism.
- ATMA and KVK should coordinate with each other in the conduct of Field Days, Kisan Melas, Goshties and setting up of Farm Schools, so that there is no duplication in coverage and they should ensure percolation of appropriate scientific practices down to the field level.
- ATMA Management Committee having PC, KVK as its member may review the progress of technology application - related activities funded by ATMA. Besides this, the KVK may also provide an Agricultural Technology Update (ATU) on half yearly basis i.e. before the start of Kharif and Rabi crop seasons to the ATMA for its wider dissemination among the farmers of the district.
- KVKs will provide advice to ATMA and the District Administration for the implementation of Flagship programmes of the DAC namely – NFSM, NHM, RKVY, NAIS etc. The KVK Scientists will technically advise the Block Technology Teams (BTTs) and will also be actively involved in preparation of Block Action Plans (BAPs), especially with regard to research related issues/gaps and strategies. Regular participation of a KVK scientist in the meetings of BTT will be ensured at least once in a quarter. The participating scientist will also take feedback for his colleagues in the KVK in respect of their respective areas of expertise.
- Zonal Project Directors (ZPD), State Agriculture Commissioners / Directors and directors (Extension) of the SAUs concerned shall together take a quarterly meeting with KVKs and ATMAs.

The High Power Committee on Management of KVKs recommended that the PD, ATMA and his team should plan periodical joint visits to the cluster villages of KVKs for gaining first-hand knowledge on new technologies being demonstrated so that activities could be initiated under ATMA for large-scale disseminations. Apart from cluster villages, the problems or issues noticed by PD, ATMA and his staff in other villages could be brought to the notice of KVK staff to ensure necessary follow-up.

The KVK conferences are important forum to review & share the performances of KVKs at national level (http://www.icar.org.in/en/node/6744), wherein, among other things, the ATMA-KVK convergence issue is also prominently discussed. For instance, the 7th KVK conference held at Ludhiana, recommended that the successful process and methodological aspects of KVK-ATMA convergence should be documented elaborately and made available to all the stakeholders for replication as per the needs of the district. Also, it was observed that the fund flow from ATMA to KVKs is highly skewed and varies from district to district and hence there is a need for uniformity in fund flow to all the KVKs and must be provided to KVKs directly (www.icar.org.in/files/KVK_NC_2013%20Final.pdf). In this conference, it was noted that Feed forward provided by the KVK to ATMA and the utility of feedback received from ATMA in preparation of action plan of KVK has been a major gain of the convergence and needs to be harnessed appropriately.

Though such efforts are promoting convergence, a lot more still required to be done to institutionalize and strengthen convergence. Staff shortage, fear of loss of power and control on resources and lack of capacity in designing locally relevant programmes are constraining achievement of real convergence. At the field level, the success of these convergence efforts is yet to be visible.

THE WAY FORWARD

The latest Situation Assessment Survey of Agricultural Households in India (NSSO, 70th round), based on a countrywide survey (July 2012-June 2013) of nearly 35,000 households revealed that "farmers continue to remain far removed from new technologies and guidance from state run research institutes including KVKs" (NSSO, 2014). Over 59% of the farm households received no assistance from either government or private extension services. Of the 40.6% households who received extension assistance, only 11% of the services came from physical government machinery- extension agents, KVKs and agricultural universities. More farmers depended on other progressive farmers (20%), media including radio, TV, newspaper (19.6%) and private commercial agents (7.4%). Such findings make it imperative that the KVKs improve their functioning. This is possible, if the observations/suggestions of various committees as discussed above are taken into account, while being more proactive and creative in undertaking the mandated activities. Some of the suggestions summarized here may be useful towards making KVKs more vibrant:

Entrepreneurship Development: KVKs must develop farmer entrepreneurs, who can further help in technology transfer through mechanism of farmer to farmer extension. This is possible only when the KVKs rise above the routine activities they often perform mechanically. KVK trainings should promote entrepreneurship among rural youth, helping them in gaining self employment.

Promotion of diversified farming systems including Agro-tourism: KVK farms and KVK adopted villages can be developed as agro-tourism sites, to demonstrate diversifying farm income portfolio. KVKs' demonstrations must be cost effective for adoption by farmers.

Resource Generation: KVKs can compete and tap funds available from various government schemes/NABARD /Agricultural Skill Council of India for skill & entrepreneurship development in rural areas. KVKs should be in a position to generate a part of their resources from the sale of planting materials and other produce from their farms. Training programmes can also be charged for to some extent. KVKs must seek long-term funding relationship with local constituencies, such as NGOs, and with national and international organisations. There is over dependence of KVKs on ICAR funds currently. Lack of funds for off campus training and on-farm farm trials is a routine excuse in majority of KVKs.

Address capacity gaps: KVKs are meant to enhancing capacities of farmers and other extension staff, but often the KVK staff lack in capacity especially in the fast emerging areas of agricultural technology which are more knowledge & skill driven. Apart from updating technical skills in the area of their respective subject, the KVK staff, especially the PCs, need to be trained on innovation management (Sulaiman et al, 2014). Capacities to perform several functional skills related to networking and partnership building; enhancing access to technology, expertise, markets, credit and inputs; setting up/strengthening user groups, advocacy for institutional and policy changes, reflective learning etc., have to be enhanced through trainings, action learning initiatives, exchange of good practices across KVKs.

Clarity on governance: Lack of clarity on governance is a big issue affecting the KVK functioning. The role and responsibilities of Vice –Chancellors/Director of Extension in KVKs under SAUs; Directors of ICAR institutes in the case of KVKs under ICAR and Trustee of the NGO in the case of KVKs under NGO have to be clearly spelled

out. Quite often the PCs of the KVKs have to do the balancing act between the ZPDs & their respective controllers who often have conflicting priorities. In some of the KVKs, full autonomy has been given to PCs, while in most of them they have to be at the mercy of others who takes decisions on administrative and financial aspects.

ATMA-KVK link: Lot more needs to be done to achieve the convergence between ATMA and KVK (as envisaged under the joint circular) operational. There might be some success stories, wherein, the proposed changes like quarterly joint meetings, earmarking of funds to KVKs, visit of ATMA staff to the cluster villages of KVKs and ATMA sponsorship for Technology Weeks (being organized by KVKs) are achieved successfully, which may be shared for wider replication in other districts.

Role of Zonal Project Directorates (ZPDs): The ZPDs co-ordinate the activities of KVKs under their jurisdiction in the respective zones (often with limited staff). The ZPDs need to be proactive not only in collection of data, preparation of reports for prompt onward transmission to Agricultural extension division of ICAR, effective monitoring & evaluating the performance of KVKs under their jurisdiction, but also in guiding/facilitating the KVKs to play more wider roles to promote and apply new knowledge. They could also play a major role in documenting and analyzing good practices and generating quality evidence on performance of new technologies.

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