15. Technology Assessment, Refinement and Transfer

In order to assess, refine and demonstrate technologies/products, the ICAR has established a network of Krishi Vigyan Kendras (KVKs) in the country. The activities of KVKs include on-farm testing to identify location specificity of agricultural technologies under various farming systems; frontline demonstrations to establish production potentials of improved agricultural technologies on the farmers' fields, and training of farmers and extension personnel to update their knowledge and skills. At present, there are 607 KVKs, which include 408 under State Agricultural Universities, 48 under ICAR Institutes, 100 under NGOs, 34 under State Governments, three under Public sector undertaking, five under Central/ State Universities, two under deemed universities and the remaining seven under various other organizations.

KRISHI VIGYAN KENDRAS

Technology assessment and refinement

Assessment: During the year, 2,302 technology interventions were assessed in 3,799 locations by laying out 20,227 trials on the farmers' field on various crops under different thematic areas, namely Cropping system, Drudgery reduction, Farm machines, Growth regulators, Information and communication technology, Integrated crop management, Integrated disease management, Integrated farming system, Integrated nutrient management, Integrated pest management, Post-harvest technology/value-addition, Resource conservation technologies, Seed/planting material production, Storage technique, Varietal evaluation and Weed management.

In livestock, 357 technology interventions in 487 locations covering 6,363 trials on animals under the thematic areas, namely Production management, Nutrition management, Evaluation of breeds, Feed and fodder management, Disease management and Fertility management related to animal enterprises were taken up for assessment.

As many as 85 women specific technologies related to technological empowerement of rural women were assessed in 201 locations covering 1,272 women under the thematic areas, namely Entrepreneurship development, Health and nutrition management, Household food security, etc.

Refinement: As many as 185 technology interventions were refined in 256 locations by laying out 1,305 trials in the farmers' fields under various thematic areas indicated under the Assessment.

Besides, 23 technology interventions in 27 locations were also refined through 225 trials on animals under the thematic areas, viz. Disease management, Evaluation of breed, Fertility management, Nutrition management and Production management. In addition, 11 women specific technologies were also refined by conducting 136 trials on 14 locations on Mushroom cultivation, Health and nutrition, and Entrepreneurship development.

Frontline demonstrations

A total of 94,951 frontline demonstrations (FLDs) were conducted which include 75,156 on cereals, millets, oilseeds, pulses, cotton, commercial crops and

Innovative Approaches for Agricultural Knowledge Management: Global Extension Experiences

The Conference on Innovative Approaches for Agricultural Knowledge Management: Global Extension Experiences was jointly organized by the International Society of Extension Education and the Indian Council of Agricultural Research at Vigyan Bhawan and NASC Complex, New Delhi on 9-12 November 2011 in collaboration with Iowa State University, USA; Alcon University, USA; TAAS, APAARI, NAAS, GFAR, FAO and Maharashtra Society of Extension Education. Her Excellency, the President of India, Smt Pratibha Devi Singh Patil, inaugurated the Conference at Vigyan Bhawan on 9 November 2011. On the occasion, the President said that 'An innovative dynamic extension network that facilitates and promotes widespread dissemination of agricultural practices, implements and technology to the farming community, is essential for agricultural growth and prosperity'.

The deliberations have provided various suggestions for futuristic agricultural extension. The need for strengthening extension system in terms of Innovations, Institutions, Investments, Individuals and Incentives was emphasized. Also valid suggestions came up with regard to the Global Extension Science Platform (GESP), International and Regional Agricultural Extension Institute (IAEI) and National Agricultural e-Extension and Knowledge Management Institute.

Her Excellency, the President of India, Smt Pratibha Devi Singh Patil, conferring Prof. Dwarakinath – INSEE Award to a farmer

Case study

Power tiller for hills

Power tiller being light in weight compared to tractor, offers an alternative for tillage operations in hills. It can plough 0.1 ha of field per hour which is 8 times more than the bullock drawn plough. KVK, Pithoragarh had one power tiller on its instructional farm and its operation was demonstrated during training to farmers. Farmers became excited about the use and efficiency of the power tiller but the cost of power tiller inhibited the will of farmers, initially. Observing the enthusiasm of farmers, KVK had taken initiative and invited NABARD, Pithoragarh in one of its farmers training programme. Based on the discussions and assessing willingness of the farmer, K.D. Joshi, he was selected for the training-cum-exposure visit and was sent to RAU, Ranchi, Jharkhand to see the use of power tiller in small land holdings. Inspired by the exposure visit, Shri Joshi came back to KVK and took training on power tiller operation. After completing the training, he was taken to Lohaghat with the help of NABARD to get him practically acquainted with working of power tiller. He purchased the power tiller in June 2005 and became pioneer for introducing first power tiller in the district.

After buying the power tiller he brought his own 0.4 ha uncultivated land into cultivation and started tilling other farmers land on custom hiring basis. He repaid the loan amount in time and recouped the cost of power tiller within two years. Power tillers gave three-fold benefits to the farmers: (i) reduction in drudgery involved in tillage operation, removal of crop residue and clod breaking; (ii) time saving in tillage operation and timely sowing of crops; and (iii) good germination of crops due to timely sowing and moisture conservation. Besides tilling his own and villagers' land, Shri Joshi demonstrated the use of power tiller in Jajardewal and Marsoli (Munakot block), Nachani (Kanalichhina block), Thal (Didihat block), and Bakarihat (Dharchula block) villages with the help of KVK. It acted as catalyst and the farmers of these blocks of Pithoragarh district were encouraged to purchase power tiller. Now the district has 53 power tillers in operation, which are contributing a lot towards the increasing production of the district. Out of 53 power tillers, 45 were purchased under the subsidy schemes of Agriculture (21) and Horticulture (24) departments and 8 were purchased by the farmers from their own resources. The KVK remains a source of encouragement and training for them. Now all 53 power tillers are in operation cultivating on an average 900 ha of land in each season. Encouraged from the success of power tiller, demand of power tiller increased in the district and considering the growing demand for repair, maintenance and spare parts, one organization M/s Bharat Traders, Taxi stand, Pithoragarh has taken agency of power tiller in the district and providing sale and service facilities to the farmers.

fodder crops, spices and condiments, vegetables, fruits other important crops covering an area of 21,663.43 ha; besides 6,984 demonstrations covering 3,810.59 ha on improved tools and farm implements, 8,007 on livestock species, 795 on other enterprises and 4,009 on gender specific technologies for women empowerment.

Oilseeds: During the year, 13,575 demonstrations were conducted covering 4,193.64 ha on different oilseed crops including groundnut, sesame, soybean, sunflower, *toria*, linseed, mustard, castor, *gobhi sarson*, niger, rapeseed, safflower and *raya*. The percentage increase in yield varied with crop and technology demonstrated and highest increase in yield was observed with integrated nutrient mangement in niger (95.45%). The increase in yield varied from 23.37 in *raya* to 67.16% in niger as compared to farmers practice.

Pulses: A total of 19,277 demonstrations were conducted covering 5,655.97 ha on major pulse crops including blackgram, chickpea, cowpea, field pea, Frenchbean, greengram, horsegram, lentil, mothbean, pigeonpea and rajmash. The percentage increase in yield varied from 5.40 in lentil to 89.10 in Frenchbean, and on an average pulse crops under various technology demonstrations gave 37.60% more yield than farmers' practice.

Cotton: A total of 2,646 demonstrations covering 1,088.65 ha were organized on production technologies (1,297), Integrated nutrient management (751), Integrated pest management (314), Varietal evaluation (88), Cropping systems (76), Weed management (65) and on Integrated disease management (55). The increase in yield of cotton owing to various technologies ranged from 11.85 to 38.67% with an average of 19.12%.

Livestock, fisheries and other enterprises: A total of 8,007 demonstrations were conducted on 21,275 animals including fisheries, dairy, poultry, sheep, goat, piggey and duckery. The maximum number of demonstrations were conducted in dairy animals followed by poultry, sheep and goat, piggery and duckery.

Besides 4,804 demonstrations were conducted on

Success story

Basmati rice for higher economic gains

In Saharanpur district, out of 78,000 ha under rice, 38,700 ha is under scented rice. Commonly grown rice varieties are Pusa B 1, Pusa Basmati 2, and Pusa 1121. Pusa 1401 variety was released in 2008 and was demonstrated by the KVK, Saharanpur, during 2009 at 15 farmers' fields. The average yield at farmers' field was recorded as 58.5 q/ha with cost of cultivation of ₹ 28,887 to 32,600. The rice recovery ranged between 72 and 75%. The average net profit per ha was recorded as ₹ 112,839. After rice processing the average net profit per ha was recorded as ₹ 160,000. The area under Pusa 1401 has spread to more than 6,000 ha in just two years. This variety is grown in rice-wheat system. The successful farmer is Shri Mahek Singh of Village Chaura Khurd, Block Punwarka, District Saharanpur. Presently more than 50 farmers are growing this variety for marketing in the form of rice instead of paddy.

6th National Conference on KVK

The 6th National Conference on KVK was organized by the Agricultural Extension Division, Indian Council of Agricultural Research and Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur at Jabalpur on 3-5 December 2011. The Conference was inaugurated by Shri Sharad Pawar, Hon'ble Union Minister of Agriculture and Food Processing Industries.

There were six technical sessions — Farm Innovators Experiences in Secondary Agriculture; Consultation with KVKs on Priorities, Policies and Programmes for the XII plan; Innovative Experience of KVKs in Empowering Farmers on Secondary Agriculture; Technology Incubation and ZTM & BPD Experience of NARS; Technologies for Secondary Agriculture and Institutional Convergence for Promoting Secondary Agriculture. A number of recommendations have emerged for implementation during XII plan and for strengthening of the KVK movement.

Shri Sharad Pawar, Hon'ble Union Minister of Agriculture and Food Processing Industries, inaugurating the Conference

other enterprises (Mushroom production, Vermicomposting, Lac production, Sericulture, Value-addition, beekeeping, Nutritional garden, Economic empowerment and Household food security.

Farm implements and tools: A total of 6,984 demonstrations on farm implements were conducted in which, 2,377 demonstrations were on Planting and sowing followed by 1,147 on Inter-culture, 837 on Threshing, 808 on Tillage and land preparation, 663 on Harvesting, 578 on Plant protection and 574 on Post-harvest processing.

Hybrids: The FLDs on crops were conducted including 10,459 demonstrations on hybrids covering 2,948.87 ha under various crops—maize, paddy, soybean, sunflower, castor, brinjal, broccoli, cabbage, cauliflower, chillies, cucumber, tomato, coconut and cotton. Increase in yield over farmers practice varied from 3.07% in maize to 159.57% in coconut.

Training programmes

During the year, 55,989 training programmes were organized with the participation of 15.96 lakh farmers, farm women, rural youth and in-service extension personnel.

Farmers and farm women training: A total of 43,553 training programmes both on-campus and off-campus were organized for the benefit of 1,253,736 farmers and farm-women on various technologies to update their knowledge and skills in respect of productivity enhancement of field crops, vegetable crops, fruit crops, ornamental plants, plantation crops, tuber crops, spices, medicinal and aromatic plants, soil health and fertility management, livestock production and management, empowerment of rural women, farm machinery, tools and implements, plant protection, fisheries, production of input at site, capacity building, group dynamics and agro-forestry. Of these, 40% were on-campus and 59% were off-campus programmes. The participants included 3.76 lakh farm-women.

Rural youth training: The training programmes for rural youth were organized for imparting skill-oriented trainings on commercial horticulture, productivity enhancement in field crops, seeds and planting material production, entrepreneurial development, improved tools, implements and farm machinery, economic empowerment of rural women, livestock and fisheries production and management. As many as 7,615 skill-oriented training programmes were organized both on-campus and off-campus for 214,141 rural youth, of which 38.13% were female participants.

During the year, 3,018 training programmes were conducted for 65,961 rural youth, specifically on various vocations including crop production and management, post-harvest technology and value-addition, nursery management, livestock, fisheries, income generation activities, capacity building and group dynamics, etc.

Extension personnel training: A total of 4,821 training programmes both on-campus and off-campus were conducted covering 128,181 participants. These programmes were organized for extension functionaries working in government and non-governmental organizations related directly or indirectly with the development of agriculture in their respective districts. The training was imparted in frontier areas of agricultural technologies related to productivity enhancement of field crops, commercial horticulture, production and use of organic inputs, care and

Training on value-addition of water hyacinth at KVK, Darang

Success story

Higher yield of paddy in flood-prone area

In Bahraich areas nearby the river are submerged due to rise in water level of the river because of high rainfall. This situation remains for 10-15 days or more. The water shrinks to river as and when flood starts to recede. This situation takes place about 4-5 times in the season. Rice-wheat cropping system is the major cropping system practiced in the district. In Bahraich, every year paddy crop is cultivated in more than 156,000 ha area. Major suitable varieties of paddy are Barh Awarodhi, Chakia 59 and Madhukar which were developed by the NDUAT, Faizabad. The yield potential of these varieties was 30 to 35 q/ha. A new variety Swarna Sub 1 was provided to KVK, Bahraich last year. Demonstrations conducted on this variety showed average yield of 45.6 q/ha last year. This variety was popularized among the farmers during the current year. The KVK conducted demonstrations of Swarna Sub 1 in 13.8 ha. Seed of this variety was distributed among the farmers living in the flood-prone area. More than 300 q seed of Swarna Sub 1 was provided by KVK and department of agriculture jointly through seed distribution camps in Bahraich district. More than 600 ha area was covered in *kharif* (2010) under Swarna Sub 1 cultivar of paddy. The average yield under demonstration was 49.10 q/ha during the *kharif* 2009-10. Demonstrations (86) on variety Swarna Sub 1 were conducted under NICRA project in Boundi village, Bahraich during 2011-12.

maintenance of farm machinery and implements, capacity building and group dynamics, livestock production and management, household food security and empowering of rural women. In these programmes, 24.53% participants were female extension personnel.

Sponsored training: Out of the total training progammes, as many as 6,363 training programmes, were sponsored by different organizations, which were conducted for the farmers and farmwomen, rural youth and in-service extension personnel covering 261,343 participants. The trainings were imparted to upgrade their knowledge and skills in productivity enhancement in field crops, commercial horticulture, post-harvest technology and value-addition, improved tools, implements and farm machineries, livestock and fisheries, economic empowerment of women, capacity building and group dynamics. In these programmes, nearly 25.32% representation was given to SC/ST (farmers, farm-women, rural youth and extension personnel).

Extension programmes

A total of 357,432 extension programmes were organized covering 180.30 lakh farmers and extension personnel, to create awareness about improved agricultural technologies. The activities include advisory services, diagnostic visits, field-days, group discussions, *kisan goshthi*, film shows, self-help group conveners' meetings, *kisan melas*, exhibitions, scientists' visit to farmers' fields, farmers' visit to Krishi Vigyan Kendras, plant/animal health camps, farm science club, ex-

Products demonstrated in kisan mela at KVK, Faizabad

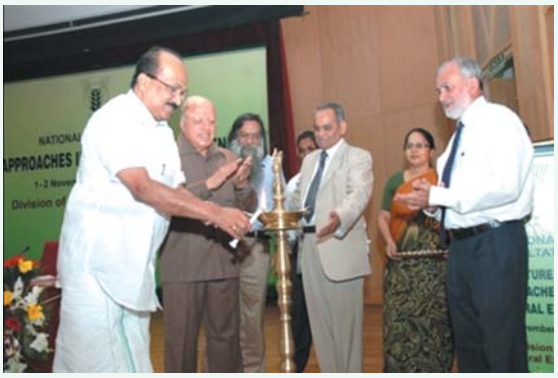
trainees *sammelan*, farmers' seminar/workshop, method demonstrations, celebration of important days, special day celebration, exposure visits, etc.

Besides, 169,557 programmes were carried out through electronic and print media to have wider coverage in the districts. These included electronic media, extension literature, newsletters, newspaper coverage, technical articles, technical bulletins, technical

Future Approaches in Agricultural Extension

National Consultation on 'Future Approaches in Agricultural Extension' was organized by Agricultural Extension Division at NASC Complex, New Delhi on 1-2 November 2010 under the leadership of Secretary, DARE and DG, ICAR. The Consultation was inaugurated by Professor K V Thomas, the then Hon'ble Union Minister of State for Agriculture, Consumer Affairs, Food and Public Distribution, in the presence of Prof. Abhijit Sen, Member Planning Commission and Prof. M S Swaminathan, Member of Parliament (Rajya Sabha) and Chairman, MSSRF.

During the Consultation, eminent planners, policy-makers, scientists, academicians and extension professionals expressed their views on various topical issues concerning agricultural extension and as a result a road-map emerged in view of emerging challenges and opportunities in agriculture. It is suggested that agricultural extension has to be more decentralized, participatory, pluralistic, demand-driven, market-led with involvement of both public and private sectors.



Prof. K V Thomas, the then Hon'ble Union Minister of State for Agriculture, Consumer Affairs, Food and Public Distribution, lighting the lamp

Gender Perspective in Agriculture

National Consultation on 'Gender Perspective in Agriculture' was jointly organized by the Directorate of Research on Women in Agriculture (DRWA) and Division of Agricultural Extension on 8-9 August 2011. This was an effort to draw the attention of women scientists and academicians of the National Agricultural Research System and other closely related stakeholders to the subject of gender research in agriculture and look into the prospects of further strengthening Home Science as a curriculum and as a career.

Smt. D. Purandeswari, Hon'ble Union Minister of State for Human Resource Development, inaugurated the Consultation and said, 'For achieving 8-10% GDP growth, we must revisit agricultural policy and schemes and bring out necessary changes for more participation of women in agriculture. This will help in enhancing agricultural productivity in the country'.

The consultation has come out with innovative ideas to provide access and control over agricultural resources, information, knowledge and market to women. It was suggested to reorient home science research to make it more effective and efficient. It was also suggested that vocational training may be provided to Home Science students, so that they can become job-provider instead of job-seeker.

Smt. D. Purandeswari, Hon'ble Union Minister of State for Human Resource Development, lighting the lamp

reports, radio talks, TV talks, popular articles, technical books, leaflets, folders and lectures delivered.

Production of technological products

The technological products like seed and planting material of improved varieties and hybrids, bio-products and elite species of livestock, poultry and fish were produced at KVKs which benefited 11.30 lakh farmers in the country.

Seeds: During the year, 2.97 lakh quintal of quality seeds of improved varieties and hybrids of cereals, oilseeds, pulses, commercial crops, vegetables, flowers, fruits, spices, fodder, forest species, medicinal plants and fibre crops, were produced and provided to 3.70 lakh farmers.

Planting materials: In all, 193.28 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 6.70 lakh farmers.

Bio-products: Bio-products, namely, bio-agents, bio-pesticides, bio-fertilizers and bio-foods to the extent of 1,744.17 q were produced, benefiting 73,606 farmers.

Livestock, poultry and fish fingerlings: Elite breeds of dairy animal, namely, cows, sheep, goats, buffaloes and breeding bulls, were produced and supplied to 263 farmers. Various strains/breeds/eggs of poultry birds (chicken, quails, ducks and turkey) were provided to 6,235 farmers. Similarly, improved breeds of pigs were provided to 105 farmers. KVKs also enabled production of fish fingerlings (49.85 lakh) that benefited 16,398 farmers.

Soil, water and plant analysis: A total of 249,594 samples of soil, water, whole plant, leaf/petiole, fertilizer/manure etc. were analyzed covering 199,412 farmers belonging to 18,211 villages that generated revenue of ₹ 86.33 lakh.

Rain-water harvesting with micro-irrigation system

With the establishment of rainwater harvesting-cum-micro-irrigation system in 97 KVKs, 408 training programmes and 322 crop demonstrations were conducted, benefiting 27,341 farmers and 2,554 extension personnel. It also facilitated the production of 678,426 planting materials.

Technology week

Technology week, under public-public and public-private partnership mode, was organized by 209 KVKs, benefiting 338,679 farmers, farm-women, extension personnel, rural youth and members of self-help group by organizing 11,818 extension activities such as seminars, skill demonstrations, field visits on result demonstrations, exhibitions and scientists-extension personnel-farmer interactive sessions.

Kisan Mobile Advisory

Kisan Mobile Advisory (KMA) was initiated during 2010-11 to provide timely and need-based farm advisory to farmers. A mobile advisory at present is operational at 310 KVKs. Under this activity, information on weather, market and farm operations are given to farmers. During the year, about 110,536 short text messages were sent to 1,343,466 farmers on various aspects of agriculture, horticulture and animal husbandry, besides weather forecast, and pest and disease control.

Technology demonstration for harnessing pulses productivity

Technology demonstration for harnessing pulses productivity (TDHPP) is operational in 137 districts covering 11 States with technical collaboration of IIPR, Kanpur and six Zonal Project Directorates. The programme focused on development of district specific technology modules and capacity building of KVK functionaries, representatives of line departments and participating farmers. During the year, a total of 6,164

Pulses demonstrations under Technology Demonstration for Harnessing Pulses Productivity

Crop	Demonstration	Area (ha)	Yield (q/ha)		% increase	Cost of cultivation (₹/ha)	Net profit (₹/ha)
			Demo	Local			
Rabi							
Chickpea	2,199	849	16.77	12.55	33.63	12,816	24,713
Urdbean	268	121	6.70	5.12	30.86	10,737	16,202
Mungbean	141	60	6.09	4.71	29.30	14,011	11,092
Lentil	529	194	13.80	9.50	45.26	10,817	23,866
Kharif							
Mungbean	898	329	9.67	6.88	40.55	12,210	29,822
Urdbean	529	205	7.91	5.48	44.34	10,238	17,986
Pigeonpea	1,600	638	12.87	9.44	36.33	12,536	32,045

Mungbean cultivar: IPM 02-03
KVK, Kanauj

Urdbean cultivar: Shekhar 1
KVK, Hamirpur

Pigeonpea cultivar: UPAS 120
KVK, Fatehpur

demonstrations covering 2,336 ha were laid out on five major pulse crops, namely pigeonpea (1,600), chickpea (2,199), urdbean (797), mungbean (1,029) and lentil (529). The improved technologies resulted in overall increase in yield response up to 45.26% in lentil, followed by urdbean (44.34%), mungbean (40.55%), pigeonpea (36.33%) and chickpea (33.63) compared to farmer's practice.

Technology demonstration and dissemination for climate resilient agriculture

National Initiative on Climate Resilient Agriculture (NICRA), a network project was launched in February 2011. The project aims at enhancing resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technology demonstration. The project consists of four components, namely, strategic research, technology demonstration, capacity building and sponsored/competitive grants with a total outlay of ₹ 350 crore during XI Five-Year Plan.

Under the sub theme—Technology Demonstration and Dissemination for Climate Resilient Agriculture, about one lakh farmers are being covered in 132 village panchayats across the country with the involvement of 100 KVKs, 25 Co-operating Centres of AICRP on Dryland Agriculture and 7 Technology Transfer Divisions of Core Institutes (CRIDA, IARI, IIHR, NDRI, CMFRI, CIAE and ICAR-RC-NEHR). In this component, an integrated package of proven technologies would be demonstrated in one village panchayat in each district for adaptation and mitigation of the crop and livestock production systems to climate variability based on the available technologies.

During the year, eight workshops were organized

Shri Sharad Pawar, Hon'ble Union Minister of Agriculture and Food Processing Industries, and Shri Kapil Sibal, Hon'ble Union Minister of HRD and Communication and Information Technology, launched National Initiative for Climate Resilient Agriculture

to finalize the action plans in each of selected districts. The progress of activities undertaken by the KVKs include: (*i*) baseline survey completed in over 60% of KVKs and data tabulation is in progress; (*ii*) in 80 districts the project was launched at village level; (*iii*) farm machinery custom hiring centres have been created in 75 districts; (*iv*) soil sampling and analysis in selected villages is in progress; (*v*) inventory of organic resources of the selected villages is being prepared; and (*vi*) crop, livestock and NRM interventions are grounded during *kharif* 2011.

Technological backstopping

The Directorates of Extension Education (DEE) of SAUs/CAU were given the responsibility of overseeing the activities of KVKs in its operational jurisdiction. At present, 42 Directorates are vested with the

responsibility of technological backstopping of KVKs across the country.

The DEEs of SAUs/CAU updated the technical knowhow of 4,869 staff members of KVKs by organizing 205 training programmes. The major activities covered include Protected cultivation, Organic farming, Integrated pest management, Integrated nutrient management, Commodity future market, Resource conservation technologies, Climate change and its impact on agriculture, Drought mitigation strategies, Advance production techniques of saffron and other crops, Mushroom production, Animal based integrated farming systems, Backyard poultry production, Piggery production, Forage production, Soil health and fertility management, Post-harvest technologies, Precision farming, Monitoring and evaluation, Training methods, Communication skills for effective training, etc.

Besides, the DEEs also organized 142 workshops and meetings for effective implementation of KVKs programmes and also conducted 2,690 visits to review the activities of KVKs in their operational jurisdiction. They also made 1,794 visits to farmers fields.

Similarly, the Zonal Project Directorates organized 69 training programmes to benefit 2,438 KVK staff members in frontier areas of livestock production and management, integrated farming systems, micro-processing and packaging of fruits and vegetables, entrepreneurship development programme, mobile advisory, e-extension, process documentation, etc.

Agricultural Technology Information Centre

Agricultural Technology Information Centres (ATICs) in the country served as Single Window Delivery Systems by providing technology information, technology services and technology products to the farmers and ICAR has so far established 44 ATICs.

In all, 394,919 farmers visited the ATICs for the technological solutions to problems related to selection of hybrids and varieties, pest and disease management, agricultural operations and pratices, soil and water conservation, post-harvest technology and value-addition and animal husbandry and fisheries. Technological information was provided to 1,074,027 farmers both through print and electronic media. Likewise, 268,249 farmers got quality technological products, namely 30713.39 quintal seed, 5.61 lakh saplings, 5.24 lakh livestock species and fingerlings, 1,805 poultry birds and 5,626.78 quintal bio-products through ATICs. Besides, 108,552 farmers were benefited by technological services like, soil, water and seed testing, plant diagnostics, agro-advisory and consultancy and treatment of animals.