

ZONAL PROJECT DIRECTORATE
ZONE IV



ICAR - ZPD-IV

at a Glance



ICAR-Zonal Project Directorate, Zone-IV

G.T. Road, Rawatpur, Kanpur – 208 002

Zonal Project Directorate, Zone-IV, Kanpur has the genesis of 1979 when it was established as the erstwhile Zonal Coordination Unit with a mandate to monitor Transfer of Technology Projects. With the merger of ongoing projects like National Demonstration, Lab to Land and others into KVKs in 1992, the major functioning of the unit was broadened as planning, monitoring & reviewing the functioning of KVKs and other technology dissemination initiatives of the Indian Council of Agricultural Research. The Zonal Coordination Unit was upgraded as Zonal Project Directorate in March, 2009. Presently, this Directorate is facilitating the ICAR initiated technology dissemination projects through Krishi Vigyan Kendras in Uttar Pradesh and Uttarakhand.

Functions of the Zonal Project Directorate

- Planning, monitoring and reviewing of KVK activities in the zone.
- To identify, prioritize and implement various activities related to technology integration and dissemination.
- Coordinating with SAUs, ICAR institutes/organisations, line departments and voluntary organizations in the zone for implementation of KVK mandates and activities.
- Facilitating financial and infrastructural support to KVKs for effective functioning.

KVK & its Mandate

Krishi Vigyan Kendra is an innovative institution to undertake vocational trainings of farmers, farm women and rural youths, conduct on farm trials so as to assess the relevant and usable technologies on farmers' fields and to promptly demonstrate the latest agricultural know how to the farmers as well as the field level extension workers. District Sitapur being one of the largest district has got two KVKs.

Mandate of KVKs

With a decision of establishment of KVKs in all the rural districts during Xth Plan, the qualitative improvement in the working of KVKs was envisaged through reorienting the mandate as 'technology assessment, refinement and demonstration of technology/products'.

The activities of KVK include:

- On-farm testing to identify the location specificity of agricultural technologies under various farming systems.
- Organize frontline demonstrations to establish its production potentials on the farmers' fields.
- Conduct training of farmers to update their knowledge and skills in modern agricultural technologies and

training of extension personnel to orient them in the frontier areas of technology development.

- To work as resource and knowledge centre of agricultural technology for supporting initiatives of public, private and voluntary sector for improving the agricultural economy of the districts.



Uttar Pradesh is divided into 9 agro climatic zones viz., South Western Semi Arid, Bhabhar and Tarai, Western Plain, Mid Western Plain, Central Plain, Bundelkhand, North Eastern Plain, Eastern Plain and Vindhyan Zone whereas, Uttarakhand represents the hill agriculture and is classified as hill zone though Dehradun, Haridwar, U.S. Nagar and part of Nainital are characterized as Bhabhar and Tarai Zone.

Growth of KVKs

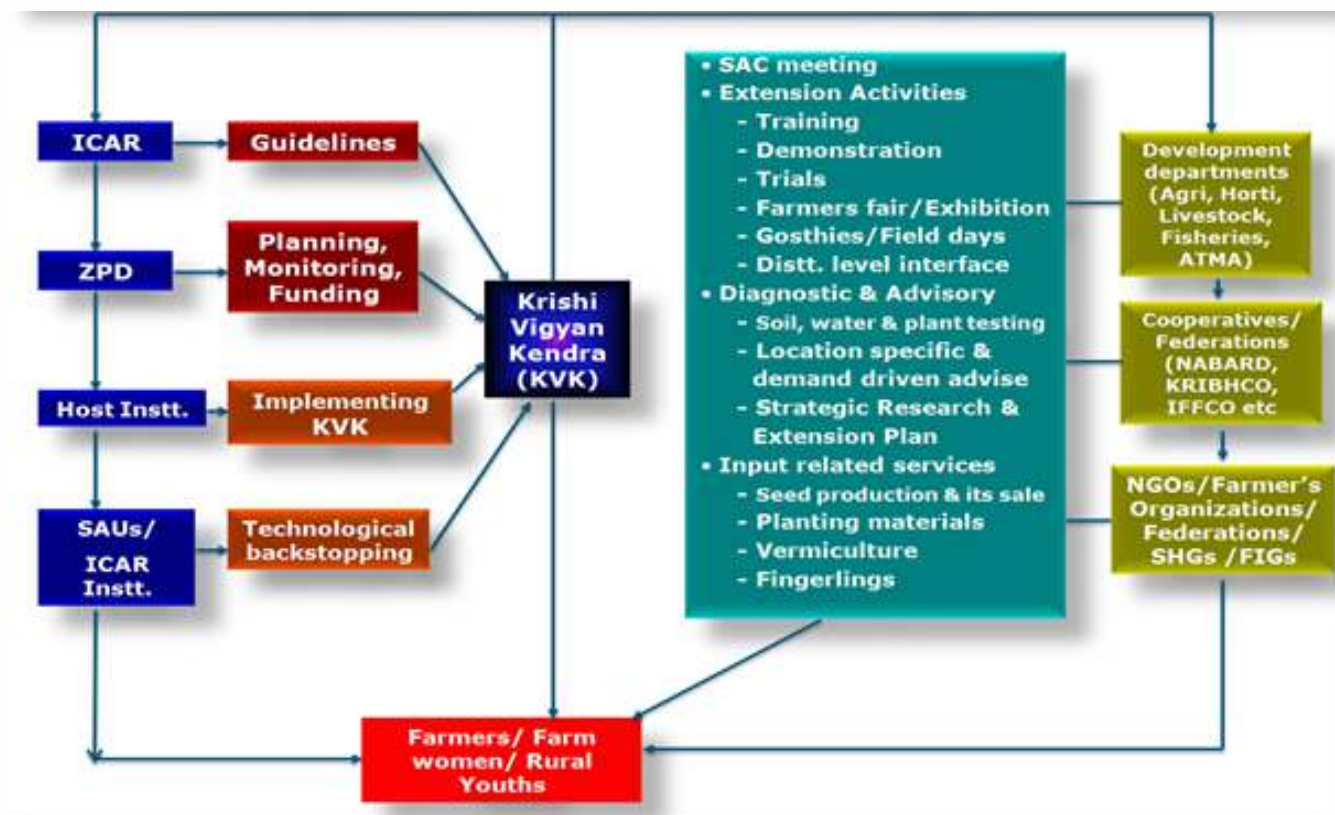
The first KVK in India was established by ICAR in 1974 at Pondichery. In Uttar Pradesh 1st KVK was established in 1976 in Sultanpur. In Zone-IV, 81 KVKs have been established, 68 are in Uttar Pradesh and 13 in Uttarakhand states. State-wise details of KVKs are given as under -

States	No. of districts	Details of KVKs			Total as on 2014-15
		SAU	NGO & Others	ICAR	
Uttar Pradesh	74	48	15	5	68
Uttarakhand	13	11	-	2	13
Total	87	59	15	7	81

Major Agricultural Indicators in Uttar Pradesh & Uttarakhand States

Uttar Pradesh		Uttarakhand	
Average land holding	: 0.8 ha	Agricultural growth rate	: 3.2 %
Highest producer of Wheat	: 32 % of the country-31.13 q/ha	Contribution in GSDP	: 8.71 %
Second highest producer of Rice	: 13.44 % of country-23.58 q/ha	% of agriculture & allied sectors in GSDP	: 14.1 %
Highest total food grain producer	: 50.29 M.T.	Forest area	: 34.84 lakh ha
Highest producer of sugar	: 35 % of the country- 118.63 mt	Cultivated area	: 7.41 lakh ha
Fish productivity	: 3250 kg/ha	Reported area	: 56.72 lakh ha
Contribution of Agriculture in export of U.P.	: 7 %	Net irrigated area	: 45 %
Growth rate of agriculture in XI Plan	: 3 %		

Linkages of KVKs with other Organizations

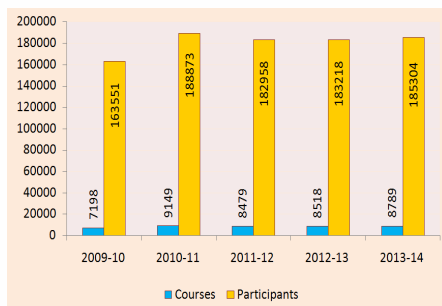


Partnership & inter-institutional linkages

RCT-SCISA, Zero tillage	: 15 KVKs	KVK-IIT, Kanpur	: 81 KVKs
ICAR Institutes & KVK	: CISH (13), IISR (21), CSSRI (9), DWR (9), IARI (15), VPKAS (10), IIVR (7)	NIFTD - IGFR, Jhansi	: 12 KVKs
NICRA - CRIDA, Hyderabad	: 13 KVKs	TDHPP - IIPR, Kanpur	: 137 KVKs
Single cross hybrids of maize-DMR	: 15 KVKs	DRMR, Bharatpur	: 15 KVKs

Salient Achievements during 2009-10 to 2013-14

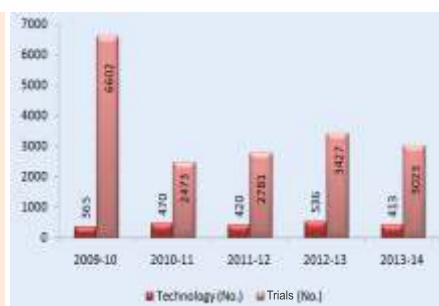
Training Programmes



Frontline Demonstrations



Frontline Demonstrations



Extension Activities



Seed Production (q)



Planting Materials (No.)



Others

Year	Bio-Product (q)	Livestock (No.)	Fisheries (No.)	Soil Samples (No.)	SACs (No.)	Publications (No.)
2009-10	17372.75	10411	2821000	30975	66	1226
2010-11	12056.40	10060	3286000	31624	57	844
2011-12	22346.80	10801	1274997	27146	70	1171
2012-13	115208.00	5771	5233657	37184	91	1253
2013-14	130989.00	6263	1347172	29290	77	13018

Spread of Technologies

Direct Seeded Rice-KVK, Kushinagar :

Demonstrations were conducted involving 116 farmers on an area of 39.22 hectare. Zero-till seed cum ferti drill was used for sowing at the seed rate of 40 kg/ha for improved varieties and 12.5 kg/ha for hybrid. Hybrid (PRH-10) yielded higher (62.55 q/ha, range: 53.87 to 78.52 q/ha) with lesser average cost of cultivation (₹ 16950/ha) and net return of ₹ 44282 /ha under direct seeding.



Resource Conservation Interventions in Rice-Wheat System-KVK, Pratapgarh:

Direct Seeded Rice technology was disseminated in 29.5 ha with 18 farmers in 5 villages viz Bhitari, Janwamau, Shekh Hisampur, Sabishpur and Ainthu in a radius of 10 km from the KVK upto 2003-04 which has gone to 18000 ha currently. There was saving of about ₹ 5000/ha in DSR over transplanting method.



Viability of Goat Rearing in Uttar Pradesh:

Survey of 217 goat farmers in 40 districts of Uttar Pradesh showed that the small flock size (less than 15) was most profitable, followed by flock sizes of 16-30, 31-45 and above 45. Sale of one adult male goat gave income of ₹ 2500 to 3500. Barbary breed was found most profitable (net income ₹ 1203/goat/year) due to its twice kidding within 19-20 months with higher percentage of twins & triplets. Jamunapari gave highest return through sale of milk, but lowest on sale of animals due to its yearly kidding. Jaunpuri gave the net return of ₹ 949/goat/year.



Honey Production-KVK Muzaffarnagar:

45 trainees started bee keeping through 40-50 boxes each and produced 30-35 q honey. Presently 550 farmers are involved in bee keeping through 80-110 boxes and each producing 80-90 qt honey. Some of the farmers have started the work at large scale with 300-400 boxes. Now after the processing, farmers are getting the price @ of ₹ 125-130 per kg. Average profit has increased by ₹ 50 per kg after processing.



Power Tiller in Hills-KVK Pithouragarh: District has 53 power tillers out of which 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. KVK remains a source of encouragement and training for them. Presently all 53 power tillers are in operation cultivating on an average 900 ha of land in each season.



Basmati Rice for higher Economic Gain-KVK Saharanpur:

The average yield at farmer's field was recorded as 58.5 q/ha with cost of cultivation of ₹ 28887 to 32,600/ha. The rice recovery ranged between 72-75%. The average net profit per ha for processed rice was recorded as ₹ 1,12,839/-. Net profit per ha for processed was recorded as ₹ 1,60,000/-. The area under this variety has now spread to more than 6000 ha in just two years.



Paddy variety for Submerged Condition-KVK Behraich:

Swarna Sub 1 variety gave average yield of 45.6 q/ha. KVK demonstrated 13.8 ha area under district. More than 600 ha area was covered in kharif (2010) under Swarna Sub 1 cultivar paddy variety. The average yield of the variety was recorded as 49.10 q/ha during the kharif season.



Summer Groundnut spread-KVK Mainpuri:

About 371 villages & 92000 farmers are growing summer groundnut in the district with encouraging average yield (26.15 q/ha), gross return (₹ 53,500/ha) & net return (₹ 31500/ha) in district Mainpuri. The technology has spread to 16 districts covering 2.0 lakh ha area under summer groundnut in the state of Uttar Pradesh.



Commercial Vegetable Cultivation-KVK, Dehradun:

Seeds of cabbage (Varun hybrid), cauliflower (Madhuri variety), okra (Sonal, Sarika, BSS-893 hybrid), cucumber (Malini hybrid), brinjal (Chhaya and Anamika hybrid), chilli (Dushehra, Lahar and Divya Jyoti hybrid) was provided to the identified farmers. Earlier farmers were hardly getting ₹ 0.55 to 0.65 lakh/acre/year as net income from vegetables. A net return of ₹ 1.20 to 1.35 lakh/acre/year was realized by the farmers with adoption of technological interventions advocated by the KVK experts.



Technology Focused Initiatives

National Initiatives on Climate Resilient Agriculture (NICRA) :

Various interventions were implemented in the areas of natural resource management (613.55 ha), crop production (583.22 ha), livestock and



fisheries (31.50 ha, 1935 birds and 7216 livestock) and institutional intervention (203.92 ha through custom hiring) which benefited 1724, 2640, 2498 and 473 farmers, respectively across 13 districts of Uttar Pradesh (11) and Uttarakhand (2). Further, 4286 farmers were also benefited through need based training interventions (217).

Technology Demonstrations for Harnessing Pulses Productivity (TDHPP):

Under Technology Demonstrations for Harnessing Pulses Programme, 817 technology demonstrations were organized on 5 major pulse crops (598.15 acres) viz. mungbean, urdbean, pigeonpea, chickpea and lentil in Uttar Pradesh covering 23 districts in different agro-climatic zones. The yield gains of 21% to 58% were obtained over local check. Maximum net return of ₹ 43110/ha was realized by the farmers under pigeonpea demonstrations with NA-1 and NA-2 cultivars



Maize Demonstrations under ISOPOM Scheme: 200 frontline demonstrations on Quality Protein Maize and single cross hybrids were conducted during kharif. 8 KVKs viz; Etawah, Saharanpur, Pratapgarh, Behraich, Auraiya, Jaunpur,



Unnao and SRD Nagar organized demonstrations at farmers' fields. The financial support was obtained from Directorate of Maize Research, New Delhi. On an average HQPM variety of maize yielded 44.74 q/ha which was 67.5% higher over local check.

Engaging Farmers, Enriching Knowledge-Agropedia:

"Engaging Farmers, Enriching Knowledge" Agropedia Phase-II project under NAIP was implemented as consortia partner along with IIT, Kanpur; ICRISAT, Hyderabad; UAS, Raichur and IIM, Kolkata. The ZPD-IV worked on extension content mobilization, capacity building, social networking, impact monitoring and extension 3.0 and developing knowledge models on mungbean, lentil and goat. 2635 voice messages were sent to 10332 registered users in Uttar Pradesh and Uttarakhand states. POP (Package of Practices) on 49 crops including vegetables, cereals, pulses, fruits, oilseeds and others was launched and promoted among development functionaries and KVK experts for its application.



Smart Farmers of Zone-IV

1. Mr. Surya Prakash Bahuguna,

village Haripur, distt. Dehradun (Uttarakhand): Developed 'Amulya Amrit for pest & disease management in agri-horticultural system'. This farmer is recommending one liter mixture of Amulya Amrit in 5 liters of water. This mixture is used against foliar pest in paddy, pulses, oilseeds and vegetables. It is very effective in these crops as compared to use of conventional insecticides.



2. Shri Ram Sharan Verma,

village (Jaitpur), distt. Barabanki (U.P.): Evolved 'Banana based farming system'. He perfected the innovation in managing banana plants by cutting the plants at neck height after first harvest and reducing fertilizer application to half against recommended doses. This practice hastens the crop harvest by two and half months and gives about 10 kg per plant higher fruiting and additional gain of about ₹ 1.00 lakh per ha. The farmers earn ₹ 4.40 lakh/ha from banana cultivation.



3. Moh. Ajam Khan, village -

Khera Afgan, distt. Saharanpur (UP): He perfected 'Window Opening Technique in Mango Orchard'. He introduced cutting of few branches in the central part of a plant so that light could come directly to all the branches which enhanced fruiting as well as resulted in drastic reduction in insect pest infestation particularly the mealy bug. This also resulted in reduced cracking of branches.



4. Shri Sethpal Singh, village-

Nandifirozpur, distt. Saharanpur (UP): He is practicing 'Intensive Vegetable Production System'. The vegetable crops viz., Fenugreek - French bean + Lobia - Bitter gourd - Bottle gourd - Spinach were grown in the system which gave a net profit of ₹ 3.53 lakh per ha. The vegetable production system provided higher income and job opportunities to the family members and a role model to other 50 farmers in the neighbouring area farmers.



5. Shri Rajpal Singh, village-

Jagaita, distt. Saharanpur (UP): He developed 'Peach based farming system'. Peach based system viz. peach + cucumber-cucumber-blackgram-spinach provides highest net profit of ₹ 3.43 lakh/ha followed by peach+brinjal+chilli (₹ 3.39 lakh per ha).



6. Shri Dheer Singh, village-

Noonikhera, distt. Muzaffarnagar (UP): He popularized 'Gladiolus as intercrop with Sugarcane'. Gladiolus has been introduced as intercrop on ridges as additional crop without disturbing the population of sugarcane in furrows and has been found profitable. This intercropping is giving net profit of ₹ 3.08 lakh per ha as compared to ₹ 0.93 lakh of sole crop. The average yield of intercropped sugarcane was obtained 1000 q/ha in addition to 150000 spikes, 75000 bulbs and 5q bulblets of gladiolus from 1.0 ha land.



7. **Shri Jagdish Singh**, village-Chakwa Bujurg, distt. Etawah (UP): He is practicing 'Inter Cropping Capsicum with Garlic (3:1)'. He sows garlic on ridge side in last week of September and after 20 days, he transplants capsicum in trench in 3:1 ratio. After incorporation of these technologies, he gets 250 q/ha of capsicum and 50 q/ha of garlic. After sale in market he gets ₹ 3.75 lakh/a of net profit.



8. **Mr. Bhagwat Singh**, village Naiyapur Bujurg, district Gorakhpur (U.P.): 'Farmer's Extension Model of Mushroom Production for Nutritional Security'. He has developed a mushroom production unit on Kachcha house with bamboo. He has also involved youth in employment generation in span production and mushroom production by developing SHGs and FIGs at village level.



Research Projects

S.No.	Title of the Project	Principal Investigator	Associates/Co-PIs
(A) Completed projects			
1	Engaging Farmers, Enriching Knowledge-Agropedia 2.0 (2010-2014)	Dr. A.K. Singh	Dr. Lakhan Singh
2	Technology Demonstrations for Harnessing Pulses Productivity in U.P. (2010-2013)	Dr. A.K. Singh	Dr. Lakhan Singh
3	Maize Demonstrations under ISOPOM Scheme (2010-2013)	Dr. A.K. Singh	Dr. Lakhan Singh
(B) On going projects			
1	National Initiative on Climate Resilient Agriculture (NICRA) in U.P.& Uttarakhand	CRIDA, Hyderabad	Dr. Atar Singh
2	Production and marketing systems of off-season vegetable cultivation and export-led Fruit Production	Dr. A.K. Singh	Dr. Lakhan Singh & Dr.S.K. Dubey
3	Impact of soil rehabilitation & climate resilience practices adopted by farmers	Dr. Atar Singh	Dr. A.K. Singh, Dr. Lakhan Singh & Dr.S.K. Dubey
4	Impact of resource conservation technologies	Dr. Lakhan Singh	Dr. Atar Singh, Dr. S.K. Dubey
5	Impact analysis of crop enterprise diversification and integration (CDI)	Dr. S.K. Dubey	Dr. A.K. Singh, Dr. Lakhan Singh
6	Harnessing modern communication technologies for sharing available knowledge resources with pulse growing farmers of Uttar Pradesh	IIPR, Kanpur	Dr. S. K. Dubey
(C) New initiatives			
1	National Initiative on Fodder Technology Demonstrations	IGFRI, Jhansi	Dr. Atar Singh
2	Productivity enhancement of partially reclaimed sodic soil through resource conservation in Eastern Uttar Pradesh	Head, CSSRI, Regional Station, Lucknow	Dr. Atar Singh, Dr. Lakhan Singh & Dr. S.K. Dubey
3	Technological intervention for enhancing sugarcane productivity in U.P. & Uttarakhand through KVKs	All Heads of IISR, Lucknow	ZPD Scientists & Selected KVKs of ZPD, Zone-IV
4	Popularization of quality planting materials for sub-tropical fruit crops in Uttar Pradesh	Director, CISH, Lucknow	ZPD Scientists & Selected KVKs of ZPD, Zone-IV
5	Livestock based interventions for productivity enhancement in Uttar Pradesh	Director, IVRI, Bareilly	ZPD Scientists & Selected KVKs of ZPD, Zone-IV
6	Technological interventions for enhancing vegetable production in UP and Uttarakhand through KVK linkages	Director, IIVR, Varanasi	ZPD Scientists & Selected KVKs of ZPD, Zone-IV
7	Capacity building of KVK specialists on soil and moisture conservation related practices	Director CSWCR&TI, Dehradun	ZPD Scientists & Selected KVKs of ZPD, Zone-IV
8	Popularization of improved crop varieties in Uttarakhand through KVK linkages	Director VPKAS, Almora	ZPD Scientists & Selected KVKs of ZPD, Zone-IV
9	Technology dissemination through postal agri-extension system	IARI, New Delhi	Dr. S.K. Dubey

ICAR-ZPD -IV Staff

Scientific Staff

- Dr. Atar Singh, Zonal Project Director
- Dr. Lakhan Singh, Principal Scientist (Agril. Extension)
- Dr. Shantanu Kumar Dubey, Sr. Scientist (Agril. Extension)

Technical Staff

- Mr. Yemul Sanjeev N., Chief Technical Officer
- Mr. Pramod Kumar Rai, Sr. Technical Asstt.

Administrative Staff

- Mr. Kanta Prasad, AF & AO
- Mr. Ram Bodh Verma, A.A.O.
- Mr. S.N. Singh, Personal Assistant
- Ms. Kratika Sharma, Assistant
- Mr. Raman Tripathi, U.D.C.
- Mr. Sunil Kumar Singh, L.D.C.
- Mr. Shravan Kumar Yadav, L.D.C.

Supporting Staff

- Mr. Bal Kishun, S.S.S.

For more information please contact:

Zonal Project Director, ICAR-Zonal Project Directorate,
Zone-IV, Kanpur

Ph. No. : 0512-2533560 Fax : 0512-2533560, 2554746

E-mail: zpdicarkanpur@gmail.com Web site: <http://zpdk.org.in>

Compiled & Edited by

Atar Singh, Lakhan Singh, S.K. Dubey & S.N. Yemul

Assistance

Ajit Kumar Srivastava & Shravan Kumar Yadav