

**ICAR-Agricultural Technology Application
Research Institute, Ludhiana-141004**

DARE Report



2017-18

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2.About Krishi Vigyan Kendras

2.1 State wise Status of Krishi Vigyan Kendras

Name of the State	No. of Districts	No. of KVKs under						TOTAL
		SAU	ICAR	DU	SU	NGO	SDA	
Delhi	9	-	-	-	-	1	-	1
Haryana	22	14	2	-	-	2	-	18
Himachal Pradesh	12	13	-	-	-	-	-	13
Jammu & Kashmir	22	19	1	-	-	-	-	20
Punjab	22	21	1	-	-	-	-	22
Total	87	67	4	0	0	3	0	74

ICAR – Indian Council of Agricultural Research, SAU – State Agricultural University, DU- Deemed University, CU- Central University, NGO – Non-Governmental Organization, SDA- State Department of Agriculture

2.2 STAFF POSITION

Total number of sanctioned posts in 70 KVKs of Zone-I is 1120 out of which 903 (80.62%) are in position. Highest percentage of vacancies is in Administrative staff category (24.28%) in Zone-I. State wise summary is given below:

Category	Delhi			Haryana			Himachal Pradesh			Jammu & Kashmir			Punjab			TOTAL		
	S	F	V	S	F	V	S	F	V	S	F	V	S	F	V	S	F	V
PC	1	1	0	18	17	1	12	12	0	19	16	3	20	18	2	70	64	6
SMS	6	4	2	108	73	35	72	57	15	114	96	18	120	100	20	420	330	90
Programme Assistant	3	2	1	54	35	19	36	32	4	57	50	7	60	53	7	210	172	38
Administrative staff	2	2	0	36	28	8	24	22	2	38	22	16	40	32	8	140	106	34
Auxiliary	2	2	0	36	32	4	24	23	1	38	28	10	40	38	2	140	123	17
Supporting	2	2	0	36	22	14	24	21	3	38	29	9	40	34	6	140	108	32
Total	16	13	3	288	207	81	192	167	25	304	241	63	320	275	45	1120	903	217

TECHNOLOGY ASSESSMENT AND REFINEMENT

3.1 TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops by KVKs

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKs
IDM	Basmati	Control of foot rot in basmati	2	1
IDM	Okra	Seed yield, incidence of Yellow vein mosaic virus and economic viability of okra seed crop as influenced by staggered sowing	2	1
IDM	Paddy	Affect of time of fertilizer(urea) application on incidence of false smut in rice	2	1
IDM	Sugarcane	Management of early shoot borer in Sugarcane	3	1
IDM	Basmati	Seed treatment with Trichoderma in Basmati	1	1
IDM	Potato	management of black scurf of potato	1	1
IDM	Basmati	Management of foot rot in basmati (var.- Pusa 1121)	3	1
IDM	Wheat	Performance of Wheat varieties against pressure of yellow rust	3	1
IDM	Paddy	Evaluation of spraying equipments for the management of sheath blight of paddy	3	1
IDM	Potato	Testing efficacy of selected SAR elicitors against late blight of potato	1	1
IDM	Wheat	Assessment on control of loose smut and flag smut of wheat	1	1
IDM	Wheat	Management of yellow rust in wheat	3	1
IDM	Sugarcane	Assessment of different Fungicides against Red Rot disease in Sugarcane (Co238)	1	1
IDM	Cotton	Time of application of cobalt chloride on parawilt management in Bt cotton	10	1
IDM	Mustard	Combining of glyphosate and carbendazim to manage orobanche and stem rot in mustard	10	1
IDM	Wheat	Management of termite in wheat (<i>Triticum aestivum</i>)	25	1
IDM	Summer Squash	Management of Fusarium wilt in summer squash	3	1
IDM	Clusterbean	Effect of different weed management practices on clusterbean yield	3	1
IDM	Kinnow	Management of Pre harvest fruits drop in kinnow orchard	3	1
IDM	Paddy	Management of sheath blight in paddy	4	1
IDM	Paddy	Management of bakanae disease in paddy	1	1
IDM	cotton	Management of para wilt in cotton	5	1
IDM	Paddy	Management of Sheath blight in Paddy	5	1
IDM	Cotton	Management of Parawilt in Cotton	10	1
IDM	Guava	Management of wilt in Guava	5	1
IDM	Paddy	Performance evaluation of Zinc Sulphat for controlling Khaira disease in paddy in Delhi condition	3	1
IDM	Tomato	Performance evaluation of Trichoderma viride as soil, seed and seedling treatment against damping off disease control in tomato in Delhi condition	3	1
IDM	Colocasia	Management of colocasia blight in colocasia	5	1
IDM	Oyster mushroom	Evaluation of combinations of Cereal and Legume substrates for oyster mushroom cultivation	10	1
IDM	Cucumber	Scientific management of Powdery mildew in Cucumber grown under protected conditions	3	1
IDM	Pea	Management of Insect and diseases in Pea	1	1
IDM	Paddy	Management of false smut	10	1
IDM	Potato	Management of late blight of potato	1	1
IDM	Apple	Control of apple canker	10	1
IDM	Apple	Collar management in apple	2	1
IDM	Tomato	Eco friendly approaches for the management of damping off in tomato	5	1
IDM	Capsicum	Integrated management of foliar diseases grown under protected conditions	5	1
IDM	Tomato	Management of damping off in tomato	3	1
IDM	Gram	Low productivity due to attack of Gram Pod Borer	5	1
IDM	Rajmash	Management of Anthracnose in Rajmash	5	1
IDM	Cucumber	Management of Powdery mildew in cucumber	5	1
IDM	Ginger	Management of ginger rot	4	1
IDM	Chilli	Management of chilli wilt	4	1
IDM	Beans	Assessof wilt in Beans (failed due to drought)	3	1

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKS
IDM	Pear	Assessment of efficacy of chemicals in controlling pear diseases	3	1
IDM	Apple	Organic management of apple cankers	3	1
IDM	Apple	Management of Collar and Root rot through Bio-control agents	5	1
IDM	Chilli	Integrated Management of Chilli wilt	3	1
IDM	Apple	Management of Canker in Apple.	3	1
IDM	Paddy	Management of paddy blast	3	1
IDM	Almond	Management of short hole disease of almond	3	1
IDM	Apple	Management of Russetting in apple	3	1
IDM	Apple	Management of canker in apple	3	1
IDM	Apple	Management of russetting in apple	3	1
IDM	Apple	Assessment of SKUAST-K recommended spray schedule	3	1
IDM	Apple	Management Of Root Rot In Apple	5	1
IDM	Apple	Management Of Canker In Apple	5	1
IDM	Apple	Management of Canker in apple orchards with Scarification + plastering with cow dung paste (cow dung, clay soil and linseed oil) 1:1:1 ratio .	3	1
IDM	Grapes	Integrated management of Anthracnose (<i>Elsinoe ampilina</i>) in grapes <i>Vitis vinifera</i>	3	1
IDM	Tomato	Integrated management of Septoria leaf spot (<i>Septoria lycopersici</i> in tomato)	3	1
ICM	Pea	To economize the seed rate of early sown Pea	3	1
ICM	Onion	Different techniques of cultivation of kharif onion	3	1
ICM	Cotton	Use of yellow traps	10	1
ICM	Guava	Effect of nodal pruning on fruit yield and quality in guava	3	1
ICM	Flower	Effect of different sowing techniques on germination, growth and yield of marigold flower production	2	1
ICM	wheat	Evaluation of seed rate of wheat crop by using different seed rate of two varieties (PBW 725 and PBW 677)	8	1
ICM	Guava & Kinnow	Effect of different mulching systems on yield and weed growth in bearing orchards.	1	1
ICM	Cauliflower	Effect of planting method on mortality, curd weight and yield in early cauliflower	3	1
ICM	Wheat	To counteract terminal heat effect on wheat	1	1
ICM	Guava	Effect of crop regulation on yield of guava	2	1
ICM	Guava	Effect of pruning on yield of guava	2	1
ICM	Vegetables	Realizing higher profit through intercropping of cucumber	3	1
ICM	Vegetables	Realizing better profit margin through low tunnel technology in Chilli (Punjab Sandhuri)	3	1
ICM	soybean	Studies on the effect of different planting system on productivity of Soybean	1	1
ICM	Groundnut	Studies on the effect of planting system on productivity of Groundnut	1	1
ICM	Pea	Effect of different sowing time on productivity of early sown Pea crop	1	1
ICM	Pea	Studies on economics analysis of early and main season produce of pea	1	1
ICM	Wheat	Intercropping oat fodder in bed sown wheat	1	1
ICM	Potato	Planting geometry in potato	1	1
ICM	Garlic	Effect of planting method and spacing on yield and quality in garlic	5	1
ICM	Castor	Intercropping in castor to mitigate frost risk and increase farm income	10	1
ICM	Eucalypts	Clonal Eucalypts vs Seed raised Eucalypts	4	1
ICM	Marigold	Response of different sowing times of marigold (P. Narangi) in winter season	5	1
ICM	Wheat	Performance of different sowing method of wheat under moong-wheat rotation system	3	1
ICM	Ber	Rejuvenation of ber	2	1
ICM	Kinnow	Fruit drop in kinnow	2	1
ICM	Til	Production Technology of Til crop	50	1
ICM	Summermoong	Summer moong Production Technology	100	1
ICM	Paddy	Evaluation of different transplanting dates on yield components of	2	1

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKS
		scented paddy (Cv. HPR 2612) after the harvest of tomato in Balh valley		
ICM	Paddy	Evaluation of different transplanting dates on yield components of scented paddy (Cv. Pusa 1509) after the harvest of tomato in Balh valley	2	1
ICM	Mango	Management of powdery mildew in mango	5	1
ICM	Plum	Weed Management in plum	5	1
ICM	Carnation	Application of GA3 in carnation	3	1
ICM	Rose	Canopy and architecture management in rose	6	1
ICM	Bottle gourd	Assessment of chemical spray on fruit set in Bottle guard	3	1
ICM	Paddy	Suitability of SRI technology in farmers field	3	1
ICM	Apple	Effect of Honey Bees in Yield of Apple	1	1
ICM	Apple	Management of alternate bearing through pruning techniques	3	1
ICM	Apple	management of apple	3	1
ICM	Apple	Effect of different regimes of pruning intensity in Apple.	3	1
ICM	Marigold	Assessment of Pinching on growth and yield of Marigold	3	1
ICM	Strawberry	Introduction and evaluation of strawberry	5	1
ICM	Almond & Apple	Mgmt. of porcupine in Almond and apple orchards	3	1
ICM	Paddy	Modified system of rice intensification for higher productivity	2	1
IFS	Rice wheat crop rotation+livestock	Effect of various integrated farming system over traditional agriculture system at farmer field	2	1
IFS	wheat	Comparison of different variety of wheat with desi variety under organic cultivation at integrated farming system	1	1
IFS	Agro forestry	Effect of spacing on boundary planted eucalyptus	7	1
IFS	Agro forestry	Performance of crops with boundary plantation	3	1
IFS	Mushroom	Evaluation of Paddy straw	3	1
IFS	Poplar+wheat	Performance of wheat under boundary plantation of poplar	1	1
IFS	Moringa +Honey bee	Doubling farmers income	5	1
IFS	Eucalyptus	Effect of spacing on boundary plantation of eucalyptus	1	1
IFS	Vegetables	Evaluation of vegetable based cropping sequence for higher returns	1	1
IFS	Forage/ grasses	Evaluation of forage/ grasses for fodder security	30	1
INM	Potato	Efficient Phosphorus management in Potato	3	1
INM	Basmati	Optimum use of Urea in PUSA 1121	3	1
INM	Rice	Evaluation of foliar application of potassium nitrate on yield of basmati rice	10	1
INM	Wheat	Evaluation of foliar application of water soluble fertilizers on yield of wheat	15	1
INM	Cotton	Evaluation of prevention from colour bleeding of cotton fabric used for turbans	5	1
INM	Mustard	Effect of Sulphur application on productivity of gobhi sarson (Var:GSC-7)	3	1
INM	Paddy	Enhancing rice productivity through judicious use of urea using LCC	3	1
INM	wheat	Enhancing Nitrogen use efficiency in wheat crop	4	1
INM	Potato	Selection of efficient phosphatic fertilizer for Potato crop	3	1
INM	Paddy	Effect of various irrigation management methods on paddy PR 114	3	1
INM	Litchi	Effect of postharvest application of urea on fruiting and yield of litchi cv. Dehradun	3	1
INM	Gram	Foliar application of urea at flower initiation stage on yield of gram	3	1
INM	Gobhi Sarson	Effect of thiourea application on yield of Gobhi Sarson	3	1
INM	Onion	Effect of potash and sulphur on yield and quality parameters in onion with different planting methods	1	1
INM	Vegetables	Protection of vegetable crops by different means	1	1
INM	Moong	Effect of biofertiliser on Moong SML 818	1	1
INM	Basmati	Effect of PSB, Azotobactor and BGA on basmati	1	1
INM	Wheat	Amelioration of Mn Deficiency in Wheat	5	1
INM	Cotton	Nitrogen management in cotton	3	1
INM	Cotton	Effect of potassium application in Cotton	4	1
INM	Rice	Effect of zinc application in paddy	3	1
INM	Wheat	Optimum use of urea in Happy seeder	1	1

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKS
INM	Paddy	Scheduling of Urea in diff. paddy varieties	1	1
INM	Basmati	Nitrogen management in basmati (Variety Pusa Basmati 1121)	3	1
INM	Wheat	Management of manganese deficiency in wheat	3	1
INM	Pear	Enhancement of fruit quality and production in pear by proper fertilizer use	8	1
INM	maize	Evalauate performance of different compost in maize	1	1
INM	Potato	Evaluation of plant geometry for enhancing tuber yield in potato	1	1
INM	Wheat	To counteract terminal heat effect on wheat	5	1
INM	Chilli	Split application of fertilizer (N) to chilli crop	1	1
INM	Onion	Application of constortium and reduced application of N	1	1
INM	Basmati	Nitrogen management in basmati (variety Pusa Basmati 1121)	3	1
INM	Wheat	Balanced fertiliser application in wheat	1	1
INM	Cotton	Effect of potassium nitrate on cotton	5	1
INM	Wheat	Effect of zinc and iron in wheat	5	1
INM	Wheat	Integrated nutrient management in wheat	5	1
INM	Barley	Performance of new released variety of barley BH 946 against BH 393	10	1
INM	Cotton	Management of whitefly in cotton	3	1
INM	Wheat	Application of Bio- Fertilizer in wheat (<i>Triticum aestivam</i>)	10	1
INM	Paddy	Role of balance fertilization in paddy (<i>Oryza sativa</i>) yield.	10	1
INM	Wheat	Integrated nutrient management in wheat	3	1
INM	Sorghum	Response of Foliar application of Ferrous sulphate on green fodder yield of sorghum	10	1
INM	Cluster bean	Response of potash on yield of cluster bean	5	1
INM	Bajra	Response of nutrient management on yield of bajra	5	1
INM	Wheat	Effect of INM on Soil Test basis on yield and economics of wheat	5	1
INM	Mustard	Response of potash on soil test basis on yield of mustard	5	1
INM	Baby corn	Integrated nutrient management in baby corn.	6	1
INM	Cauliflower	Effect of Boron on yield and quality of cauliflower	6	1
INM	Tomato	Influence of foliar application of Boron on yield of tomato	6	1
INM	Paddy	Soil test based fertilizer application in paddy irrigated with Sodic water	5	1
INM	Cotton	Fertilizer application in Cotton on Soil Test basis	5	1
INM	Cotton	Management of Mg in Cotton	10	1
INM	Groundnut	Balanced fertilizer application in Groundnut	10	1
INM	Tomato	Performance evaluation of Naphthalene Acetic Acid & Calcium Chloride application on nutrient uptake, growth & yield of tomato in Delhi condition	3	1
INM	Maize	Nutrient management in maize on soil test basis	3	1
INM	Black gram	Integrated Nutrient management in Blackgram	3	1
INM	Apple	Management of multi nutrients deficiency	2	1
INM	Apple	Evaluation of Calcium Nitrate and Urea as a substitute of CAN in apple	2	1
INM	Cauliflower	Boron fertilization to overcome browning of curds	4	1
INM	Garlic	Integrated nutrient management for management of hollow bulbs	4	1
INM	Potato	Integrated nutrient management in potato	1	1
INM	Pea	Integrated nutrient management through bi-fertilizers on garden pea	1	1
INM	Apple	Pre and post spray of urea and boric acid in Apple	1	1
INM	Barley	Balanced nutrient management in barley	1	1
INM	Paddy	Impact of Zinc Sulphate supplementation in yield and quality parameters in r paddy crop	5	1
INM	Wheat	Soil test based fertilizers application for optimized yield in wheat	5	1
INM	Mango	Effect of micro nutrients spray on growth yield and quality of mango cultivar Dashehari	4	1
INM	Apple	Foliar fertilization of apple fruit crop	2	1
INM	Apple	Potassium application for improved fruit yield and quality in apple (soil test based)	5	1
INM	Apple	To assess the effect of different nitrogenous fertilizers on fruit yield and quality in apple	5	1
INM	Apple	Management of boron deficiency in apple	5	1
INM	Apple	Effect of plant growth promoting rhizobacteria (PGPR) on growth,	5	1

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKs
		yield and fruit quality of apple		
INM	Tomato	Testing of biofertilizers in tomato	5	1
INM	Apple	Integrated Nutrient Management in Apple (12 years of age)	5	1
INM	Plum	Integrated Nutrient management in Plum (9 years of age)	5	1
INM	Maize	Effect of INM in maize crop under rainfed condition	3	1
INM	Pulses	Fertilizer substitution through Rhizobium and VAM on Green gram (Shalimar moomg -1) yield	3	1
INM	Oilseeds	INM in Brown sarson (Shalimar sarson-1) (Results awaited)	3	1
INM	Oats	Balanced application of fertilizers on Oats (Results awaited)	3	1
INM	Tomato	Integrated nutrient management for vegetable production	4	1
INM	Apple	Soil test based nutrient management in apple	3	1
INM	Apple	Effect of Organic manures (Vermicompost) and bio fertilizers (PSB, Azotobacter) in addition to chemical fertilizers on quality of apple and soil health.	2	1
INM	Apple	Russetting in apple	3	1
INM	Apple	INM in apple for quality	3	1
INM	Apple	Improving fruit set in apple	3	1
INM	Apple	Soil and foliar application of potassium for color improvement	3	1
INM	Apple	Evaluation of Foliar application of different Boron concentrations and their effect on fruit set	3	1
INM	Paddy	Fertilizer scheduling in paddy through STFR (Soil Testing and Fertilizer Recommendation) meter.	3	1
INM	Apple	Scheduling of nutrient management of fruit bearing apple trees (16 & above) on the basis of soil and leaf test.	3	1
INM	Apple	Fertilizer Application on soil Test basis	4	1
INM	Paddy	Response of Boron nutrition on growth & yield of rice.	3	1
INM	Grapes (Sahibi)	Assessment of foliar nutrient sprays for management of hen & chicken disorder of grapes	3	1
INM	Apple	Improvement of fruitset with PBR and nutrient sprays in apple (Red Delicious)	3	1
INM	Apple	Potassium dynamics in apple crop ecosystem of Kashmir	2	1
INM	Apple	Soil and leaf test based fertilizer recommendation in apple	3	1
IPM	Rice	Response of Flubendiamide and Chlorantraniliprole against leaf folder	15	1
IPM	Wheat	Response of Imidacloprid and Quinalphos against wheat aphid	15	1
IPM	Cotton	Management of sucking pests	5	1
IPM	Wheat	Evaluation of incidence of pink stem borer in wheat with different sowing methods	2	1
IPM	Berseem	Management of Black ants in berseem	1	1
IPM	Cucurbits	Management of Red Pumpkin in Beetle of cucurbits in kitchen gardening	3	1
IPM	Kinnow	Control of fruit drop in Kinnow	3	1
IPM	Guava	Integrated management of guava fruit fly (<i>Bactocera dorsalis</i>)	3	1
IPM	Paddy	Management of plant hopper	1	1
IPM	Maize	Bio intensive management of Maize Borer	3	1
IPM	Bottle gourd	Assessment of bottle gourd varieties for yield and related traits	20	1
IPM	Wheat	Control of aphid population on wheat	1	1
IPM	Kharif maize	Use of tricho-cards for the control of maize borer	1	1
IPM	Tomato	Management of tomato fruit borer in tomato	1	1
IPM	Paddy	Management of planthoppers in paddy	1	1
IPM	Spring maize	Management of shootfly in spring maize	1	1
IPM	Rice	Assessment of different insecticides against leaf folder attack in rice crop (PB-1121)	1	1
IPM	Cucumber	Management of fruit fly by pheromone traps in cucumber	1	1
IPM	Guava	Management of fruit fly in guava using pheromone traps	1	1
IPM	Cotton	Management of whitefly in cotton	1	1
IPM	Cauliflower	Management of Diamond back moth in cauliflower	3	1
IPM	Summer Squash	Management of Fusarium wilt in summer squash	3	1
IPM	Bottle gourd	Management of fruit fly by pheromone traps in bottle gourd	5	1
IPM	Guava	Management of fruit fly by pheromone traps in Guava.	5	1
IPM	Ber	Management of fruit fly by pheromone traps in ber.	5	1
IPM	Paddy	Effect of mulching and flooding against root knot nematode	5	1

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKs
		(Meloidygyne graminicola) in paddy nursery.		
IPM	Cotton	Management of white fly	5	1
IPM	Chickpea	Evaluation of insecticides for management of pod borer	5	1
IPM	Paddy	Management of Plant Hopper in Paddy	5	1
IPM	Cotton	Management of Whitefly and other Sucking pests in Cotton	5	1
IPM	Guava	Management of Fruitfly in Guava	5	1
IPM	wheat	Performance evaluation of Choloropyriphos & Imidacloroprid as seed treatment against termite control in wheat in Delhi condition	3	1
IPM	Capsicum	Management of powdery in capsicum under protected cultivation.	3	1
IPM	Tomato	Management of Phytophthora blight in tomato	3	1
IPM	Tomato	Assessment of insecticides against brinjal shoot and fruit borer in brinjal	3	1
IPM	Okra	Assessment of insecticides against okra shoot and fruit borer in okra	3	1
IPM	Capsicum	Assessment of miticides against mites in capsicum under protected conditions	3	1
IPM	Cauliflower	Integrated management of insect-pest and diseases in Cauliflower	1	1
IPM	Paddy	Integrated management of stem borer and leaf folder in Paddy	3	1
IPM	Black Gram	Integrated Pest management in Black Gram	10	1
IPM	Brinjal	Integrated management of shoot and fruit borer of brinjal	1	1
IPM	Apple	Use of Sticky bands in apple to manage WAA	2	1
IPM	Apple	Management of Marssonina coronaria in apple to reduce yield losses	5	1
IPM	Apple	Management of apple thrips	5	1
IPM	Tomato	Management of early and late blight in tomato to reduce yield losses	5	1
IPM	Pea	Management of pea leaf miner	5	1
IPM	Chickpea	Efficacy of different chemicals in management of gram pod borer.	5	1
IPM	Knol Khol	Management of fruit fly in bottle gourd	4	1
IPM	Paddy	Management of stem borer in paddy	3	1
IPM	Apple	Management of borer pests in apple	3	1
IPM	Apple	Management of insect & pest mite complex in apple orchards	3	1
IPM	Apple	Integrated pest management of saffron thrips	3	1
IWM	Peas	Weed control in Peas	2	1
IWM	Paddy	Comparative performance of paddy var PR114 under various chemical and manual weed management practices	4	1
IWM	Gobhi Sarson	Control of grassy weeds in Gobhi Sarson	3	1
IWM	Sugarcane	Weed management in Sugarcane crop	3	1
IWM	Peas	Weed management in Peas	3	1
IWM	Gobhi Sarson	Control of grassy weeds in Gobhi sarson	3	1
IWM	Blackgram	Testing of Imazethapyr as a post-emergence herbicide in Blackgarm	1	1
IWM	Broad spectrum weedicide on wheat	Shagun 21-11 against Atlantis	1	1
IWM	Narrow leaf weed control in wheat	Kokoro against Topik	1	1
IWM	Broadleaf weed control in wheat	Makoto against Algrip	1	1
IWM	wheat	Testing of Bunker 30 EC (new brand of pendimethalin) for weed control (Phalaris minor) in wheat during Rabi 2015-16	1	1
IWM	Wheat	Testing of new post-emergence herbicide Broadway 45 WG (carfentrazone 20% + sulfosulfuron 25%) for broad spectrum control of weeds in wheat during Rabi 2015-16	1	1
IWM	Wheat	Testing of new post-emergence herbicide Shagun for broad spectrum controlof weeds in wheat during Rabi 2015-16	1	1
IWM	Fennel	Evaluation of pre emergence hyrbicide for control of weeds in fennel	1	1
IWM	Coriander	Evaluation of pre emergence hyrbicide for control of weeds in Coriander	1	1
IWM	Fenugreak	Evaluation of pre emergence hyrbicide for control of weeds in Fenugreak	1	1
IWM	Wheat	Weed control in wheat at different field	3	1

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKS
IWM	Turmeric	Effect of mulching on weed germination and yield in turmeric	2	1
IWM	Wheat	Pre emergence application of Pendimethalin for Weed Management in Wheat	20	1
IWM	Clusterbean	Effect of different techniques on weed management in clusterbean	5	1
IWM	Wheat	Integrated weed management in Wheat	3	1
IWM	Clusterbean	Evaluation of weed management practices in clusterbean	3	1
IWM	Wheat	Weed control in wheat	4	1
IWM	Bajra	Effect of Mechanical control of weeds on the yield of bajra	3	1
IWM	Wheat	Management of P. minor in wheat	5	1
IWM	Onion	Performance evaluation of oxyfluroben 23.5% and quizalofop ethyle 5% EC weedicide for weed control in onion in Delhi condition	3	1
IWM	Blackgram	Weed management in Blackgram	7	1
IWM	Paddy	Weed management in direct seeded upland Rice	2	1
IWM	Paddy	Weed management in direct seeded upland paddy	2	1
IWM	Onion	Integrated weed management in onion crop	5	1
IWM	Maize	Management of IPOMEA weed in Maize by herbicide.	3	1
IWM	Mash	Weed Management in Mash	3	1
IWM	Marigold	Weed management in Marigold	5	1
IWM	Wheat	Weed management in wheat crop under rainfed conditions	3	1
IWM	Blackgram	Assessment of herbicides on weed control efficiency and yield of blackgram	3	1
IWM	Maize	Weed Management in maize	4	1
IWM	Mash	Integrated weed management in mash	4	1
DR	Revolving stool	Use of revolving stool	3	1
DR	Cotton	Garment for spray of Insecticide and pesticide (Synthetic & Cotton Apron)	1	1
DR	Cotton	Introduction of Protective Garments	1	1
DR	Cotton	Introduction of Cot bag	1	1
DR	Wheat	Assessment of capron to protect the worker during harvesting, threshing and winnowing	2	1
FM	Wheat	Comparative evaluation of various methods of sowing in wheat	3	1
FM	Paddy	Different sowing methods of paddy	3	1
FM	Carrot	Comparative performance of different methods of carrot sowing	1	1
FM	Carrot	Comparative performance of different methods of carrot sowing	1	1
FM	Onion	Mechanical sowing of Onion	2	1
FM	Sugarcane	Comparisons different weeding methods of Sugarcane (Co-238)	1	1
FM	Paddy	Comparative evaluation of different puddling techniques	3	1
FM	Wheat	Effect of different sowing methods on wheat productivity	4	1
FM	Wheat	Comparative evaluation of different field preparation and sowing methods of wheat	4	1
FM	Wheat	Economic analysis of tractor drawn zero seed cum fertilizer drill for wheat sowing	2	1
FM	Potable grass cutter	Effect of motor operated grass cutter for alfalfa grass	4	1
FM	Potable power tiller	Effect of motor operated tiller	5	1
RCT	Paddy	Cost and resource effective method of paddy cultivation	3	1
RCT	wheat	Comparative performance of different sowing methods of wheat	4	1
RCT	Wheat	Comparative performance of sowing of wheat (HD 3086) with different methods	3	1
RCT	Vegetables	Effect of mulching in vegetable crops	5	1
RCT	Wheat	Evaluation of different sowing methods on wheat yield	5	1
RCT	Wheat	Optimum use of seed rate in Happy seeder	1	1
RCT	Wheat	Comparative performance of wheat crop by sowing with happy seeder, roto till drill and conventional drill	3	1
RCT	Wheat	Sowing of wheat in combine harvested field with mulching technology	1	1
RCT	Wheat	Sowing of wheat in combine harvested field with incorporation of paddy straw	1	1
RCT	Maize	Effect of fish pond water on the production of maize crop	1	1
RCT	Sugar cane	Intercropping in autumn planted sugar cane	1	1
RCT	Wheat	Comparative performance of wheat crop sown with different methods under straw management conditions	1	1

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKS
RCT	Potato	Incorporation of paddy straw in fields	3	1
RCT	Wheat	Comparative evaluation of different Planting Techniques in Paddy	5	1
RCT	Wheat	Comparative evaluation of Different wheat sowing techniques	5	1
RCT	Wheat	Performance of wheat variety HD 3086 under flood vs. sprinkler irrigation under undulated conditions	5	1
RCT	Chickpea	Moisture conservation in chickpea through hydrogel	5	1
RCT	Wheat	Conventional and bed planting in wheat for water saving	2	1
RCT	Wheat	Evaluation of method of sowing in ZT wheat	10	1
RCT	Paddy	Method of plantation in rice	4	1
RCT	Wheat	To assess the effect of sowing due to Bed planting in wheat	3	1
RCT	Wheat	Evaluation of different methods of sowing and yield thereof	3	1
RCT	Wheat	Effect of different sowing methods in wheat crop	5	1
RCT	Coriander Spinach, green peas	Assessment of suitable filler crops under protected condition	3	1
RCT	Apple	Mulching practices to check fruit drop and improve fruit size and yield in apple	5	1
RCT	E.M technology	Slaughter house waste decomposition through E.M technology	4	1
ST	Moong	Safe and effective storage of pulses	3	1
ST	Pulses	Safe and effective storage of pulses	30	1
ST	Vegetables	Preservation Of Vegetables using Low Cost energy saving storage techniques.	3	1
VA	Pickle	Different techniques of pickle making in Turmeric	3	1
VA	Garlic	Preparation of Garlic Pickle using Fruit vinegar	20	1
VA	Vegetables	Popularization of green leafy multigrain atta roti among women	1	1
VA	Vegetables	Assessment of adoption, consumption and health benefits of soy milk produced at domestic scale	1	1
VA	Vegetables	Assessment of adoption, consumption and health benefits of soy flour	1	1
VA	Garlic	Evaluation of methods of preparation of garlic pickle	3	1
VA	Soybean	Varietal evaluation of soybean for tofu making	3	1
VA	Sugarcane	Use of clarificants in jiggery making	3	1
VA	Tuemic	Evaluation of Methods of Preparing Turmeric Pickle	3	1
VA	Pickle	Evaluation of methods of preparation of garlic pickle	4	1
VA	Pulse	Assessment of value added products of pulses & cereals	1	1
VA	Mushroom	To assess the acceptability of Mushroom products	1	1
VA	Bajra	Increasing shelf life of pearl millet flour.	1	1
VA	Bajra	To increase the shelf life of bajra	10	1
VA	Cotton	To reduce the drudgery of farm women by casing cotton picking bag	6	1
VA	Bajra	Acceptability of pearl millet products	5	1
VA	Fruits & vegetable	Effectiveness of media combination on processing of fruits & vegetables	5	1
VA	Bajra	Value addition in Pearl millet products	1	1
VA	Bajra	Performance evaluation & acceptability of bajra biscuits in different ratio in Delhi condition	3	1
VA	Mango	Quality enhancement of local mango powder	7	1
VA	Ginger	Quality improvement of dried ginger	7	1
VA	Colocasia	Nutritional supplementation of Colocasia leaf rolls (Patrodas) with different protein sources	5	1
VA	Colocasia	Protein supplementation	5	1
VA	Oyster mushroom	Processing Technique	3	1
VA	Soybean	Impact of coagulants on quality and quantity of soy paneer	5	1
VA	Soybean	Nutritional and quality improvement of wheat flour supplemented with soy flour and finger millet	3	1
VA	Soybean	Effect of different coagulants on the quality and production of soyabean paneer	5	1
VA	Galgal	Assessment of various treatments on the shelf life of hill lemon (galgal) Juice	5	1
VA	Protein rich weaning food	Assessment of low cost protein rich weaning food impact on children health	5	1
VA	Tomato	Value addition of surplus produce of tomato	1	1
VE	Gram	Varietal Evaluation of Gram	3	1

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKS
VE	Bittergourd	Different Planting methods of Bittergourd	2	1
VE	Wheat	Performance of different varieties of wheat in Ferozepur district	2	1
VE	Wheat	Comparison of recommended and non-recommended varieties of wheat in Ferozepur district	1	1
VE	Tomato	Evaluation of indeterminate tomato varieties (Punjab Sartaj, Punjab Gaurav, Himsekhar and PAU OT 211)	1	1
VE	Tomato	Evaluation of tomato lines TLBNRH 1514, TLBNRH 2114, TLBNRH 1925, TH-1, TLBNRH 1214, TLBNRH 925, TLBNRH 1014 and Shivaji	1	1
VE	Capsicum	Evaluation of Indira, PAUSM-2, PAUSM-3 and PAUSM-4	1	1
VE	Cucumber	Evaluation PAU beejrehat khira and multistar varieties	2	1
VE	Bittergourd	Evaluation of PAUBG-1, PAUBG-2, PAUBG-3, PAUBG-4, PAUBG-5, PAUBG-6 and Punjab-14	1	1
VE	Potato	Evaluation of potato varieties PAU No.1, PAU No.2, PAU No.3, PAU No.4 and PAU No.5	1	1
VE	Carrot	Evaluation of carrot varieties	8	1
VE	Barseem	Varietal evaluation of Berseem	1	1
VE	Oats	Varietal evaluation of Oats	1	1
VE	Wheat	Varietal evaluation of Wheat	1	1
VE	Wheat	Varietal evaluation of Wheat	1	1
VE	Rajmash	Varietal evaluation on Rajmash	1	1
VE	Paddy	Varietal evaluation of Paddy	1	1
VE	Basmati	Varietal evaluation of Basmati	1	1
VE	Basmati	Varietal evaluation of Basmati	1	1
VE	Potato	Effect of incorporation of paddy straw in soil on the	1	1
VE	Tomato	Management of tomato	1	1
VE	Gobhi sarson	Assessment on new Canola Gobhi Sarson hybrid PGSH 52, Check variety Hyola PAC 401	1	1
VE	Groundnut	Multilocation trial on groundnut genotypes	1	1
VE	peas	Evaluation of performance of new varieties of pigeon pea	1	1
VE	peas	Evaluation of New varieties of pigeon pea	1	1
VE	Onion	Assessment on kharif onion varieties	1	1
VE	Brinjal	Assessment on Brinjal varieties	1	1
VE	Tomato	Multilocation trial on indeterminate tomato varieties	1	1
VE	Onion	Multilocation trial on onion varieties	1	1
VE	Bottle gourd	Assessment on Bottle gourd varieties	1	1
VE	wheat	Assessment on wheat varieties	1	1
VE	Bell pepper	Multilocational trial on bell pepper varieties	1	1
VE	Potato	Multilocational trial on Potato varieties	1	1
VE	Barseem	Evaluation of new varieties of barseem	1	1
VE	Oats	Evaluation of new varieties of oats	1	1
VE	Wheat	Evaluation of new varieties of wheat	1	1
VE	Wheat	Evaluation of new varieties of wheat	1	1
VE	Tomato	Assessment trial on tomato varieties	1	1
VE	Cucumber	Assessment on Parthenocarpic Cucumber variety in polynet house	1	1
VE	Summer squash	Multilocation trial on Summer squash	1	1
VE	Tinda	Assessment on Tinda varieties	1	1
VE	Rice	Yield assessment of rice variety HKR-128 in transplanting method of cultivation	1	1
VE	Wheat	Yield assessment of Wheat variety (P.B.677) under irrigated condition of Ambala	1	1
VE	Potato	Assessment of Potato variety Kufri Khyati in Ambala	1	1
VE	Rice	Comparative performance of different varieties of evolved basmati rice	10	1
VE	Wheat	Comparative performance of different varieties of wheat	10	1
VE	Wheat	Varietal evaluation of wheat under saline condition	2	1
VE	Wheat	Varietal Performance of wheat (<i>Triticum aestivum</i>)	60	1
VE	Moong	Popularization of high yielding varieties Moong (<i>Vigna radiata</i>)	30	1
VE	Raya	Popularization of high yielding varieties Raya (<i>Brassica juncea</i>)	30	1
VE	Paddy	Varietal Performance of paddy (<i>Oryza sativa</i>)	5	1
VE	Wheat	Varietal Evaluation of newly released varieties	20	1
VE	Raya	Performance of Raya variety RH 0749	50	1

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKs
VE	Wheat	Vaietal evaluation of wheat under salt affected soils	5	1
VE	Wheat	Varietal evaluation against yellow rust	4	1
VE	Wheat	Evaluation of high yielding Wheat varieties	18	1
VE	Paddy	Yield Assessment of different varieties of Paddy	9	1
VE	Paddy	Yield Assessment of Short duration Paddy varieties	10	1
VE	Paddy	Assessment on Paddy hybrids at farmers field	1	1
VE	Paddy	Assessment on Paddy hybrids at farmers field	1	1
VE	Pearlmillet	Relative performance of pearlmillet hybrids under rainfed conditions.	3	1
VE	Mustard	Relative performance of mustard varieties under rainfed conditions	5	1
VE	Mustard	Relative performance of mustard varieties under irrigated conditions	5	1
VE	Wheat	Relative performance of wheat varieties	5	1
VE	cowpea	Testing of different varieties of cowpea in summer season	3	1
VE	Onion	Evaluation of different hybrids of onion in rabi season	3	1
VE	Wheat	Varietal evaluation of Wheat crop	6	1
VE	Mustard	Varietal evaluation of Mustard crop	5	1
VE	Onion	Testing of different varieties of onion in rabi season	3	1
VE	Okra	Varietal evaluation of Okra	3	1
VE	Berseem	<i>Varietal evaluation on Berseem</i>	3	1
VE	Wheat	<i>Varietal evaluation on Wheat</i>	1	1
VE	Gram	<i>Varietal evaluation on Gram</i>	2	1
VE	Moong	<i>Varietal evaluation on moong</i>	1	1
VE	Wheat	Vaietal evaluation of wheat under salt affected soils	5	1
VE	Onion	Testing of onion varieties	6	1
VE	Cucumber	Performance of parthenocarpic cucumber hybrids under protected cultivation	4	1
VE	Tomato	Evaluation of different varieties under protected Condition	5	1
VE	Capsicum	Evaluation of different varieties under protected Condition	5	1
VE	Paddy	Evaluation of timely sown varieties of upland paddy	3	1
VE	wheat	Evaluation of timely sown varieties of wheat.	3	1
VE	Brinjal	Assessment/ verification of bacterial wilt disease resistant varieties of brinjal	4	1
VE	Okra	Assessment of okra varieties during monsoon season in the mid hills of district Kangra	3	1
VE	Pea	To study the performance of different main season varieties of garden peas	5	1
VE	Wheat	Evaluation of yellow rust resistant and high yielding wheat varieties	5	1
VE	Potato	Evaluation of potato varieties for late blight	1	1
VE	Cucumber	Evaluation of cucumber hybrids under protected condition	3	1
VE	Carrot	Evaluation of high yielding carrot cultivars under mid hill of Mandi district	5	1
VE	Paddy	Evaluation of Promising low land cultivars of paddy under irrigated condition in mandi district	2	1
VE	Paddy	Evaluation of promising upland cultivars of paddy under direct seeded conditions in Mandi district	2	1
VE	Tomato	Evaluation of varieties in polyhouse	4	1
VE	Onion	Evaluation of onion variety for yield potential (Palam Lohit)	4	1
VE	Cauliflower	Assessment of suitable late sown variety of cauliflower	1	1
VE	Tomato	Assessment of high yielding hybrids of tomato	1	1
VE	Moong	Introduction of improved variety of moong	1	1
VE	Paddy	Assessment of direct seeded promising paddy varieties .	1	1
VE	Paddy	Assessment of paddy variety under transplanted condition	1	1
VE	Wheat	Varietal evaluation of promise late sown wheat varieties	1	1
VE	Pea	Assessment of production potential of pea cultivars under varied agro-climates	4	1
VE	Strawberry	Assessment of strawberry varieties in mid hills of Chamba district	3	1
VE	Willow	Assessment of selected clones of willow (Salix spp)	4	1
VE	Pea	Line sowing and varietal evaluation	4	1
VE	Peach	Performance study of newly introduced peaches	5	1
VE	Nectarine	Performance study of newly introduced nectarines	5	1

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of KVKs
VE	Broccoli	Evaluation of broccoli varieties	3	1
VE	Paddy	Assessment of improved varieties for yield potential	5	1
VE	Harad	Assessment of superior clones of Harad with respect to survival and establishment	5	1
VE	Wheat	Assessment of yield potential of wheat varieties under timely sown irrigated condition of Jammu	5	1
VE	Wheat	Performance of wheat varieties in rainfed areas of Jammu.	5	1
VE	Oats	Assessment of high yielding Oat varieties for higher biomass	5	1
VE	Perennial Grasses	Assessment of improved perennial grasses for herbage production under subtropical conditions	5	1
VE	Wheat	Evaluation of new wheat varieties under hilly regions of Kathua	5	1
VE	Onion	Comparative performance of different varieties of onion	5	1
VE	Oats	Evaluation of Oats Varieties	5	1
VE	Mustard	Evaluation of different cultivars of mustard under intermediate conditions	3	1
VE	Wheat	Varietal evaluation in wheat	4	1
VE	Okra	Performance of different okra varieties	3	1
VE	Oats	Performance of different Oats varieties (Results awaited)	3	1
VE	Oilseeds	Performance of Shalimar sarson-1 at different aspects and altitude (RA)	3	1
VE	Vegetables	Yield Performance of Different Varieties of Methi and Coriander	1	1
VE	French Bean	Assessment of French bean variety Lack of awareness about high	5	1
VE	Rice	Varietal Assessment of rice in lower belts of district	3	1
VE	Broccoli	Evaluation of Broccoli varieties	7	1
VE	Onion	Evaluation of Onion varieties	14	1
VE	Oats	Performance of different varieties of oats to combat fodder scarcity	11	1
VE	Cucumber	Evaluation of cucumber under protected structures for crop diversification	6	1
VE	Capsicum	Performance of different varieties of capsicum under open condition	3	1
VE	Chilli	Pop. & Cultivation of different varieties of Kashmiri Chilli.	3	1
VE	Paddy	Varietal assessment of (SR- 2 and SR -3)	3	1
VE	Paddy	Performance of variety SR-3 & SR-4 at different altitudes.	4	1
VE	Maize	Evaluation of maize Shalimar hybrid-2 & KDM-DTM-1.	3	1
VE	Broccoli	Evaluation of broccoli varieties	3	1
VE	Basmati	Comparative performance of new basmati rice varieties under sub tropics of Kathua	5	1
VE	Wheat	Evaluation of newly released wheat varieties under timely sown irrigated condition	5	1
VE	Oats	Evaluation of Oats Varieties	5	1
VE	Wheat	Evaluation of varieties of wheat	5	1
VE	Carrot	Evaluation of temperate carrot varieties for higher yield	6	1
VE	Paddy	Identifying suitable locations for paddy (SR-3 & SR-4).	4	1
VE	Maize	Assessing performance of maize Shalimar hybrid-2 & KDM-DTM-1	3	1

ICM- Integrated Crop Management, IDM- Integrated Disease Management, INM- Integrated Nutrient Management, IPM- Integrated Pest Management, IWM- Integrated Weed Management, VE- Varietal Evaluation, RCT- Resource Conservation Technology, DR- Drudgery Reduction, FM- Farm Machinery, VA- Value Addition, IFS- Integrated farming system, PHT-Post-harvest Technology

Summary of technologies assessed under livestock by KVKs

Thematic areas	Livestock	Name of the technology assessed	No. of trials	No. of KVKs
Disease management	Goat	Effect of Rational deworming	5	1
Disease management	Dairy Farming	Prevention of mastitis in dairy animals	3	1
Disease management	Dairy Farming	Preventions of mastitis in dairy animals	3	1
Disease management	Livestock	Effect of feeding mineral mixture and de-wormer on production and reproduction performance	3	1
Disease	Dairy Farming	Preventions of mastitis in dairy animals	5	1

Thematic areas	Livestock	Name of the technology assessed	No. of trials	No. of KVKs
management				
Disease management	cattle	Performance evaluation of Albendazole Dewormer for controlling worms infestation in buffaloes in Delhi condition	3	1
Disease management	Cattle	Preventive management of papillomatosis and mastitis in milch cattle	5	1
Disease management	Cattle	Control of ecto parasites (Ticks)	10	1
Disease management	Goat	Effect of strategic deworming and mineral supplementation on performance of goat	3	1
Disease management	Livestock	Early detection of mastitis using California Mastitis Test and composition of different antibiotics	4	1
Disease management	cattle	Management of papillomatosis	5	1
Disease management	Sheep	Efficacy of different treatment regimes for the Management of Footrot in Sheep	3	1
Disease management	Yak, goats, sheep	Therapeutic management of infectious diseases by medication in animals	8	1
Disease management	Small ruminants	Prevention and control of parasitic diseases of ruminants by deworming	8	1
Disease management	Sheep	Mgmt of foot rot in sheep	10	1
Disease management	Dairy Farming	Prevention of mastitis in dairy cows	2	1
Evaluation of breeds	Poultry	Evaluation of Srinidhi dual purpose chicken	3	1
Evaluation of breeds	Poultry	Evaluation of different poultry strains for backyard poultry (Chicks)	5	1
Evaluation of breeds	Poultry	Comparative study	3	1
Evaluation of breeds	Poultry	Comparison of improved varieties of backyard poultry birds (Vanraja and Kuroiler) with local desi birds	3	1
Feed and fodder	Cattle	Evaluation of UMMB Brick	12	1
Nutrition management	Peri-parturient cows	Effect of feeding Vit. E on incidence of Mastitis in peri-parturient cows.	3	1
Nutrition management	Fisheries	Impact of feed supplement on fish production	2	1
Nutrition management	Dairy Farming	Role of bypass fat in Increasing or sustaining milk production and milk fat percentage of high yielder crossbred dairy cows	4	1
Nutrition management	Dairy Farming	Reduction in age at first calving (AFC) in heifers	3	1
Nutrition management	Dairy Farming	Effect of feeding mineral mixture and de-wormer on production performance in cross bred cows	3	1
Nutrition management	Livestock	Effect of feeding mineral mixture and de-wormer on production and reproduction performance	3	1
Nutrition management	Dairy Farming	Effect of feeding mineral mixture and de-wormer on production performance in cross bred cows	5	1
Nutrition management	Preschool children	Evaluation of protein rich food (Peanut) on nutritional status of preschool children	10	1
Nutrition management	Buffalo	To test effect of deworming, Minerals & Vitamin AD3E sublimation on reproductive performance in buffalo	3	1
Nutrition management	poultry	Performance evaluation of growth promoter (Vit A. & B Complex) for increasing weight gain in broiler poultry in Delhi condition	3	1
Nutrition management	Cattle	Effect of probiotics supplementation on milk yield and its composition in lactating Jersey cross bred cows	8	1
Nutrition management	Goats	Impact of feeding mineral licks on weight gain and general health in gaddi goats reared under extensive farming system	5	1
Nutrition management	Cattle	Utilization of maize cobs as roughage	3	1
Nutrition	Poultry	Mineral Supplement	3	1

Thematic areas	Livestock	Name of the technology assessed	No. of trials	No. of KVKs
management				
Nutrition management	cattle	Effect of mineral mixture on milk production in cross bred dairy cows.	3	1
Nutrition management	Dairy Farming	Effect of mineral mixture on milk yield in cows	12	1
Nutrition management	Yak	Improving production in yak by mineral /nutrient supplementation	11	1
Nutrition management	Pashmina goats	Development and evaluation of ASUMMB for improving production in pashmina goats	10	1
Nutrition management	Dairy Farming	Evaluation of balanced feeding in dairy cattle	3	1
Production and management	Dairy	Assessment of milking management practices of dairy animals	3	1
Small Scale Income Generation Enterprises	Goat farming	Sustainability of goat farming under semi intensive system.	3	1
Small Scale Income Generation Enterprises	Pig farming	Growth assessment of pig under different feeding regime under small scale enterprises	2	1
Value addition	Dairy	Effect of different coagulants on the quality of cottage cheese	5	1

I. B. TECHNOLOGY REFINEMENT

Summary of technologies refined under various crops by KVKs

Thematic areas	Crop	Name of the technology refined	No. of trials	No. of KVKs
ICM	Wheat	Comparative performance of un-recommended vs. recommended herbicides for the control of weeds in Wheat	3	1
ICM	Guava	Different pruning methods on quality of guava	2	1
ICM	Onion	Different planting Distance in onion	2	1
ICM	Garlic	Effect of different cultural practices on weed control in garlic	2	1
ICM	Wheat	Relay cropping of muskmelon with wheat	50	1
ICM	Apple	Enhancement of fruit set in apple in areas experiencing bad weather during flowering	3	1
ICM	Tomato	Management of damping off in tomato	3	1
ICM	Rajmash	Management of Anthracnose in Rajmash	5	1
ICM	Mango	Effect of 2,4-D in mango	4	1
ICM	Brinjal	Effect of spacing on yield of brinjal	4	1
IDM	Cotton	Management of Bacterial blight	12	1
IDM	Gram	Management of root rot and wilt in gram	10	1
IDM	Paddy	Effective Control of Bakanae disease in Paddy	3	1
IDM	Potato	Integrated management of late blight of Potato.	3	1
IDM	Paddy	Management of Bakanae (foot rot) disease in Paddy through seed treatment	5	1
IDM	Cucumber	Management of Powdery mildew in cucumber	5	1
IDM	Potato	Developing management strategies for late blight of potato	5	1
INM	Cotton	Foliar spray of planofix in cotton to reduce flower drop	5	1
INM	Chickpea	Yield maximization of chickpea under rainfed conditions	7	1
INM	Tomato	Integrated nutrient management in tomato	5	1
INM	Apple	Integrated Nutrient Management in Apple (12 years of age)	5	1
INM	Plum	Integrated Nutrient management in Plum (9 years of age)	5	1
INM	Apple	Russetting Management in Pear	3	1
INM	Wheat	Nutrient Management in Wheat	6	1
IPM	Cotton	Use of yellow cards	10	1
IPM	Paddy	Management of planthoppers in paddy	1	1
IPM	Spring maize	Management of shootfly in spring maize	1	1
IPM	Bottle gourd	Management of fruit fly by pheromone traps in bottle gourd	5	1
IPM	Guava	Management of fruit fly by pheromone traps in Guava.	5	1
IPM	Ber	Management of fruit fly by pheromone traps in ber.	5	1
IPM	Paddy	Effect of mulching and flooding against root knot nematode	5	1

Thematic areas	Crop	Name of the technology refined	No. of trials	No. of KVKs
		(Meloidygyne graminicola) in paddy nursery.		
IPM	Cauliflower	Management of Diamond Back moth in Cauliflower	2	1
IPM	Capsicum (protected condition)	Integrated management of sucking pests in capsicum under protected conditions	3	1
IPM	Tomato	Management of buckeye rot	10	1
IPM	Onion	Management of Maggot in Onion	11	1
IPM	Brinjal	Management of Fungal wilt	11	1
RCT	Wheat	Comparative performance of wheat crop sown with different methods under straw management conditions	1	1
RCT	Paddy	Comparative assessment of different leveling techniques of water management in Paddy (DSR) variety PR-124	1	1
RCT	Wheat,Rice,Mustard,Summer,Moong,Pea,Muskmelon,Potato	Diversification of RWCS by integrating pulses, oilseeds and vegetable crops	5	1
RCT	Wheat	Evaluation of method of sowing in ZT wheat	10	1
VA	Vegetables	To enhance shelflife, taste and palatability of different vegetables	5	1
IWM	Clusterbean	Evaluation of weed management practices in clusterbean	3	1
IWM	Okra	Integrated weed management in rainy season okra	5	1
IWM	Paddy	Weed management in direct seeded upland rice (Variety- HPR-1156).	3	1
IWM	Maize	Management of IPOMEA weed in Maize by herbicide.	3	1
IWM	Mash	Weed Management in Mash	3	1
IWM	Walnut	Mistletoe Control in walnut	3	1
IWM	wheat	Weed management on wheat	4	1

ICM- Integrated Crop Management, IDM- Integrated Disease Management, INM- Integrated Nutrient Management, IPM- Integrated Pest Management, IWM- Integrated Weed Management, VE- Varietal Evaluation, RCT- Resource Conservation Technology, DR- Drudgery Reduction, FM- Farm Machinery, VA- Value Addition, IFS- Integrated farming system

Summary of technologies refined under various livestock by KVKs

Thematic areas	Livestock	Name of the technology refined	No. of trials	No. of KVKs
Nutrition management	Livestock production and feed management	Evaluation of maize cobs as a replacement for wheat straw	5	1
Nutrition management	Sheep and goat	Effect and role of leaf meal on the growth ,production and parasitic control in sheep and goat	4	1

FRONTLINE DEMONSTRATIONS

Table : Overview of frontline demonstrations on different crops carried out during 2015-16

Category and Crop	No. of KVVKs	No. of Farmer	Area (ha)	Yield (q/ha)		% change in yield
				Demonstration	Check	
Cereals						
Maize	28	547	173.86	37.26	28.06	37.74
Paddy	46	940	269.13	55.08	48.47	17.52
Basmati rice	22	286	137.7	45.14	42.43	6.58
Wheat	87	2567	995	49.64	46.07	9.78
Barley	1	17	6.8	51.5	47	9.574
Rice	4	44	16.4	65.93	57.67	14.55
Millets						
Pearlmillet	7	151	62	25.12	20.906	20.65
Vegetable crops						
Tomato	12	258	15.46	358.75	288.45	26.44
Potato	4	40	4.1	232.38	202.10	14.86
Onion	6	86	4.33	308.04	226.38	37.91
Carrot	1	20	2	200.00	180.00	11.11
Pea	9	159	45.26	141.60	117.94	19.58
Cauliflower	3	25	6.4	183.30	150.37	21.74
Okra	5	61	3.96	160.19	126.70	29.92
Low tunnel techonolgy	1	5	0.4	1888.00	1287.00	46.70
Bottle gourd	4	235	6.26	208.9625	167	25.6935
Broccoli	2	21	0.515	163	143.5	14.54
Brinjal	1	30	1	490.00	442.50	10.73
Frenchbean	2	35	0.88	194.3	139.45	37.37
Muskmelon	1	10	4	106.75	82.50	29.39
Fenugreek	1	5	0.4	69.00	53.00	30.19
Cucumber	2	29	8.5	300.25	251.2	20.67
Cucurbits	2	235	11.8	225.10	185.20	21.54
Cabbage	4	38	0.764	485.33	256.81	80.99
Capsicum	1	5	0.4	245.00	215.00	13.95
Turmeric	1	13	0.15	290.00	210.00	38.10
Ginger	1	9	0.7	187.00	156.00	19.87
Colocacia	1	20	2	150.00	100.00	50.00
Elephant Foot Yam	1	6	0.24	410.00	348.60	17.61
Bean	1	15	0.75	239.80	124.50	92.61
Solanaceous	1	12	0.15	200.00	140.00	42.86
Garlic	1	4	0.2	92.00	76.80	19.79
Reddish	1	105	0.5	176.00	135.00	30.37
Turnip	1	110	0.5	224.00	202.00	10.89
Coriander	1	223	0.25	50.00	41.00	21.95
Kale	1	220	1.4	185.00	150.00	23.33
Chilli	1	152	1	16.00	12.00	33.33
Methi	1	167	0.7	150.00	134.00	11.94
Flower crops						
Marigold	5	60	11.8	124.53	98.00	22.35
Fruit crops						
Apple	6	39	2.89	142.81	91.25	53.66
Guava	5	25	8.98	226.42	200.82	14.70
Apricot	1	10	0.36	150.12	116.67	28.67
Kinnow	1	8	4.8	166.13	123.68	34.32
Mango	1	4	0.24	33.72	24.02	40.38
Plum	8	54	11.05	132.77	98	35.56
Pomegranate	1	2	0.4	192.00	156.00	23.08
Commercial crops						
Desi Cotton	2	114	44	20.05	17.50	15.92
Cotton	1	20	8	19.80	17.50	13.14
American Cotton	1	2	0.2	14.40	12.50	15.20
Medicinal and aromatic plants						
Fodder crops						
Maize	8	139	24.75	390.89	289.56	49.86

Category and Crop	No. of KVKS	No. of Farmer	Area (ha)	Yield (q/ha)		% change in yield
				Demonstration	Check	
Berseem	7	68	15.39	553.78	467.30	19.96
Oats	18	650	100.2	329.06	270.27	28.35
Pearl millet	2	24	2.8	557.50	479.50	16.61
Napier Bajra Hybrid	1	15	1	862.00	356.00	142.13
Guinea Grass	1	10	1	274.00	206.00	33.01
Cowpea	1	8	1	292.00	235.00	24.26
Sorghum	2	26	3.25	422.5	315	34.29
Plantation crops						
Sugarcane	1	10	2	820.00	750.00	9.33
Fibre crops						
Pulses						
Lentil	3	59	2.988	5.30	4.60	15.87
Cowpea	2	36	3.35	10.10	7.20	40.15
Arhar	3	14	5.2	14.61	10.915	36.67
Moong	7	244	87	8.915	6.557	34.83
Rajmash	6	231	20.7	4.00	4.00	4.00
Arhar	1	5	2	18.9	14.7	28.57
Guar	1	19	8	10.5	9	16.67
Green Gram	2	68	22	5.65	4.35	33.29
Chickpea	13	324	69.69	13.24	10.57	27.44
Oilseeds						
Gobhi Sarson	22	918	270.4	16.05	12.44	30.14
Soyabean	8	269	107.8	14.50	10.88	33.74
African Sarsoon	3	36	12.6	20.50	17.82	15.06
Sesame	5	103	21.1	4.70	3.54	34.51
Til	1	4	0.8	7.37	6.10	20.82
Sunflower	3	38	22	25.89	22.50	15.11
Yellow sarson	1	8	1.6	17.5	16.3	7.362
Raya	12	309	103.6	19.37	16.02	23.23
Mustard	21	657	148.2	12.66	9.52	33.23
Toria	5	207	48.55	8.04	6.21	29.25
Barley	1	10	4	57.2	52.8	8.333
Canola Saron	1	71	20	17.85	14.71	21.35
Others (pl.specify)						

CAPACITY DEVELOPMENT

Training Programmes

a) Farmers' Training including sponsored training programmes (ON Campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management	17	309	19	328	55	9	64	364	28	392
Resource Conservation Technologies	36	663	34	697	147	78	225	810	112	922
Cropping Systems	26	446	85	531	67	36	103	513	121	634
Crop Diversification	32	794	68	862	117	20	137	911	88	999
Integrated Farming	30	278	100	378	189	151	340	467	251	718
Water management	22	442	144	586	200	115	315	642	259	901
Seed production	22	296	55	351	27	85	112	323	140	463
Nursery management	6	66	6	72	83	5	88	149	11	160
Integrated Crop Management	54	998	286	1284	271	68	339	1269	354	1623
Fodder production	13	304	7	311	42	14	56	346	21	367
Production of organic inputs	12	194	77	271	39	76	115	233	153	386
Others				0			0	0	0	0
Total	270	4790	881	5671	1237	657	1894	6027	1538	7565
Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops	25	458	147	605	39	45	84	497	192	689
Off-season vegetables	47	350	348	698	212	424	636	562	772	1334
Nursery raising	19	189	123	312	54	114	168	243	237	480
Exotic vegetables like Broccoli	2	22	9	31	13	5	18	35	14	49
Export potential vegetables	1	15	0	15	0	0	0	15	0	15
Grading and standardization	2	39	0	39	3	0	3	42	0	42
Protective cultivation (Green Houses, Shade Net etc.)	28	327	113	440	125	86	211	452	199	651
Others				0			0	0	0	0
Total (a)	124	1400	740	2140	446	674	1120	1846	1414	3260
b) Fruits										
Training and Pruning	21	327	100	424	55	42	97	382	142	524
Layout and Management of Orchards	19	303	43	346	27	21	48	322	64	409
Cultivation of Fruit	12	253	47	300	39	17	56	292	64	356
Management of young plants/orchards	18	266	71	337	23	34	57	289	105	394
Rejuvenation of old orchards	2	45	0	45	11	0	11	56	0	56
Export potential fruits	1	11	0	11	0	0	0	11	0	11
Micro irrigation systems of orchards	5	85	9	94	23	2	25	108	11	119
Plant propagation techniques	10	167	6	173	61	11	72	228	17	245
Total (b)	88	1457	276	1730	239	127	366	1688	403	2114
c) Ornamental Plants										
Nursery Management	6	101	1	72	3	0	3	104	1	105
Management of potted plants	3	96	3	99	0	0	0	96	3	99
Export potential of ornamental plants	4	50	9	59	0	0	0	110	9	119
Propagation techniques of Ornamental Plants	5	67	23	90	2	1	3	70	23	93
Total (c)	18	314	36	320	5	1	6	380	36	416
d) Plantation crops										
Production and Management technology	3	30	8	22	1	0	1	31	0	31
e) Tuber crops										
Production and Management technology	5	25	14	39	40	45	75	65	59	114
Others				0			0	0	0	0
Total (e)	5	25	14	39	40	45	75	65	59	114

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
f) Spices										
Production and Management technology	2	27	15	42	3	7	10	30	22	52
Total (f)	2	27	15	42	3	7	10	30	22	52
g) Medicinal and Aromatic Plants										
Nursery management	1	17	0	17	5	0	5	22	0	22
Production and management technology	4	36	5	41	8	4	12	44	9	53
Total (g)	5	53	5	58	13	4	17	66	9	75
Total(a0g)	245	3306	1094	4351	747	858	1595	4106	1943	6062
Soil Health and Fertility Management										
Soil fertility management	35	564	17	581	57	41	88	635	58	729
Soil and Water Conservation	13	148	9	157	63	41	94	211	50	251
Integrated Nutrient Management	39	720	75	795	109	48	157	857	130	987
Production and use of organic inputs	13	183	25	215	33	16	48	215	41	258
Management of Problematic soils	4	63	5	68	16	2	18	81	7	88
Micro nutrient deficiency in crops	14	222	7	229	14	8	22	236	15	251
Nutrient Use Efficiency	7	125	0	125	26	0	26	151	0	151
Soil and Water Testing	30	553	33	586	78	24	102	668	65	733
Total	155	2578	171	2756	396	180	555	3054	366	3448
Livestock Production and Management										
Dairy Management	50	1173	67	1240	211	94	305	1456	161	1617
Poultry Management	24	343	8	351	65	3	68	487	11	498
Piggery Management	8	89	6	95	16	0	16	125	6	131
Rabbit Management	5	70	2	72	10	8	18	80	10	90
Disease Management	20	280	16	296	66	36	102	346	52	398
Feed management	24	373	58	432	125	82	207	499	140	639
Production of quality animal products	4	32	2	34	6	3	9	68	5	73
Others				0			0	0	0	0
Total	135	2360	159	2520	499	226	725	3061	385	3446
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	12	68	87	155	9	60	69	77	147	224
Design and development of low/minimum cost diet	16	0	249	249	0	142	142	0	391	391
Designing and development for high nutrient efficiency diet	18	3	307	310	18	157	175	21	464	485
Minimization of nutrient loss in processing	9	12	178	190	0	36	36	12	214	226
Gender mainstreaming through SHGs	8	2	117	119	0	49	49	2	166	168
Storage loss minimization techniques	8	0	156	137	0	32	27	0	187	187
Value addition	57	32	919	951	37	522	559	114	1396	1510
Income generation activities for empowerment of rural Women	46	27	804	793	9	426	468	76	1230	1306
Location specific drudgery reduction technologies	20	18	318	336	18	132	150	36	450	486
Rural Crafts	16	3	264	255	0	60	56	3	324	327

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Women and child care	15	53	203	256	14	97	111	67	300	367
Total	225	218	3602	3751	105	1713	1842	408	5269	5677
Agril. Engineering								0		
Installation and maintenance of micro irrigation systems	3	43	0	43	8	0	8	51	0	51
Use of Plastics in farming practices	1	8	0	8	0	0	0	8	0	8
Production of small tools and implements	1	7	0	7	14	0	14	21	0	21
Repair and maintenance of farm machinery and implements	9	103	4	107	62	0	62	163	4	168
Small scale processing and value addition	9	81	26	107	24	38	62	105	64	169
Post Harvest Technology	11	93	15	108	36	19	55	149	34	183
Others				0			0	0	0	0
Total	34	335	45	380	144	57	201	497	102	600
Plant Protection										
Integrated Pest Management	92	1821	59	1880	390	77	467	2217	136	2353
Integrated Disease Management	86	1663	348	2011	311	67	378	2034	415	2449
Bio-control of pests and diseases	14	348	33	381	58	44	102	406	77	483
Production of bio control agents and bio pesticides	10	195	20	215	16	9	25	217	43	260
Total	202	4027	460	4487	775	197	972	4874	671	5545
Fisheries										
Integrated fish farming	4	105	0	105	17	0	17	122	0	122
Carp breeding and hatchery management	6	110	0	59	32	1	33	142	1	143
Carp fry and fingerling rearing	3	35	0	35	7	0	7	56	6	56
Composite fish culture	4	61	0	61	15	0	15	76	0	76
Hatchery management and culture of freshwater prawn	6	99	0	99	0	0	0	99	0	99
Portable plastic carp hatchery	1	12	0	12	0	8	8	12	8	20
Fish processing and value addition	1	12	0	12	3	0	3	15	0	15
Total	25	434	0	383	74	9	83	522	15	531
Production of Input at site										
Seed Production	7	192	4	196	0	0	0	192	4	196
Planting material production	1	25	0	25	0	0	0	25	0	25
Bio-pesticides production	1	5	12	17	4	14	18	9	26	35
Bio-fertilizer production	0	0	0	0	0	0	0	0	0	0
Vermi-compost production	20	209	26	235	89	55	144	338	81	419
Organic manures production	5	78	8	86	0	10	36	78	18	96
Production of Bee-colonies and wax sheets	2	44	0	44	2	0	2	46	0	46
Production of livestock feed and fodder	1	0	0	0	5	19	24	5	19	24
Total	37	553	50	603	100	98	224	693	148	841
Capacity Building and Group Dynamics										
Leadership development	1	26	32	58	12	7	19	38	39	77
Group dynamics	7	158	20	178	30	32	62	190	50	240
Formation and Management of SHGs	10	180	23	203	45	37	82	227	65	280
Mobilization of social capital	4	106	4	110	13	0	13	119	4	123
Entrepreneurial development of farmers/youths	29	380	230	610	146	48	231	526	282	808
WTO and IPR issues	2	37	0	37	3	0	3	40	0	67

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Total	53	887	309	1196	249	124	410	1140	440	1595
Agro forestry										
Production technologies	8	234	15	249	57	10	67	291	25	316
Nursery management	5	83	0	83	31	2	33	114	2	116
Integrated Farming Systems	8	154	16	170	51	13	64	205	29	234
Total	21	471	31	502	139	25	164	610	56	666
Grand Total	1402	19959	6802	26761	4465	4144	8609	24424	10946	35370

b) Training for Rural Youths including sponsored training programmes (ON Campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Mushroom Production	70	1079	131	1230	509	156	665	1586	321	1907
Bee-keeping	69	1526	121	1637	388	58	442	1914	179	2093
Integrated farming	22	265	33	298	133	26	159	383	92	475
Seed production	18	232	48	280	73	21	93	315	63	378
Production of organic inputs	9	131	10	141	50	22	72	181	32	213
Integrated Farming	11	49	16	65	194	47	241	315	63	378
Planting material production	10	189	2	191	37	4	41	226	6	232
Vermi-culture	16	338	27	365	73	13	86	411	40	451
Sericulture	1	0	0	0	30	0	30	30	0	30
Protected cultivation of vegetable crops	16	177	77	254	57	79	136	254	156	410
Commercial fruit production	5	43	25	68	5	0	5	98	25	123
Repair and maintenance of farm machinery and implements	10	96	0	96	75	0	75	171	0	171
Nursery Management of Horticulture crops	16	297	25	322	99	17	116	421	42	463
Training and pruning of orchards	17	161	78	239	8	65	73	120	192	312
Value addition	73	163	612	752	79	808	886	242	1430	1671
Production of quality animal products	10	175	23	198	3	5	8	178	28	206
Dairying	66	2822	126	2948	516	138	654	3329	294	3603
Sheep and goat rearing	19	359	8	367	137	20	157	516	28	544
Quail farming	2	36	1	37	27	7	52	81	8	89
Piggery	9	236	2	238	48	3	51	284	5	289
Rabbit farming	1	7	0	7	34	0	34	41	0	41
Poultry production	21	416	9	425	101	8	109	517	17	534
Para extension workers	2	33	12	45	11	4	15	44	16	60
Composite fish culture	2	121	2	123	19	1	20	140	3	143
Small scale processing	21	364	120	484	29	182	211	404	291	695
Post Harvest Technology	26	64	258	322	152	189	341	216	447	663
Tailoring and Stitching	35	2	153	153	0	745	726	0	900	900
Rural Crafts	27	1	338	339	0	367	344	1	705	706
Total	604	9382	2257	11639	2887	2985	5872	12269	5242	17511

c) Training programmes for Extension Personnel including sponsored training programmes (ON Campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	49	742	73	815	127	28	155	867	101	970

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Integrated Pest Management	42	718	15	733	51	7	58	769	22	791
Integrated Nutrient management	32	409	7	416	91	5	96	518	14	532
Rejuvenation of old orchards	11	115	16	131	24	1	25	151	19	170
Protected cultivation technology	18	198	0	198	36	3	39	220	3	240
Formation and Management of SHGs	3	36	0	36	0	0	0	36	0	36
Group Dynamics and farmers organization	14	320	0	320	34	1	35	354	1	355
Information networking among farmers	12	164	0	164	46	5	51	210	5	215
Capacity building for ICT application	7	85	2	87	17	7	24	102	9	111
Care and maintenance of farm machinery and implements	7	77	1	78	43	0	43	120	1	121
WTO and IPR issues	2	23	0	23	4	0	4	27	0	27
Management in farm animals	12	155	12	167	32	5	37	187	17	204
Livestock feed and fodder production	12	99	3	102	13	0	13	112	3	139
Household food security	6	38	15	53	37	3	40	75	18	93
Women and Child care	13	46	182	228	6	63	69	52	235	287
Low cost and nutrient efficient diet designing	10	0	197	197	0	19	19	0	215	215
Production and use of organic inputs	7	98	0	98	18	7	25	116	7	123
Gender mainstreaming through SHGs	3	28	8	36	5	5	10	33	13	46
Total	260	3351	531	3882	584	159	743	3935	690	4675

a) Farmers' Training including sponsored training programmes (OFF Campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Crop Production										
Weed Management	78	1651	67	1716	288	79	367	1894	145	2085
Resource Conservation Technologies	101	2158	76	2238	399	102	501	2550	182	2759
Cropping Systems	39	610	207	754	260	190	408	1009	270	1279
Crop Diversification	73	1111	201	1238	392	163	541	1544	262	1867
Integrated Farming	32	606	53	659	368	156	524	974	209	1183
Water management	25	581	219	800	159	118	277	740	337	1077
Seed production	36	449	22	471	104	7	111	693	34	727
Nursery management	24	493	74	567	111	53	164	604	127	731
Integrated Crop Management	162	2552	820	2995	403	227	497	3431	573	4071
Fodder production	43	602	80	651	221	157	304	768	220	1023
Production of organic inputs	16	318	79	397	131	43	174	499	127	626
Total	629	11131	1898	12486	2836	1295	3868	14706	2486	17428
Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops	99	1419	199	1618	672	329	1001	2104	524	2634
Off-season vegetables	45	693	200	893	170	134	304	863	327	1190
Nursery raising	51	567	184	751	265	333	598	829	525	1354
Exotic vegetables like Broccoli	17	288	102	390	131	74	205	419	176	585
Export potential vegetables	16	335	43	378	82	46	128	417	89	506
Grading and standardization	8	124	10	122	23	9	52	152	34	186
Protective cultivation (Green Houses, Shade Net etc.)	47	625	67	692	218	241	465	854	297	1157
Total (a)	283	4051	805	4844	1561	1166	2753	5638	1972	7612
b) Fruits										
Training and Pruning	42	909	62	971	199	104	303	1108	176	1274
Layout and Management of Orchards	67	1054	138	1192	172	82	254	1226	255	1481
Cultivation of Fruit	30	667	130	770	119	7	126	776	137	913

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Management of young plants/orchards	36	675	24	699	104	16	120	779	40	819
Rejuvenation of old orchards	7	109	2	111	27	12	39	136	14	150
Export potential fruits	9	59	100	159	3	22	25	62	122	184
Micro irrigation systems of orchards	7	136	6	142	29	9	38	165	15	180
Plant propagation techniques	14	182	27	209	177	44	221	359	71	430
Total (b)	212	3791	489	4253	830	296	1126	4611	830	5431
c) Ornamental Plants										
Nursery Management	5	72	2	74	22	0	22	94	2	96
Management of potted plants	3	34	3	37	6	0	6	40	3	43
Export potential of ornamental plants	2	12	4	16	0	0	0	12	4	16
Propagation techniques of Ornamental Plants	10	119	29	148	40	14	54	159	43	202
Total (c)	20	237	38	275	68	14	82	305	52	357
d) Plantation crops										
Production and Management technology	9	132	34	166	15	0	15	147	34	181
Processing and value addition	1	15	11	26	2	0	2	17	11	28
Total (d)	10	147	45	192	17	0	17	164	45	209
e) Tuber crops										
Production and Management technology	11	236	35	206	29	15	44	265	50	314
Processing and value addition	3	2	48	50	0	33	33	2	81	83
Total (e)	14	238	83	256	29	48	77	267	131	397
f) Spices										
Production and Management technology	8	170	8	178	19	8	27	189	16	205
Total (f)	8	170	8	178	19	8	27	189	16	205
g) Medicinal and Aromatic Plants										
Nursery management	1	17	0	17	5	0	5	22	0	22
Production and management technology	7	68	48	116	65	40	105	133	88	231
Post harvest technology and value addition	4	90	0	90	15	1	16	105	1	106
Total (g)	12	175	48	223	85	41	126	260	89	359
Total(a0g)	559	8809	1516	10221	2609	1573	4208	11434	3135	14570
Soil Health and Fertility Management										
Soil fertility management	61	1587	98	1685	204	94	297	1792	189	1981
Soil and Water Conservation	24	382	67	449	131	46	177	509	117	626
Integrated Nutrient Management	91	1300	172	1468	350	195	555	1602	351	2013
Production and use of organic inputs	44	672	45	717	166	75	241	799	120	958
Management of Problematic soils	20	401	70	471	76	34	110	477	104	581
Micro nutrient deficiency in crops	34	697	18	715	67	9	76	744	27	791
Nutrient Use Efficiency	29	525	26	551	111	7	118	636	33	669
Soil and Water Testing	82	1414	129	1548	260	175	435	1665	304	2023
Total	385	6978	625	7604	1365	635	2009	8224	1245	9642
Livestock Production and Management										
Dairy Management	67	930	107	1037	162	162	324	1115	266	1381
Poultry Management	23	217	8	225	193	93	286	410	101	511
Piggery Management	2	16	3	19	8	1	9	24	4	28
Disease Management	61	619	120	739	290	222	512	901	337	1251
Feed management	72	809	157	966	270	129	399	1079	286	1364
Production of quality animal	23	232	75	307	224	79	303	486	154	640

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
products										
Total	248	2823	470	3293	1147	686	1833	4015	1148	5175
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	40	48	613	661	17	389	406	65	1027	1092
Design and development of low/minimum cost diet	31	18	545	516	7	212	211	25	732	757
Designing and development for high nutrient efficiency diet	31	47	500	509	32	290	315	74	790	864
Minimization of nutrient loss in processing	25	34	443	288	13	155	156	47	598	645
Gender mainstreaming through SHGs	23	56	338	394	20	272	292	76	610	685
Storage loss minimization techniques	26	60	383	407	8	152	154	68	535	561
Value addition	134	87	2150	2162	135	1083	1095	258	3235	3469
Income generation activities for empowerment of rural Women	90	99	1598	1678	61	913	966	160	2511	2670
Location specific drudgery reduction technologies	48	6	612	618	0	373	373	6	1178	1184
Rural Crafts	19	71	338	409	28	122	150	99	460	559
Women and child care	70	28	1203	1216	18	721	715	46	1924	1970
Others										
Total	537	554	8723	8858	339	4682	4833	924	13600	14456
Agril. Engineering										
Installation and maintenance of micro irrigation systems	14	250	9	259	92	10	102	342	19	361
Use of Plastics in farming practices	4	53	25	63	9	4	13	62	29	91
Production of small tools and implements	10	84	0	84	82	34	116	166	34	200
Repair and maintenance of farm machinery and implements	64	988	99	1087	535	71	606	1455	237	1692
Small scale processing and value addition	18	149	69	218	105	63	118	204	132	386
Post Harvest Technology	29	483	38	521	246	64	310	659	162	821
Total	139	2007	240	2232	1069	246	1265	2888	613	3551
Plant Protection										
Integrated Pest Management	338	6991	395	7375	1716	548	2264	8685	1005	9631
Integrated Disease Management	245	4816	386	4882	1004	285	1289	5774	737	6345
Bio-control of pests and diseases	47	770	53	823	142	60	202	912	113	1025
Production of bio control agents and bio pesticides	17	306	5	311	40	0	40	346	5	351
Total	647	12883	839	13391	2902	893	3795	15717	1860	17352
Fisheries										
Integrated fish farming	11	117	22	139	27	47	74	144	69	213
Carp breeding and hatchery management	9	19	0	19	16	4	20	113	30	143
Carp fry and fingerling rearing	1	7	0	7	0	0	0	7	0	7
Composite fish culture	9	120	9	129	29	11	40	149	20	169
Hatchery management and culture of freshwater prawn	10	0	0	0	0	0	0	0	0	194
Breeding and culture of ornamental fishes	6	87	15	102	22	3	25	109	21	127
Portable plastic carp hatchery	5	97	45	142	25	8	33	122	53	175
Pen culture of fish and prawn	9	255	47	302	48	4	52	303	51	354
Total	60	702	138	840	167	77	244	947	244	1382
Production of Input at site										

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Seed Production	5	73	12	85	5	5	10	78	17	95
Vermi-compost production	15	196	11	207	41	67	108	237	78	315
Organic manures production	2	0	0	0	37	11	48	37	11	48
Production of Bee-colonies and wax sheets	1	14	0	14	0	0	0	14	0	14
Production of livestock feed and fodder	1	28	0	28	13	0	13	41	0	41
Total	24	311	23	334	96	83	179	407	106	513
Capacity Building and Group Dynamics										
Leadership development	25	421	59	480	94	12	106	515	71	586
Group dynamics	45	1023	55	1078	179	47	226	1204	102	1306
Formation and Management of SHGs	34	476	136	612	99	36	135	575	172	747
Mobilization of social capital	28	538	14	561	138	43	181	684	57	741
Entrepreneurial development of farmers/youths	74	1465	181	1599	379	174	566	1935	270	2205
WTO and IPR issues	32	617	82	699	266	171	437	883	253	1136
Others				0			0	0	0	0
Total	238	4540	527	5029	1155	483	1651	5796	925	6721
Agro forestry										
Production technologies	80	1739	190	1929	508	263	771	2206	494	2700
Nursery management	26	695	67	762	82	64	146	777	131	908
Integrated Farming Systems	29	619	58	677	73	39	112	692	97	789
Total	135	3053	315	3368	663	366	1029	3675	722	4397
Grand Total	3601	53791	15314	69105	14348	11019	25367	68139	26333	95187

b) Training for Rural Youths including sponsored training programmes (OFF Campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Mushroom Production	24	331	78	409	94	61	155	425	139	564
Bee-keeping	23	213	40	253	77	38	115	290	78	368
Integrated farming	18	118	26	144	124	23	147	242	49	291
Seed production	10	142	81	223	38	25	63	180	106	286
Production of organic inputs	5	50	0	50	34	21	55	84	21	105
Integrated Farming	5	51	4	55	66	2	68	117	6	123
Planting material production	6	110	8	118	6	0	6	116	8	124
Vermi-culture	10	139	9	148	43	11	54	182	20	202
Sericulture	1	0	0	0	30	0	30	30	0	30
Protected cultivation of vegetable crops	14	159	47	206	57	35	92	216	82	298
Commercial fruit production	7	88	81	169	26	8	34	114	89	203
Repair and maintenance of farm machinery and implements	7	10	0	10	153	13	166	163	13	176
Nursery Management of Horticulture crops	11	209	131	340	6	55	61	215	186	401
Training and pruning of orchards	6	56	26	82	30	20	50	86	46	132
Value addition	39	147	382	529	30	350	380	177	732	909
Production of quality animal products	1	11	3	14	4	2	6	15	5	20
Dairying	13	191	34	225	104	19	123	295	53	348
Sheep and goat rearing	7	98	1	99	98	5	103	196	6	202
Quail farming	0	0	0	0	0	0	0	0	0	0
Piggery	3	84	0	84	21	0	21	105	0	105
Poultry production	6	84	6	90	17	21	38	101	27	128

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Cold water fisheries	3	25	15	40	6	0	6	31	15	46
Fish harvest and processing technology	5	0	180	180	0	47	47	0	227	227
Fry and fingerling rearing	2	0	15	15	0	50	50	0	65	65
Small scale processing	12	289	16	305	0	102	102	289	118	407
Post Harvest Technology	10	25	213	238	1	105	106	26	318	344
Tailoring and Stitching	20	2	102	104	0	326	326	2	428	430
Rural Crafts	8	6	68	74	6	101	107	12	169	181
Total	276	2638	1566	4204	1071	1440	2511	3709	3006	6715

c) Training programmes for Extension Personnel including sponsored training programmes (OFF Campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	45	754	82	836	136	33	169	890	115	1005
Integrated Pest Management	33	565	17	582	131	15	146	694	34	728
Integrated Nutrient management	22	833	15	848	70	11	81	904	25	929
Rejuvenation of old orchards	8	147	2	149	28	9	37	175	11	186
Protected cultivation technology	6	45	8	53	57	19	76	88	27	129
Formation and Management of SHGs	3	22	24	46	0	16	16	22	40	62
Group Dynamics and farmers organization	5	84	3	87	29	2	31	113	5	118
Information networking among farmers	2	21	0	21	0	0	0	21	0	21
Capacity building for ICT application	7	19	132	151	6	30	36	25	162	187
Management in farm animals	3	11	0	11	45	2	47	56	2	58
Livestock feed and fodder production	3	33	0	33	0	0	0	33	0	33
Household food security	6	17	76	93	5	34	39	22	110	131
Women and Child care	18	44	354	398	16	125	141	60	469	529
Low cost and nutrient efficient diet designing	7	0	142	142	0	50	50	0	192	192
Production and use of organic inputs	3	56	0	56	27	12	39	83	12	95
Gender mainstreaming through SHGs	9	120	26	146	19	37	56	139	63	202
Total	180	2771	881	3652	569	395	964	3340	1276	4616

a) Farmers' Training including sponsored training programmes (ON+OFF Campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management	95	1960	86	2044	343	88	431	2258	173	2477
Resource Conservation Technologies	137	2821	110	2935	546	180	726	3360	294	3681
Cropping Systems	65	1056	292	1285	327	226	511	1522	391	1913
Crop Diversification	105	1905	269	2100	509	183	678	2455	350	2866
Integrated Farming	62	884	153	1037	557	307	864	1441	460	1901

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Water management	47	1023	363	1386	359	233	592	1382	596	1978
Seed production	58	745	77	822	131	92	223	1016	174	1190
Nursery management	30	559	80	639	194	58	252	753	138	891
Integrated Crop Management	216	3550	1106	4279	674	295	836	4700	927	5694
Fodder production	56	906	87	962	263	171	360	1114	241	1390
Production of organic inputs	28	512	156	668	170	119	289	732	280	1012
Total	899	15921	2779	18157	4073	1952	5762	20733	4024	24993
Horticulture										
a) Vegetable Crops										
Production of low volume and high value crops	124	1877	346	2223	711	374	1085	2601	716	3323
Off-season vegetables	92	1043	548	1591	382	558	940	1425	1099	2524
Nursery raising	70	756	307	1063	319	447	766	1072	762	1834
Exotic vegetables like Broccoli	19	310	111	421	144	79	223	454	190	634
Export potential vegetables	17	350	43	393	82	46	128	432	89	521
Grading and standardization	10	163	10	161	26	9	55	194	34	228
Protective cultivation (Green Houses, Shade Net etc.)	75	952	180	1132	343	327	676	1306	496	1808
Total (a)	407	5451	1545	6984	2007	1840	3873	7484	3386	10872
b) Fruits										
Training and Pruning	63	1236	162	1395	254	146	400	1490	318	1798
Layout and Management of Orchards	86	1357	181	1538	199	103	302	1548	319	1890
Cultivation of Fruit	42	920	177	1070	158	24	182	1068	201	1269
Management of young plants/orchards	54	941	95	1036	127	50	177	1068	145	1213
Rejuvenation of old orchards	9	154	2	156	38	12	50	192	14	206
Export potential fruits	10	70	100	170	3	22	25	73	122	195
Micro irrigation systems of orchards	12	221	15	236	52	11	63	273	26	299
Plant propagation techniques	24	349	33	382	238	55	293	587	88	675
Total (b)	300	5248	765	5983	1069	423	1492	6299	1233	7545
c) Ornamental Plants										
Nursery Management	11	173	3	146	25	0	25	198	3	201
Management of potted plants	6	130	6	136	6	0	6	136	6	142
Export potential of ornamental plants	6	62	13	75	0	0	0	122	13	135
Propagation techniques of Ornamental Plants	15	186	52	238	42	15	57	229	66	295
Total (c)	38	551	74	595	73	15	88	685	88	773
d) Plantation crops										
Production and Management technology	12	162	42	188	16	0	16	178	34	212
Processing and value addition	1	15	11	26	2	0	2	17	11	28
Total (d)	13	177	53	214	18	0	18	195	45	240
e) Tuber crops										
Production and Management technology	16	261	49	245	69	60	119	330	109	428
Processing and value addition	3	2	48	50	0	33	33	2	81	83

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Total (e)	19	263	97	295	69	93	152	332	190	511
f) Spices										
Production and Management technology	10	197	23	220	22	15	37	219	38	257
Total (f)	10	197	23	220	22	15	37	219	38	257
g) Medicinal and Aromatic Plants										
Nursery management	2	34	0	34	10	0	10	44	0	44
Production and management technology	11	104	53	157	73	44	117	177	97	284
Post harvest technology and value addition	4	90	0	90	15	1	16	105	1	106
Total (g)	17	228	53	281	98	45	143	326	98	434
Total(a0g)	804	12115	2610	14572	3356	2431	5803	15540	5078	20632
Soil Health and Fertility Management										
Soil fertility management	96	2151	115	2266	261	135	385	2427	247	2710
Soil and Water Conservation	37	530	76	606	194	87	271	720	167	877
Integrated Nutrient Management	130	2020	247	2263	459	243	712	2459	481	3000
Production and use of organic inputs	57	855	70	932	199	91	289	1014	161	1216
Management of Problematic soils	24	464	75	539	92	36	128	558	111	669
Micro nutrient deficiency in crops	48	919	25	944	81	17	98	980	42	1042
Nutrient Use Efficiency	36	650	26	676	137	7	144	787	33	820
Soil and Water Testing	112	1967	162	2134	338	199	537	2333	369	2756
Total	540	9556	796	10360	1761	815	2564	11278	1611	13090
Livestock Production and Management										
Dairy Management	117	2103	174	2277	373	256	629	2571	427	2998
Poultry Management	47	560	16	576	258	96	354	897	112	1009
Piggery Management	10	105	9	114	24	1	25	149	10	159
Rabbit Management	5	70	2	72	10	8	18	80	10	90
Disease Management	81	899	136	1035	356	258	614	1247	389	1649
Feed management	96	1182	215	1398	395	211	606	1578	426	2003
Production of quality animal products	27	264	77	341	230	82	312	554	159	713
Total	383	5183	629	5813	1646	912	2558	7076	1533	8621
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	52	116	700	816	26	449	475	142	1174	1316
Design and development of low/minimum cost diet	47	18	794	765	7	354	353	25	1123	1148
Designing and development for high nutrient efficiency diet	49	50	807	819	50	447	490	95	1254	1349
Minimization of nutrient loss in processing	34	46	621	478	13	191	192	59	812	871
Gender mainstreaming through SHGs	31	58	455	513	20	321	341	78	776	853
Storage loss minimization techniques	34	60	539	544	8	184	181	68	722	748
Value addition	191	119	3069	3113	172	1605	1654	372	4631	4979
Income generation activities for empowerment of rural Women	136	126	2402	2471	70	1339	1434	236	3741	3976
Location specific drudgery reduction technologies	68	24	930	954	18	505	523	42	1628	1670

Area of training	No. of	No. of Participants								
	Courses	General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Rural Crafts	35	74	602	664	28	182	206	102	784	886
Women and child care	85	81	1406	1472	32	818	826	113	2224	2337
Total	762	772	12325	12609	444	6395	6675	1332	18869	20133
Agril. Engineering										
Installation and maintenance of micro irrigation systems	17	293	9	302	100	10	110	393	19	412
Use of Plastics in farming practices	5	61	25	71	9	4	13	70	29	99
Production of small tools and implements	11	91	0	91	96	34	130	187	34	221
Repair and maintenance of farm machinery and implements	73	1091	103	1194	597	71	668	1618	241	1860
Small scale processing and value addition	27	230	95	325	129	101	180	309	196	555
Post Harvest Technology	40	576	53	629	282	83	365	808	196	1004
Total	173	2342	285	2612	1213	303	1466	3385	715	4151
Plant Protection										
Integrated Pest Management	430	8812	454	9255	2106	625	2731	10902	1141	11984
Integrated Disease Management	331	6479	734	6893	1315	352	1667	7808	1152	8794
Bio-control of pests and diseases	61	1118	86	1204	200	104	304	1318	190	1508
Production of bio control agents and bio pesticides	27	501	25	526	56	9	65	563	48	611
Total	849	16910	1299	17878	3677	1090	4767	20591	2531	22897
Fisheries										
Integrated fish farming	15	222	22	244	44	47	91	266	69	335
Carp breeding and hatchery management	15	129	0	78	48	5	53	255	31	286
Carp fry and fingerling rearing	4	42	0	42	7	0	7	63	6	63
Composite fish culture	13	181	9	190	44	11	55	225	20	245
Hatchery management and culture of freshwater prawn	16	99	0	99	0	0	0	99	0	293
Breeding and culture of ornamental fishes	6	87	15	102	22	3	25	109	21	127
Portable plastic carp hatchery	6	109	45	154	25	16	41	134	61	195
Pen culture of fish and prawn	9	255	47	302	48	4	52	303	51	354
Fish processing and value addition	1	12	0	12	3	0	3	15	0	15
Total	85	1136	138	1223	241	86	327	1469	259	1913
Production of Input at site										
Seed Production	12	265	16	281	5	5	10	270	21	291
Planting material production	1	25	0	25	0	0	0	25	0	25
Bio-pesticides production	1	5	12	17	4	14	18	9	26	35
Vermi-compost production	35	405	37	442	130	122	252	575	159	734
Organic manures production	7	78	8	86	37	21	84	115	29	144
Production of Bee-colonies and wax sheets	3	58	0	58	2	0	2	60	0	60
Production of livestock feed and fodder	2	28	0	28	18	19	37	46	19	65
Total	61	864	73	937	196	181	403	1100	254	1354
Capacity Building and Group Dynamics										
Leadership development	26	447	91	538	106	19	125	553	110	663

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Group dynamics	52	1181	75	1256	209	79	288	1394	152	1546
Formation and Management of SHGs	44	656	159	815	144	73	217	802	237	1027
Mobilization of social capital	32	644	18	671	151	43	194	803	61	864
Entrepreneurial development of farmers/youths	103	1845	411	2209	525	222	797	2461	552	3013
WTO and IPR issues	34	654	82	736	269	171	440	923	253	1203
Total	291	5427	836	6225	1404	607	2061	6936	1365	8316
Agro forestry										
Production technologies	88	1973	205	2178	565	273	838	2497	519	3016
Nursery management	31	778	67	845	113	66	179	891	133	1024
Integrated Farming Systems	37	773	74	847	124	52	176	897	126	1023
Total	156	3524	346	3870	802	391	1193	4285	778	5063
Grand Total	5003	73750	22116	95866	18813	15163	33976	92563	37279	129842

b) Training for Rural Youths including sponsored training programmes (ON+OFF Campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Mushroom Production	94	1410	209	1639	603	217	820	2011	460	2471
Bee-keeping	92	1739	161	1890	465	96	557	2204	257	2461
Integrated farming	40	383	59	442	257	49	306	625	141	766
Seed production	28	374	129	503	111	46	156	495	169	664
Production of organic inputs	14	181	10	191	84	43	127	265	53	318
Integrated Farming	16	100	20	120	260	49	309	432	69	501
Planting material production	16	299	10	309	43	4	47	342	14	356
Vermi-culture	26	477	36	513	116	24	140	593	60	653
Sericulture	2	0	0	0	60	0	60	60	0	60
Protected cultivation of vegetable crops	30	336	124	460	114	114	228	470	238	708
Commercial fruit production	12	131	106	237	31	8	39	212	114	326
Repair and maintenance of farm machinery and implements	17	106	0	106	228	13	241	334	13	347
Nursery Management of Horticulture crops	27	506	156	662	105	72	177	636	228	864
Training and pruning of orchards	23	217	104	321	38	85	123	206	238	444
Value addition	112	310	994	1281	109	1158	1266	419	2162	2580
Production of quality animal products	11	186	26	212	7	7	14	193	33	226
Dairying	79	3013	160	3173	620	157	777	3624	347	3951
Sheep and goat rearing	26	457	9	466	235	25	260	712	34	746
Quail farming	2	36	1	37	27	7	52	81	8	89

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Piggery	12	320	2	322	69	3	72	389	5	394
Rabbit farming	1	7	0	7	34	0	34	41	0	41
Poultry production	27	500	15	515	118	29	147	618	44	662
Para extension workers	2	33	12	45	11	4	15	44	16	60
Composite fish culture	2	121	2	123	19	1	20	140	3	143
Cold water fisheries	3	25	15	40	6	0	6	31	15	46
Fish harvest and processing technology	5	0	180	180	0	47	47	0	227	227
Fry and fingerling rearing	2	0	15	15	0	50	50	0	65	65
Small scale processing	33	653	136	789	29	284	313	693	409	1102
Post Harvest Technology	36	89	471	560	153	294	447	242	765	1007
Tailoring and Stitching	55	4	255	257	0	1071	1052	2	1328	1330
Rural Crafts	35	7	406	413	6	468	451	13	874	887
Total	880	12020	3823	15843	3958	4425	8383	15978	8248	24226

c) Training programmes for Extension Personnel including sponsored training programmes (ON+OFF Campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Productivity enhancement in field crops	94	1496	155	1651	263	61	324	1757	216	1975
Integrated Pest Management	75	1283	32	1315	182	22	204	1463	56	1519
Integrated Nutrient management	54	1242	22	1264	161	16	177	1422	39	1461
Rejuvenation of old orchards	19	262	18	280	52	10	62	326	30	356
Protected cultivation technology	24	243	8	251	93	22	115	308	30	369
Formation and Management of SHGs	6	58	24	82	0	16	16	58	40	98
Group Dynamics and farmers organization	19	404	3	407	63	3	66	467	6	473
Information networking among farmers	14	185	0	185	46	5	51	231	5	236
Capacity building for ICT application	14	104	134	238	23	37	60	127	171	298
Care and maintenance of farm machinery and implements	7	77	1	78	43	0	43	120	1	121
WTO and IPR issues	2	23	0	23	4	0	4	27	0	27
Management in farm animals	15	166	12	178	77	7	84	243	19	262
Livestock feed and fodder production	15	132	3	135	13	0	13	145	3	172
Household food security	12	55	91	146	42	37	79	97	128	224
Women and Child care	31	90	536	626	22	188	210	112	704	816
Low cost and nutrient efficient diet designing	17	0	339	339	0	69	69	0	407	407
Production and use of organic inputs	10	154	0	154	45	19	64	199	19	218
Gender mainstreaming through SHGs	12	148	34	182	24	42	66	172	76	248
Total	440	6122	1412	7534	1153	554	1707	7275	1966	9241

d) Sponsored training programmes (OFF Campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Increasing production and productivity of crops	24	922	216	1138	167	108	275	1089	324	1413
Commercial production of vegetables	22	317	192	509	222	384	606	539	576	1115
Production and value addition	0	0	0	0	0	0	0	0	0	0
Fruit Plants	28	674	327	1001	148	54	202	822	381	1203
Ornamental plants(seed production)	5	197	19	216	78	2	80	275	21	296
Spices crops(mushroom cultivation)	11	214	95	309	158	53	211	372	148	520
Soil health and fertility management	6	283	13	296	45	6	51	328	19	347
Production of Inputs at site	1	72	0	72	0	0	0	72	0	72
Methods of protective cultivation	6	31	18	49	73	109	182	104	127	231
Other(plant protection,	54	1446	491	1937	656	234	890	2102	725	2827
Total	157	4156	1371	5527	1547	950	2497	5703	2321	8024
Post harvest technology and value addition				0				0	0	0
Processing and value addition	7	0	36	36	3	166	169	3	202	205
Other(EDP)	1	0	47	47	0	3	3	0	50	50
Total	8	0	83	83	3	169	172	3	252	255
Farm machinery				0						
Farm machinery, tools and implements	2	17	20	37	7	13	20	24	33	57
Other(CROP DIVERSIFICATION)	3	14	38	52	0	54	54	14	92	106
Total	5	31	58	89	7	67	74	38	125	163
Livestock and fisheries				0			0	0	0	0
Livestock production and management	28	347	127	474	408	203	611	755	330	1085
Animal Nutrition Management	1	0	0	0	34	23	57	34	23	57
Animal Disease Management	3	65	24	89	50	18	68	115	42	157
Poultry Farming	2	26	1	27	23	20	43	49	21	70
Fisheries Management	6	32	1	33	48	27	75	80	28	108
Other(beekeeping)	0	0	0	0	0	0	0	0	0	0
Total	40	470	153	623	563	291	854	1033	444	1477
Home Science				0				0	0	0
Household nutritional security	16	2	154	156	60	429	489	62	583	645
Economic empowerment of women	33	77	215	292	55	784	839	132	999	1131
Total	49	79	369	448	115	1213	1328	194	1582	1776
Agricultural Extension				0			0	0	0	0
Other(self employment,	54	1291	279	1570	768	272	1040	2059	551	2610
Total	54	1291	279	1570	768	272	1040	2059	551	2610
Grant Total	313	6027	2313	8340	3003	2962	5965	9030	5275	14305

c) Details of vocational training programmes carried out by KVKs for rural youth (OFF Campus)

Area of training	No. of Courses	No. of Participants			
		Male	Female	Total	
Crop production and management					
Commercial floriculture(SOIL HEALTH)		1	13	4	17
Commercial fruit production		16	378	66	444

Area of training	No. of Courses	No. of Participants		
		Male	Female	Total
Commercial vegetable production	11	126	150	276
Integrated crop management	18	319	255	574
Organic farming	6	110	63	173
Other(PROTECTED CULTIVATION)	30	514	225	739
Total	82	1460	763	2223
Post harvest technology and value addition				0
Value addition	130	429	2889	3318
Other(PLANT PROTECTION)				0
Total	130	429	2889	3318
Livestock and fisheries				0
Dairy farming	64	3063	275	3338
Composite fish culture	11	194	56	250
Sheep and goat rearing	16	512	6	518
Piggery	13	428	4	432
Poultry farming	18	460	22	482
Other(EDP)				0
Total	122	4657	363	5020
Income generation activities				0
Vermicomposting	14	331	33	364
Production of bioagents, biopesticides, biofertilizers etc.	1	22	0	22
Repair and maintenance of farm machinery & implements	8	139	4	143
Rural Crafts	39	66	960	1026
Seed production	14	221	35	256
Sericulture(SMALL SCALE PROCESSING)				0
Mushroom cultivation	60	1158	313	1471
Nursery, grafting etc.(AGROFORESTRY)	22	434	40	474
Tailoring, stitching, embroidery, dying etc.	41	30	980	1010
Agril. paraworkers, paravet training				0
Other(BEEKEEPING)	79	1672	566	2238
Total	278	4073	2931	7004
Agricultural Extension				0
Capacity building and group dynamics	1	30	0	30
Other(self employment)	2	16	34	50
Total	3	46	34	80
Grand Total	615	10665	6980	17645

EXTENSION PROGRAMMES

Extension Programmes organized by KVKs of Zone-I during 2015-16

Name of State	No. of activities	Participants											
		Farmers (Others)			SC/ST (Farmers)			Extension Officials			Grand Total		
		(I)			(II)			(III)			(I+II+III)		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Advisory Services	29392	40545	12261	52806	14303	2493	16796	197	53	250	55045	14807	69852
Agricultural camp	6	499	0	499	0	0	0	10	5	15	509	5	514
Agri mobile clinic	114	2606	384	2990	572	133	705	1	0	1	3179	517	3696
Animal Health Camp	121	2773	667	3440	922	259	1181	52	17	69	3747	943	4690
Awareness camp	142	7222	1149	8371	1593	466	2059	1833	774	2607	10648	2389	13037
Diagnostic visits	3447	4648	1120	5768	1728	877	2605	79	24	103	6455	2021	8476
Exhibition	257	26444	9386	35830	9059	5453	14512	434	119	553	35937	14958	50895
Exposure visits	2041	14770	2735	17505	2829	2282	5111	246	90	336	17845	5107	22952
Extension Literature (Prepared)	38	9965	955	10920	1776	546	2322	54	5	59	11795	1506	13301
Ex-trainees Sammelan	45	976	309	1285	496	162	658	19	10	29	1491	481	1972
Farm Science Club Conveners meet	62	2126	65	2191	232	60	292	235	13	248	2593	138	2731
Farmer Scientist Interaction	11	197	19	216	47	16	63	55	4	59	299	39	338
farmers Seminar	161	10071	1863	11934	1530	545	2075	245	60	305	11846	2468	14314
Farmers visit to KVK	0	44896	7406	52302	15637	4931	20568	187	55	242	60720	12392	73112
Field Day	409	13674	1889	15563	2987	957	3944	604	154	758	17265	3000	20265
Film Show	470	7108	2414	9522	3856	1600	5456	89	35	124	11053	4049	15102
Group Meetings	554	5341	946	6287	1289	664	1953	168	91	259	6798	1701	8499
Important Days of Celebration	569	15033	4642	19675	3186	2301	5487	432	219	651	18651	7162	25813
Kisan Ghoshti	374	102672	13940	116612	64769	11308	76077	614	199	813	168055	25447	193502
Kisan Mela	213	62252	6508	68760	11563	5748	17311	1981	1230	3211	75796	13486	89282
Lectures delivered as resource persons	5086	198423	23601	222024	53511	9982	63493	3218	2375	5593	255152	35958	291110
Mahila Mandals Conveners meetings	17	186	293	479	42	78	120	5	4	9	233	375	608
Method Demonstrations	1949	24446	2252	26698	3520	1369	4889	259	181	440	28225	3802	32027
Scientific visit to farmers field	8504	28884	3801	32685	7002	2141	9143	792	465	1257	36678	6407	43085
Self help group	98	262	903	1165	54	109	163	7	3	10	323	1015	1338
Soil health Camp	214	4245	917	5162	1219	571	1790	151	26	177	5615	1514	7129
Soil test campaigns/other campaigns	132	3336	441	3777	771	180	951	58	11	69	4165	632	4797
Workshops	227	1927	620	2547	790	370	1160	305	62	367	3022	1052	4074
Total	54653	635527	101486	737013	205283	55601	260884	12330	6284	18614	853140	163371	1016511

Details of other extension programmes

Activity	Punjab	Haryana	Delhi	Himachal Pradesh	Jammu & Kashmir	Total
Extension Literature	1532	164	3	50	74	1823
Newspaper Coverage	637	495	28	172	217	1549
Popular Talks	127	82	5	99	75	388
Radio talks	161	38	4	40	75	318
TV Talks	90	83	26	39	81	319

Kisan Mobile Advisory Services

KVKs Name	No. of Farmers covered	No. of Messages (Text)	Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	Any Other
Punjab	245159	1034	387	199	44	37	240	72	55
Haryana	1264323	439	294	39	7	1	64	30	4
Delhi	18449	17	14	2	0	0	1	0	0
HP	472144	327	212	31	3	7	21	33	20
J&K	28272	1275	658	321	165	18	72	41	2
Total	1989351	3092	1565	592	219	63	398	176	79

PRODUCTION OF TECHNOLOGIES INPUT

Seed

Seed	Quantity of seed (q)	Value (Rs.)	Distributed to no. of farmers	No. of KVKs
Cereal				
Barley	24.06	24230	11	3
Maize	75	159050	184	9
Oat	34.17	173245	185	5
Paddy	4523.31	12585071	189280	26
Wheat	5757.14	13870009	508939	30
Bajra	0.25			1
Maize Hybrid	151.25	135050	137	
Others		20000		1
Total	10565.18	26966655	698736	75
Oilseed				
Brown Sarson	2.24	10440	139	2
Gobhi Sarson	50.11	283980	862	9
Groundnut	20.3	23000	52	3
Raya	1.5	12570	253	3
Sesame	0.87	10050		2
Soybean	28.98	231856	23	3
Toria	3.96	11265	151	5
Mustard	15.33	113760	674	5
Others	10.884	5970	67	5
Total	134.174	702891	2221	37
Blackgram	41.685	516205	9	6
Cowpea	7.53	58500	222	8
Gram	31.76	300880	191	5
Lentil	3.53	41340	67	4
Moong	14.47	185950	75	5
Rajmash	4.64	41760		2
Chickpea	26.3	230640	43	4
Others	47.665	78963	113	7
Total	177.58	1454238	720	41
Commercial Crop				
Sugarcane	94.15	28245	5	1
Cotton	3.27	19620	728	2
Total	97.42	47865	733	3
Vegetable				
Okra	3.5085	327950	600	5
Onion	2.064	282200	258	6
Peas	7.7	376500	111	5
Spinach	9.47	106475	57	4
Tomato	0.01	30000	60	1
Capsicum	0.025	7500	130	1

Seed	Quantity of seed (q)	Value (Rs.)	Distributed to no. of farmers	No. of KVKs
Cucumber	12	240	12	1
Others	539.08	195572	69	8
Total	573.8575	1326437	1297	31
Sunflower	0.6	18000		
Marigold	0.025			
Others	6.4	115200		
Total	7.025	133200	0	0
Coriander	0.05			
Methi	0.02			
Turmeric	9.15	35325		
Garlic	7	58200		
Total	16.22	93525	0	0
Fodder Crop				
Barseem	218.04	1697100	573	6
Oats	19.4	55000	95000	3
Fodder	598	54680	33	2
Napier	6000	6000	30	2
Fodder Maize	28.85	51800	119	5
Others	209.57	676016	168	5
Total	7073.86	2540596	95923	23
Total	0	0	0	0

Planting Material

Name of Planting Material	Number	Value (Rs.)	Distributed to No. of farmers	No. of KVKs
Vegetable Seedling				
Tomato	42968	21368	1437	11
Cauliflower	51231	43021	638	7
Brinjal	10441	8359	314	7
Chilli	99721	99576	1515	7
Onion	732550	89695	394	8
Broccoli	3655	2065	87	4
Bottle Gourd	3951	38010	674	4
Cucumber	2099	20020	343	5
Capsicum	11541	11136	916	7
Cabbage	115010	8235.5	352	6
Knol-khol	2570	890	64	2
Kale	5600	1080	34	2
Cucurbits	1000	1000		1
Bitter gourd	1398	13980	316	2
Pumpkin	132	1320	56	1

Name of Planting Material	Number	Value (Rs.)	Distributed to No. of farmers	No. of KVKs
Others	100828	123201	1130	9
Total	1184695	482956.5	8270	83
Commercial				
Total	0	0	0	0
Fruits				
Mango	6657	137700	855	6
Pineapple	10000	500000	500	4
Lemon	128	3840	3	2
Apple	46416	2929855	706	10
Pomegranate	2465	61625	92	2
Apricot	3890	896000	525	2
Plum	4609	210110	255	2
Pear	887	53370	10	2
Peach	777	38850	60	1
Pecan nut	60	7500	10	1
Perssimon	1359	72020	108	2
Walnut	410	27645	24	3
Quince	900	27000	2	1
Grape	9	225	5	1
Total	78567	4965740	3155	39
Ornamental plants				
Mari gold	8000	8000	250	2
Total	8000	8000	250	2
Medicinal and Aromatic				
Total	0	0	0	0
Plantation				
Total	0	0	0	0
Chilli	700	700	31	1
Onion	120000	5500	27	1
Total	120700	6200	58	2
Tuber				
Total	0	0	0	0
Forest Species				
Total	0	0	0	0
Fodder crop				
Napier	80200	40200	5	2
Others	13572	165350	496	3
Total	93772	205550	501	5
Others				
Fodder	100	10000	100	1
Total	100	10000	100	1
Forest Species				
Poplar	868	7420	2	1

Name of Planting Material	Number	Value (Rs.)	Distributed to No. of farmers	No. of KVKs
Others	125040	114740	148	5
Total	125908	122160	150	6
GRAND TOTAL	1611742	5800607	12484	138

Production of livestock

Head	Livestock	Breed	Number	Value (Rs)	No. of farmers	No. of KVKs
Dairy animals	Cow	Jersey	14	502209	14	3
	Calves	Cross breed Cattle	9	1110	7	2
	Goats	Sirohi	65	499400	12	1
	Buffaloes					
	Sheep	Barbary	2	13500	1	1
	Breeding bull					
	Total			90	1016219	34
Poultry	Poultry	RIR, Chabbro, Dual Cross, Vencoob, CARI Nirbheek, Kroiler Chicks	9826	130939.005	671	7
	Japanese quail					
	Japanese quail eggs					
	Ducks					
	Turkey					
	Other					
	Total			9826	130939.005	671
Piggery	Piglets	Piglets & Adult	82	279260	11	1
	Boar					
	Sow					
	Total		82	279260	11	1
Fisheries	Other	Fingerlings (MIC, Rohu, Migral, Common Carp, catla)	383528	52040	9	2
	Total		383528	52040	9	2

Production of bio-products

Bio Product	Name of the Bio-Product	Quantity (No.)	Quantity (Kg.)	Value (Rs.)	Number of farmers	No. of KVKs
Bio Fertilisers						
Vermicompost	Vermicompost		16012	100886	58	5
Azolla			2493	249300	4039	1
Azatobactor			10		50	1
PSB		225		2250	55	1
Rhizobium		1698		50520	585	4
Total		1923	18515	402956	4787	12

Bio Product	Name of the Bio-Product	Quantity (No.)	Quantity (Kg.)	Value (Rs.)	Number of farmers	No. of KVKs
Bio Pesticides						
Total		0	0	0	0	0
Tricho card						
Trichogramma chilonis	Trichogramma chilonis					
Total		0	0	0	0	0
Earth Worm						
Earth worm			3	750	2	1
Total		0	3	750	2	1
Others						
Vermiculture	Eisenia foetida	80	356	69200	99	2
Total		80	356	69200	99	2
	Grand Total	2003	18874	472906	4888	15

RAIN WATER HARVESTING STRUCTURE IN THE KVKs

Sr.No.	Name of KVK	No. of Trainings	No. of Demonstration	Seed Produced	Planting Material	Visit of Farmers	Visit of Officials
1	Bhatinda	0	15	199.92	0	3125	152
2	Faridkot	1	1	0	0	0	0
3	Bilaspur	1	20	23.27	227324	820	32
4	Shimla	8	10	0	4285	211	8
5	Solan	0	0	0.0005	5700	60	2
6	Kangra	2	2	0	0	167	12
7	Baramulla	0	0	0.03	923	0	0
	TOTAL	12	48	223.2205	238232	4383	206

Technological Backstopping by Directorates of Extension Education

The Directorates of Extension (DEs) of SAUs/CAU organized 311 capacity development programmes for updating the technical knowhow of 13995 staff of Krishi Vigyan Kendras (KVKs). The capacity development programmes covered the topics namely diagnosis and management of pest and diseases with quality assurance, Agricultural Marketing – The New Paradigm, Micro Irrigation Technology for Improving Agricultural Productivity, Recent Advances in Horticultural crops for Sustainable Development, Sustainable Pest Management in Horticultural Crops and its environment implication, Extension Strategies for Sustainable Entrepreneurship in Livestock Sector, Precision Livestock management for Sustainable Animal Production, Decision Support system for selection on pumping units and irrigation scheduling, Zero Budget Natural Farming, Water Conservation in hills etc.

Likewise, the ICAR-Agricultural Technology Research Application Research Institutes, upgraded the knowledge and skills of 5362 staff of KVKs by arranging 100 capacity development programmes at various SAUs and ICAR Institutes in the areas like National workshop on community radio (CR) for agricultural development, Urban Agriculture and Food & Nutritional Security, Soyabean Processing, Post Harvest Supply Chain/ Cold Chain Management in Vegetables, Participatory Impact Monitoring and Institutional Innovations in Agri-extension for inclusive growth, Mushroom Production, sub-tropical horticulture, vegetable production under changing climate scenario, piggy production and management, goat farming, etc.

Besides, the DEs also organized 767 workshops and meetings for effective implementation of programmes of KVKs. The officials of these Directorates made 2856 visits to the KVKs during Scientific Advisory Committee meetings, Field days, Technology Weeks, Workshop/seminar, Training programmes, etc. to review and monitor the activities of KVKs in the operational areas of respective directorates. They also made 2679 field visits to review and monitor activities at farmers' fields like, On Farm Trials, Frontline Demonstrations, Farmer Scientist Interaction and Exhibitions etc. These directorates also provided technological products like seed to 455 KVKs, planting materials to 168 KVKs, bio-products to 151 KVKs, livestock breeds to 73 KVKs, livestock products to 64 KVKs, poultry breeds to 82 KVKs and 337 technology inventories were published by the Directorate of Extension Education for the benefit of farmers.

Directorates of Extension Education	SAC meetings Attended	Field Days	Workshops/ Seminars	Technology Weeks	Trainings Programmes	OFT Visited	FLD Visited	Publication
PAU, Ludhiana	17	33	39	17	90	15	20	114
GADVASU, Ludhiana	0	0	12	0	5	0	1	10
YSPUH&F, Solan	4	2	3	1	2	2	2	15
CSKHPKV, Palampur	8	0	2	0	2	24	30	5
CCSHAU, Hisar	28	7	42	11	19	41	163	67
SKAUST, Jammu	7	17	28	4	14	12	16	6
SKAUST, Srinagar	12	9	10	12	20	12	12	31
Total	76	68	136	45	152	106	244	248

Agricultural Technology Information Centre (ATICs)

Forty six Agricultural Technology Information Centers (ATICs) in the country served as Single Window Delivery System by providing technology information, technology services and technology inputs to the farmers. In all, 7.03 lakh farmers visited the ATICs for the technological solutions during the year. Technological information was provided to about 2.36 lakh farmers both through print and electronic media. Likewise, 4.52 lakh farmers got quality technological inputs namely; 17827.59 quintal seeds, 12.44 lakh planting material, 899 livestock, 0.09 lakh poultry birds and 228.7 quintal bio-products were provided through ATICs. Besides, 1.86 lakh farmers were benefited by technological services like, soil & water testing, plant diagnostics, veterinary advisory services, soil health cards etc. were provided to farmers.

Details on activities conducted by ATICs

S.No.	ATIC	Technology Information	Technology Products	Kisan Call Centre / other Phone calls from farmers	Trainings of the Farmer's	Soil & Water testing samples
1	PAU, Ludhiana	9464	246536	536	526	6688
2	CCSHAU, Hisar	5484	4000	5130	0	0
3	IARI, New Delhi	10575	0	13175	1	0
4	CPRI, Shimla	460	0	100	2230	0
5	NDRI, Karnal	114	1502	1404	0	0
6	SKUAST-K, Srinagar	11801	2637	1470	6234	213
7	Dr, YSPUH&F, Solan	3677	3677	293	869	1054
8	CSKHPKV, Palampur	304	5365	766	0	0
	Total	41879	263717	22874	9860	7955

Publications (Print & Electronic media)

S. No.	Particulars	Number of sold copies	Revenue generated in Rs.	Number of farmers benefited
1	Books	144782	10593651	132616
2	Technical bulletins	7414	114025	6906
3	Technology Inventory	666	9990	666
4	CDs	50	2200	522
5	DVDs	1	250	1
8	Others if any:	4,82,835	5,04,170	57,830

Details of ATICs of Zone-I

Name of Host Institute	State	Name , and Address of address of I/c ATIC	contact no. and e-mail address of I/c ATIC
IARI, NEW DELHI	DELHI	Dr. N.V. Kumbhare Senior Scientist (Agril. Extn.), In-charge ATIC, Indian Agricultural Research Institute, New Delhi	09968020172, harish_atic@iari.res.in, incharge_atic@iari.res.in
CCSHAU, HISAR	HARYANA	Dr. Avtar Singh Manager ATIC, Chaudhary Charan Singh Haryana Agricultural University, Hisar-125004	Mobile:- 9416397755, 9050405588 Office:- 01662-255405/284321 Email:- atic@hau.ernet.in avtarsinghau@gmail.com
NDRI , KARNAL	HARYANA	Dr. P. S. Oberoi, In-charge ATIC, National Dairy Research Institute, Karnal	09729580277, 0184-2259551 atic@ndri.res.in
CSKHPKV, PALAMPUR	HIMACHAL PRADESH	Dr Anand Singh Manager, ATIC Directorate of Extension Education CSK HP Krishi Vishwavidyalaya, Palampur -176062 (H.P.)	email: aticpalampur@gmail.com Phone: 01894-230395, 01894-283236 Fax: 01894-230399
YSPUHF, Nauni, SOLAN	HIMACHAL PRADESH	Dr. Mai Chand, Principal Scientist (Agricultural Extension), In-charge ATIC, Dr YS Parmar University of Horticulture & Forestry (YSPUHF), Nauni, SOLAN	09418163906 mchand.2008@rediffmail.com
CPRI, SHIMLA	HIMACHAL PRADESH	Dr. Dhiraj Kumar Singh Scientist, Division of Social Sciences CPRI, Shimla-171001	Mobile:-09816738307 Office:-0177-2623812, Email:- dhirajextension@gmail.com
SKUAST SRINAGAR	JAMMU & KASHMIR	Dr. Farah Naz Assistant Professor/Manager ATIC, Sher-E- Kashmir University of Agricultural Sciences and Technology, Shalimar, SRINAGAR	Mobile:- 07298446815, Office:- 0194-2463360 Fax:- 0194-2461317 Residence:- 0194-2461454 Email:- samaanjum786@gmail.com
PAU, LUDHIANA	PUNJAB	Dr. S.K. Thind Punjab Agricultural University, LUDHIANA	Mobile:-9463048181 Office:- 0161-2401960/214 Fax:-0161-2401644 thind.sk@gmail.com

3.4 National Innovations in Climate Resilient Agriculture (NICRA)

National Innovations in Climate Resilient Agriculture (NICRA)

The world's climate is changing and will continue to change in the coming centuries at rates projected to be unprecedented in the recent human history. The impact of climate change is global, but countries like India are more vulnerable in view that huge population depends on agriculture for its livelihood. Climate change and agriculture are interrelated and both have significant bearing on each other. Climate change and its impact on agricultural production has become an important area of concern for Indian agriculture to ensure food and nutritional security for growing population. National Innovations in Climate Resilient Agriculture (NICRA) is a network project of the Indian Council of Agriculture Research (ICAR) launched in February, 2011. The project aims to enhance resilience of Indian agriculture to climate change and climate variability. NICRA is being implemented in the country with three major components namely, Strategic Research, Technology Demonstration, and Capacity building.

The Technology Demonstration Component (TDC) of NICRA is being implemented through KVKs of 121 most climatically vulnerable districts across the country with an objective to demonstrate the existing technologies with National Agriculture Research system (NARS) to cope up with climate variability on farmers' fields and make the Indian agriculture climate resilient. In Zone-I, 13 most vulnerable districts which are covered under Technology Demonstration Component (TDC) of NICRA are namely, Bathinda (drought/heat wave), Faridkot (high temperature), Fatehgarh Sahib(frost/cold wave), Ropar (frost/cold wave), Yamunanagar (frost in winter), Sirsa (drought/frost), Hamirpur (drought), Kinnaur (cold wave/drought), Kullu (cold wave), Chamba (drought/cold/frost), kathua (drought) and Pulwama (frost/heat wave) and KVK Bandipora (drought).

The interventions being implemented are categorized under four modules, i.e. natural resource management, crop production, livestock and fisheries, and institutional interventions. Besides, capacity building to participating farmers on the tools and new technologies to be adopted to mitigate the climate related adversaries in crop production and animal husbandry is also being addressed. The achievements during the year are detailed as under:-

Module I: Natural Resource Management (NRM)

Under NRM, different interventions like in-situ moisture conservation, water harvesting and recycling for supplemental irrigation, water saving irrigation methods, vermicomposting and green manuring for soil health improvement and fertility management, use of baler-cum-knotter were followed. Under these interventions, 1038 farmers were benefitted in selected NICRA villages (**Table**).

Table: Details of NRM activities implemented under NICRA by KVKs of Zone-1

Intervention	Technology demonstrated	No. of farmers	Unit/Area (ha)
In-situ moisture conservation	Sowing of wheat/summer moong with Happy Seeder/Zero Till Drill in residual moisture condition, plastic mulching in cucurbits, laser leveling, fodder grass on farm bunds and ploughing across the slope	338	298
Water harvesting and recycling for supplemental irrigation	Rain water harvesting structure and renovation of farm ponds	59	68
Water saving irrigation methods	Use of Tensiometer for irrigation scheduling in paddy	54	65
Green manuring for soil health improvement	Cultivation of green manuring crops	10	10
Vermi-composting	Use of vermi-compost for soil health improvement	20	5 units
Alternate energy source	Biogas Plant and Folding two step solar cooker	19	19
Any other- Efficient management of paddy stubbles-Baler-cum-knotter	Use of paddy stubbles for soil health/fertility	510	360

Conservation tillage	Conservation tillage	28	40
Total		1038	865

Module II: Crop Production

Under this module, in Hamirpur, Brown sarson (KBS-3) was demonstrated on 2 ha area. Total 556 demonstration were conducted on 21.45 ha in Bandipura and Sirsa on cold and frost tolerant crop varieties i.e. Oats (Sabzaar), Paddy (SR-3), Brown Sarson (KS-101), Turnip (PTWG), Radish (White Round), Carrot (Early Nantes), Mustard (RH-0749). While demonstration on crop diversification were followed in Kathua on 12.5 ha on Black Gram (Him mash-1 and PU-31) and Gobhi Sarson (DGS-1) (Table).

Water saving paddy cultivation methods (SRI, aerobic, direct seeding) is one of the important technology, in which 61 farmers were benefitted in Bathinda, Fatehgarh Sahib, Yamunanagar and Faridkot districts on an area of 79.6 ha. Drought tolerant varieties of different crops were demonstrated in Bandipura [Maize (C-15), Cowpea (UPC-9202) and Fodder Maize (African Tall)], Kathua [Maize (Double Dekalb), Wheat (Raj-3765, WH-1021)], Sirsa [Guar (HG 2-20)], Kullu [Wheat (HPW-349, HPW-155, HPW-368), Black gram (P-93, UG-218), Soyabean (Harit soya)] were conducted. Likewise, 258 Nutrient Management demonstrations conducted in Faridkot and Ymunanagar on 464 ha. Diffrent short duration varieties of wheat, rice, summer moong, barley and gobhi sarson were conducted on 27.2 ha in NICRA villages. In Chamba and Fatehgarh Sahib 750 bags of mushroom were also produced.

Table: Details of crop production activities implemented under NICRA by KVKs

Intervention/KVK	Crop/variety	No. of farmers	Area (ha)	Measurable indicators of yield (q/ha)		% increase	BCR	
				Demo	Local		Demonstration	Local check
Cold and frost tolerant varieties								
Hamirpur	Brown sarson (KBS-3)	18	2	6.5	5.5	18.2	1.3	1.2
Total		18	2					
Bandipura	Oats (Sabzaar)	20	2.2	310 (Fodder)	200 (Fodder)		1.69	0.73
Bandipura	Paddy (SR-3)	66	9.3	65	57	14	1.51	1.23
Bandipura	Brown Sarson (KS-101)	36	5.2	11 (Seed) 500 (Fodder)	8 (Seed) 40 (Fodder)	37.5 25	1.45	1.21
Bandipura	Turnip (PTWG)	150	1.25	22400	16100	39	2.92	2
Bandipura	Radish (White Round)	144	0.75	17600	10600	66	3.19	1.65
Bandipura	Carrot (Early Nantes)	135	0.75	16100	9600	67	2.83	1.46
Sirsa	Mustard (RH-0749)	5	2	23	21	9.5	3.35	3.15
Total		556	21.45					
Crop diversification								
Kathua	Black Gram (Him mash-1)	7	1	6.75	4.9	37.75	7.1	5.15
Kathua	Black Gram (PU-31)	39	6.5	7.25	5.1	42.21	7.63	5.36
Kathua	Gobhi Sarson (DGS-1)	25	5	14	10	40	4.9	3.5
Total		71	12.5					
Custom hiring centres for timely planting								
Kathua	Wheat (Raj-3765)	20	20	22.5	17	32.3	2.32	1.87
Total		20	20					
Delayed sowing due to late onset of monsoon								
Kullu	Maize (Bajaura)	16	3	27.2	21.1	28.9	1.44	1.33

	Makka)							
Kullu	Maize (Girija)	29	3	28.8	22.5	28	1.52	1.42
Kullu	Short duration maize (composite varieties)	8	2	28.5	22.5	26.66	1.51	1.42
Total		53	8					
Water saving paddy cultivation methods (SRI, aerobic, direct seeding)								
Bathinda	Rice (Pusa Basmati-1121 & PR-124)	10	8	23.8	23.2	2.5	0.14	0.12
Fatehgarh Sahib	Rice (Pusa basmati-1121)	5	2	32.5	32.5	-	2	1.3
Yamunanagar	Rice (PR-116)	5	2	75.73	77.5	--	3.76	3.18
Yamunanagar	Rice (NK-3325)	11	4.4	65.08	65.83	---	3.23	2.8
Yamunanagar	Rice (PB-1121)	1	0.4	50.1	50.25		3.29	2.94
Yamunanagar	Rice (PB-1)	3	1.2	46.3	47.2		3.07	2.93
Faridkot	Rice (PR-124)	10	4	71.7	70.5	1.7	3.03	2.67
Faridkot	Rice (Pusa Basmati-1121)	16	57.6	47.1	45.7	3.06	3.33	2.84
Total		61	79.6					
Diversification through vegetable production for higher income								
Kullu	Garlic (GHC-1)	2	0.16	125.5	27.5	-	3.31	1.51
Total		2	0.16					
Drought tolerant varieties								
Bandipura	Maize (C-15)	34	12.08	42 (Seed) 68 (Fodder)	34 (Seed) 60 (Fodder)	23 13	1.62	1.18
Bandipura	Cowpea (UPC-9202)	22	2.25	225 (Fodder)	150 (Fodder)	33	1.44	0.63
Bandipura	Maize (African Tall)	46	11.97	411 (Fodder)	280 (Fodder)	46.42	1.68	0.82

Kathua	Maize (Double Dekalb)	25	6	32.5	23.7	37	3.37	2.46
Kathua	Wheat (Raj-3765)	11	4.5	17.5	14.4	21.52	2.24	1.92
Kathua	Wheat (WH-1021)	23	5	19.7	15.5	27.09	2.52	2.06
Sirsa	Guar (HG 2-20)	12	5	13	10	30	1.98	1.6
Kullu	Wheat (HPW-349)	27	5	32.3	26.9	20.07	1.72	1.43
Kullu	Wheat (HPW-155)	35	10	31.1	26.9	15.61	1.64	1.43
Kullu	Wheat (HPW-368)	14	5	33.4	26.9	24.15	1.77	1.43
Kullu	Black gram (P-93)	17	1	8.5	6.84	24.26	3.76	3.12
Kullu	Black gram (UG-218)	12	1	7.95	6.84	16.22	3.52	3.12
Kullu	Soyabean (Harit soya)	2	0.133	13.5	9.5	42.1	2.48	1.74
Total		280	68.933					
Hamirpur	Gobhi sarson (ONK - 1)	19	1	7.5	6	25	1.5	1.3
Total		19	1					
High yielding varieties								
Bathinda	Wheat (PBW-725)	9	8	52.4	51.5	1.74	1.7	1.73
Sirsa	Wheat (HD 2967)	10	4	50	47.5	5	2.44	2.36
Total		19	12					
Insect pest control								
Hamirpur	(Pheromone traps for fruitfly)	19	2.6	260	220	27.3	2.28	1.92
Total		19	2.6					
In-situ moisture conservation RCT								
Fatehgarh Sahib	Wheat (HD-2967)	18	18	20		50.63	2.3	
Yamunanagar	Wheat (HD-2967)	180	105	115	0	5630	3.09	3.33
Total		198	123					
Integrated crop management								
Yamunanagar	Rice (PB-1)	35	10.4	54.34	49.91	1.96	3.29	3.11

ar								
Total		35	10.4					
Location specific intercropping systems with high sustainable yield index								
Faridkot	Mustard in sugarcane	1	0.8	18.4 (Mustard) + 945 (Sugarcane)	880 (Sugarcane)	9.47	3.28	2.48
Total		1	0.8					
Low water requiring crops								
Faridkot	Gram (PBG-7)	20	4.4	10.75	9.5	13.15	1.7	1.67
Faridkot	Gobhi sarson (GSC-7)	25	4	18.1	15.8	14.55	2.81	2.57
Total		45	8.4					
Hamirpur	Maize (Polo gold)	16	2.5	22	20	10	1.5	1.3
Total		16	2.5					
Nutrient Management								
Yamunanagar	Rice (PB-1)	55	22	52	47.7	9.01	2.8	2.55
Yamunanagar	Wheat (HD-2967)	50	20	55.93	53.56	4.42	2.47	2.38
Yamunanagar	Wheat (HD-2967)	5	4	58.25	55.5	4.9	2.44	2.36
Faridkot	Green manuring (Dhaincha for PR-114)	69	207	75.1	71.9	4.4	2.84	2.72
Faridkot	Rice (Pusa basmati-1121)	69	207	47.9	45.7	4.8	2.98	2.84
Faridkot	Rice (Paddy-PR-114)	5	2	75.6	74.4	1.6	2.86	2.79
Faridkot	Wheat (HD-3086)	5	2	54.8	52.3	4.78	2.81	2.65
Total		258	464					
Protected Cultivation								
Chamba	Capsicum (Indira)	9	0.13	560	360	55.5	4.25	2.98
Total		9	0.13					

Short duration varieties								
Bandipura	Wheat (Shalimar Wheat-2)	88	8	35 (Seed) 55 (Fodder)	25 (Seed) 45 (Fodder)	28	1.65	1.27
Bathinda	Summer moong (SML-668)	12	4	10.2	9.7	5.1	0.79	0.7
Chamba	Gobhi Sarson (HPN-3)	30	3	4.5	3.2	40.6	1.2	1.1
Kathua	Paddy (NDR-97)	27	5	32	22	45.4	2.07	1.42
Kathua	Paddy (Pusa-1509)	2	1.2	38	24	58.3	3.28	1.52
Sirsa	Barley (BH 393)	5	2	40	37	8.1	1.96	1.81
Faridkot	Summer moong (SML-668)	20	4	8.4	7.2	16.6	1.79	1.52
Total		184	27.2					
Temperature tolerant varieties								
Bandipura	Sorghum (M.P.Cherry)	11	3.53	390 (Fodder)	280 (Fodder)	35	1.54	0.82
Faridkot	Wheat (HD-3086)	10	4	54.2	52.3	3	2.75	2.65
Faridkot	Wheat (HD-725)	25	10	51.3	50.1	2.4	2.6	2.54
Total		46	17.53					
Hamirpur	Toria (Bhawani)	21	0.83	6	5	20	1.6	1.5
Total		21	0.83					
Varietal evaluation								
Bandipura	Maize (SMC-4)	5	1.15	64 (Seed) 40 (Fodder)	60 (Seed) 34 (Fodder)	6 17	1.48	1.18
Kathua	Wheat (Raj-3765)	11	4.5	17.5	14.4	21.52	2.24	1.92
Kathua	Wheat (WH-1021)	23	5	19.7	15.5	27.09	2.52	2.06
Ropar	Gobhi sarson (Canola var. GSC-7)	15	5	19.4	15.1	28	2.9	1.9
Sirsa	Wheat (WH 1105)	10	4	47	45	4	2.31	2.26
Faridkot	Wheat (HD-3086)	5	2	54.9	52.3	4.47	2.78	2.65
Faridkot	Wheat (PBW-725)	5	2	51.6	50.1	2.99	2.58	2.54

Faridkot	Wheat (HD-2967)	5	2	52.1	51.2	1.75	2.64	2.6
Faridkot	Wheat (WH-1105)	5	2	53.4	51.8	3.08	2.71	2.63
Total		84	27.65					
Wheat								
Hamirpur	Wheat (Early sown) (HS 542)	2	1	25	22	13.6	1.9	1.8
Hamirpur	Wheat (Late sown) (HPW 368)	17	2	28	22	27.3	1.9	1.85
Total		19	3					
Faridkot	Wheat (HD-3086)	68	16.6	54.93	52.3	5.03	2.97	2.65
Total		68	16.6					
Fatehgarh Sahib	Paddy (Pusa Basmati 1121)	50	50	20		70.5	2.4	
Ropar	Wheat (PBW-725)	10	4	54	51	6	2.98	2.82
Total		60	54					
Mushroom Cultivation								
Chamba	Agaricus bisporus (Spawn)	6	600 bags				2.4	-
Fatehgarh Sahib	Mushroom cultivation	15	150 bags	0.05	-	-	2	-
		11	750					

Module III: Livestock and Fisheries

Different interventions like Animal health check up camp, Artificial Insemination, Breed up gradation, De-worming in livestock, improved shelters for reducing heat stress in livestock, Mitigation of mineral deficiencies in animals, Popularization of backyard poultry, Preventive vaccination, Management of fish ponds/tanks during water scarcity and excess water, Fodder Production and Hay Making were followed in NICRA villages of Zone-I. Under these activities, 1950 farmers were benefitted through 890 demonstrations (Table).

Table: Details of livestock and fisheries activities implemented under NICRA by KVKs

Intervention	No. of demos	No. of farmers	Units
Animal health check up camp	19	214	394
Artificial Insemination (No. of animals)	1	21	29
Breed up gradation (No. of animals)	3	120	186
De-worming in livestock (No. of animals)	305	438	933
Improved shelters for reducing heat stress in livestock (Units)	4	33	69
Mitigation of mineral deficiencies in animals	508	414	1020
Popularization of backyard poultry (No. of birds)	30	49	1441
Preventive vaccination (No. of animals)	3	290	978
Management of fish ponds/ tanks during water scarcity and excess water (Units)	1	200	-
Fodder Production (ha)	15	124	136
Hay Making (Units)	1	47	91
Total	890	1950	5289

Module IV: Institutional Interventions

This module consists of interventions such as Fodder bank, Custom hiring centre, Mechanization through custom hiring for timely planting, Nutritional garden, Climate literacy through a village level weather station, Zero tillage, Community silage making and seed bank. Custom hiring centers in NICRA villages provided required farm implements to 332 farmers which were utilized for 402.1 ha area to carry out timely operations besides reducing the cost of cultivation (**Table**). Under these interventions, services were provided to 2329 farmers.

Table: Details of institutional interventions implemented under NICRA by KVKs

Interventions	No. of farmers	Units
Fodder bank (ha)	155	121
Custom hiring centre (ha)	332	402.1
Mechanization through custom hiring for timely planting (ha)	699	667.48
Nutritional garden (ha)	320	96.76
Climate literacy through a village level weather station	586	582

Zero tillage	4	1
Community silage making	33	-
seed bank (ha)	200	400
Total	2329	2270.34

Capacity Building

During 2016-17, 242 different capacity building programs were conducted for 4693 farmers including 1154 farm women on various need based aspects i.e. Crop management, Enterprises for self employment, Farm implements and machineries, Fodder and feed management, Forest tree/ agro forestry plantation, Irrigation management, Live stock management, Management of horticultural crops, Natural resource management, NICRA awareness, Nutritional garden, Pest and disease management, Post harvest technology, Resource conservation technology, Seed production, Soil health management, Vegetable production, water saving, Awareness on abuse on social issues, Nursery raising, Nutrient management, Home Science and Crop Diversification (**Table**).

Table: Details of capacity building programmes carried out under NICRA by KVKs

Thematic area	No. of courses	No. of farmers		
		Male	Females	Total
Crop management	28	468	101	569
Enterprises for self employment	9	99	39	138
Farm implements and machineries	9	143	75	218
Fodder and feed management	21	327	153	480
Forest tree/ agro forestry plantation	3	35	10	45
Irrigation management	4	58	41	99
Live stock management	13	205	111	316
Management of horticultural crops	6	86	24	110
Natural resource management	47	505	60	565
NICRA awareness	9	150	99	249
Nutritional garden	8	86	56	142
Pest and disease management	30	470	39	509
Post harvest technology	5	-	77	77
Resource conservation technology	14	264	54	318
Seed production	3	41	19	60
Soil health management	12	228	55	283
Vegetable production	7	116	30	146
water saving	4	57	22	79
Awareness on abuse on social issues	4	43	47	90
Nursery raising	1	35	-	35
Nutrient management	3	70	-	70

Thematic area	No. of courses	No. of farmers		
		Male	Females	Total
Home Science	1	-	20	20
Crop Diversification	1	53	22	75
Total	242	3539	1154	4693

Extension Activities

For creating awareness about the impact of the climate resilient technologies, a number of extension activities were organized by KVKs under NICRA at the KVK farms as well as in the NICRA villages. Total 432 extension programmes were organized by the KVKs of the Zone-I in which 9783 farmers participated which included 2067 farmwomen. The detail of the extension activities are presented in the **Table**.

Table: Details of Extension Activities carried out under NICRA by KVKs

Name of the activities	Number of programmes	No. of beneficiaries		
		Male	Female	Total
Exposure visit of farmers	19	518	51	569
Strengthen - SHG	0	0	0	0
Strengthen - Kissan club	0	0	0	0
Integrated farming system	1	10	2	12
Field days	45	1009	341	1350
Method demonstrations	64	825	341	1166
Awareness Camps	48	1763	510	2273
Group dynamics	72	915	233	1148
Kissan Mela	8	1290	242	1532
Women awareness	20	86	156	242
Agro advisory services	109	1018	172	1190
soil health day	1	97	7	104
Field visit	45	185	12	197
Total	432	7716	2067	9783

Mass Awareness Campaign against Residue Burning

A *Kisan Sammelan* was organised on 16th October 2016 at KVK, Kaithal, to mark the beginning of “*Chetna maas*”, in association with Agriculture department to sensitize farmers about bad effects of residue burning and making awareness about available technology options to manage residue.

The highlight of the programme was Farmers to Farmers Dialogue (F2FD) and live demonstrations on various machines like baler, chopper, spreaders etc. for residue management.

Dr. Gurbachan Singh, Chairman, ASRB & Chief Guest of the *Sammelan* initiated the ‘*Chetna Month*’ and sensitized the audience about soil health improvement, reducing pollution, increasing productivity and increasing sustainability and resilience of the agriculture to adopt

resource conservation technologies under the changing scenario of climate change. In his presence, all the participants took oath not to burn residue.

Dr. K. P. Singh, VC, CCSHAU, Hisar urged the farmers to restrain from residue burning and use residues as mulching as a source of nutrient for the next crop. He also informed the importance of soil organic carbon (SOC) in sustainability and methodology for the farmers to adopt resource conservation technologies under the changing scenario of climate change.

Dr. V. P. Chahal, ADG (Agri. Ext.) and Dr. Randhir Singh, ADG (Agri. Ext) urged the scientists to work in close association with the farmers for larger impact and all out efforts should be made to reach farmer to reduce the problem of residue burning.

Dr. Rajbir Singh, Director, ATARI, Ludhiana while explaining the purpose of the *Sammelan* narrated success stories of farmers who are not burning residue and how young farmers are minting money out of residue management.

Dr. P. C. Sharma, Director, CSSRI, Karnal and Dr. G. P. Singh, Director, IIWBR and Dr. S. S. Siwach, Director Extension Education, CCSHAU, Hisar were also present for the programme.

More than 1500 farmers and farm women participated in the *Sammelan*.

Kisan Sammelan organized to aware farmers about hazards of residue burning

A Kisan Sammelan was organized by ICAR-ATARI, Zone-I, Ludhiana along with KVK Yamunanagar on November 11th, 2016 in village Radouri where Technology Demonstration Component of National Innovations in Climate Resilient Agriculture (NICRA) is being implemented. Dr. S.S. Siwach, Director Extension Education and Director Research, CCSHAU Hisar; Dr. Rajbir Singh, Director, ICAR-ATARI, Ludhiana; Dr. M.L. Jat, CIMMYT; Dr. Dharamvir Yadav; Dr. Samar Singh, Director, RRS CCSHAU Uchani; Dr. B.R. Kamboj, PC, KVK Yamunanagar and Sh. S.P. Singh, President, Kisan Club, Yamunanagar were the dignitaries present for the programme. Around five hundred farmers attended the programme.

The programme began with interactive lectures by experts from different fields regarding crop cultivation, soil health management, fertilizer management, soil testing, human health and nutrition management, etc.

At the outset, Dr. Kamboj formally welcomed the guests and farmers. Dr. Dharamvir mentioned about the need to move towards minimum rather zero tillage in coming future. Similarly, Sh. S.P. Singh, on behalf of farmers, assured the chief guest about residue burning free district.

Dr. Jat asked farmers to raise their voices and demand the government for necessary policy change for going residue burning free agriculture. He highlighted use of successfully tested technologies for better resource management at the farm level.

Dr. Rajbir Singh congratulated the Radouri village for achieving complete laser leveling, no residue burning and successful functioning of the Custom Hiring Centre. He mentioned about the efforts taken to provide necessary implements and other technical help in managing crop residue. Dr. Siwach highlighted production of electricity and bio-gas for straw management. He emphasized on developing climate smart villages like Radouri in the rest of the Haryana. He also expressed need to work on participatory resource conservation technology development.

NICRA (ICAR-ATARI, Zone I, PAU Campus, Ludhiana)

Zones	NRM		Crop production		Livestock & Fisheries			Capacity Building		Extension Activities	
	Dem onst ratio ns	Ar ea (h a)	Dem onst ratio ns	Ar ea (ha)	Dem onst ratio ns	Ar ea (h a)	No. of ani mals	No of Courses	Far mers	No. of programme s	Far mers
Zone-I	1038	865	2183	984.283	873	136	5050	242	4693	432	9783

CLUSTER FLDS ON RABI PULSES

Crop	Thematic area	Technology Demonstration	No. of KVKs	No. of demos	Area (ha)	Yield (q/ha)		% increase	Economics of Demo				Economics of check			
						Demo	Check		Gross Cost	Gross Return	Net return	BCR	Gross Cost	Gross Return	Net return	BCR
Pulses																
Lentil																
Lentil	IC M	Enhancement of lentil production	1	10	0.50	340	280	21.43	48650	115800	67150	2.38	43400	7500	32300	1.74
Lentil	IC M	Demonstration on lentil	1	25	0.49	530	490	8.16	40000	53000	13000	1.33	40500	4900	8500	1.21
Lentil	Varietal	Varietal Evaluation	1	24	2.00	720	610	18.03	21000	36000	15000	1.71	19000	3500	11500	1.61
Lentil TOTAL			3	59	2.988											
Cowpea	IN M	Variety, Timely sowing, hoeing, application of basal doze of fertilizer.	1	20	1.35	950	700	35.71	42800	142500	99700	3.33	40000	10500	65000	2.63
Cowpea	IC M	Full package of practice	1	16	2.00	1070	740	44.59	18900	74900	56000	3.96	15000	4800	29300	2.89
Cowpea TOTAL			2	36	3.35											
Arhar																
Arhar	IC M	Improved variety (AL 201), Management	2	9	3.2	103	713	44.77	31415	62091	30676	1.98	2800	459	17842	1.63

Crop	Thematic area	Technology Demonstration	No. of KVKs	No. of demos	Area (ha)	Yield (q/ha)		% increase	Economics of Demo				Economics of check				
						Demo	Check		Gross Cost	Gross Return	Net return	BCR	Gross Cost	Gross Return	Net return	BCR	
		of borers and blister beetle				3								8			
Arhar TOTAL			2	9	3.2												
Moong																	
Moong	IC M	Production Technology	1	95	38	12	8.5	51.53	15400	65000	49600	4.22	16000	42000	28200	2.76	
Moong	IC M	Improved Variety	1	15	2.00	728	5.00	45.50	9500	58200	48700	6.13	73000	40000	32700	5.48	
Moong	IC M	FLD on introduction of Shalimar Moong-1	1	24	3.00	830	6.70	23.88	20394	56084	35690	2.75	23927	5247	26320	2.10	
Moong	IP M	Integratted Pest Management of Bihar hairy Caterpillar through Dichloras	1	20	8	715	6.1	17.21	15750	50050	34300	3.18	16500	42700	26200	2.59	
Moong	Var ieta l perform anc e	Use of high yielding variety	1	30	12	72	6.5	10.77	14100	39600	25500	2.81	14100	35750	21650	2.54	
Moong	Var ieta l perform anc e	Full production technology of Mung bean	1	50	20	123	7.1	73.24	27189	61500	34311	2.26	26520	35500	89800	1.34	

Crop	Thematic area	Technology Demonstration	No. of KVKs	No. of demos	Area (ha)	Yield (q/ha)		% increase	Economics of Demo				Economics of check			
						Demo	Check		Gross Cost	Gross Return	Net return	BCR	Gross Cost	Gross Return	Net return	BCR
Moong	RC T	Varietal performance of summer moong	1	10	4	7.3	6	21.67	14500	32850	18350	2.27	14500	27000	12500	1.86
Moong TOTAL			7	244	87											
Rajmash																
Rajmash	IC M	improved variety	2	127	1.9	1.75	8.0	45.96	35750	142000	106250	3.97	31050	91700	60650	2.95
Rajmash	IP M	IPM	1	15	3.00	4.98	2.83	75.97	26000	99600	73600	3.83	24300	56600	32300	2.33
Mash	IC M	Improved variety (Mash 114), Management of whitefly and mosaic	2	54	10.8	6.37	4.69	35.97	26174	45380	19206	1.73	23430	3715	11285	1.48
Rajmash	IC M	Full package of practices	1	35	5.00	9.01	6.90	30.58	65000	90100	25100	1.39	60000	69000	90000	1.15
Rajmash TOTAL			6	231	20.7											
Arhar																
Arhar	Var ieta l perform anc e	Full production technology of Arhar	1	5	2	1.9	14.7	28.57	40322	55471	15149	1.38	39973	46325	6352	1.16

Crop	Thematic area	Technology Demonstration	No. of KVKs	No. of demos	Area (ha)	Yield (q/ha)		% increase	Economics of Demo				Economics of check			
						Demo	Check		Gross Cost	Gross Return	Net return	BCR	Gross Cost	Gross Return	Net return	BCR
Arhar TOTAL			1	5	2											
Guar																
Guar	IC M	Scientific cultivation of guar as per package	1	19	8	10.5	9	16.67	214.25	32.55	11.12	1.52	195.00	27.90	840.00	1.43
Guar TOTAL			1	19	8											
Greengram																
Greengram	IC M	Improved practices	1	50	20	6.8	5.6	21.43	183.10	34.00	15.69	1.86	178.00	28.00	110.00	1.65
Green Gram	Varia	Improved var. of Greengram	1	18	2.00	4.50	3.10	45.16	690.00	25.10	11.00	3.64	528.00	17.90	126.20	3.39
Green Gram TOTAL			2	68	22											
Chickpea																
Chickpea	Crop diversification	Full package of practices	1	45	8.25	14.5	11.25	28.44	125.00	53.45	40.96	4.28	132.00	37.35	263.75	3.03
Chickpea	Crop diversification	Production Technology	1	31	6.40	14.55	13.60	6.99	331.85	44.80	11.62	1.35	357.50	40.16	474.11	1.13
Chickpea	Crop Diversification	Seed Treatment, Weed Control and INM	1	69	8.00	12.5	10.50	14.29	358.90	50.40	14.51	1.40	355.05	44.51	859.51	1.24

Crop	Thematic area	Technology Demonstration	No. of KVKs	No. of demos	Area (ha)	Yield (q/ha)		% increase	Economics of Demo				Economics of check			
						Demo	Check		Gross Cost	Gross Return	Net return	BCR	Gross Cost	Gross Return	Net return	BCR
						0							0			
Chickpea	Varietal performance	Production Technology	1			69.0	4.50	53.33	12000	48300	36300	4.03	11500	35000	20000	2.74
Chickpea	Varietal performance	Management of root rot/wilt in chickpea	2	40	16	19.0	16.75	13.43	49980	99000	49020	1.098	49500	92125	42625	1.86
Chickpea	Varietal	Varietal Evaluation	3	78	11.34	78.2	6.70	16.77	23828	41328	17500	1.073	22392	35442	13050	1.58
Chickpea	INM	Full package of practice	1	10	4.00	13.2	11.50	41.91	33200	63100	29900	1.090	34200	59100	24900	1.73
Chickpea	ICM	improved variety	2	25	5.3	18.8	8.30	22.59	24775	61500	36725	2.048	24210	38938	14728	1.61
Chickpea	IDM	Plant protection measures against Pod borer through Monocrotophos 36 SL 500 ml	1	26	10.4	19.7	12.00	49.17	17450	84000	66550	4.081	19500	64000	44500	3.28
Chickpea TOTAL			13	324	69.69											

SEED HUB

Creation of Seed-Hubs for increasing indigenous production of pulses in India

Table: Achievements under the project

Centre	Crop	Variety	Area sown (ha)	Production (q)
Una	Black Gram	Him Mash-1	14.0	112.5
		UG 218		
	Green Gram	IPM 02-3	4.0	23.8
		Suketi		
	Chickpea	HC-5	10.0	83.0
Bhiwani	Chickpea	CSJ 515	30.0	400.0
			Total	619.3

Mera Gaon Mera Gaurav

The *Mera Gaon Mera Gaurav* – MGMG (My Village My Pride) scheme has been launched by the Hon'ble Prime Minister on 25 July, 2015 on the occasion of 87th Foundation Day of ICAR and 9th National Conference of KVKs at Patna. It is an innovative initiative, which was planned to promote the direct interface of scientists with the farmers to speed up the lab to land process.

There are 17 ICAR Institutes in Zone-I which are organizing various activities in MGMG scheme and sending monthly reports to ICAR-ATARI, Ludhiana. A total of 258 teams formed by these Institutes in which 1094 scientists are involved and adopted 1197 villages under MGMG scheme. However, IARI and IASRI have formed their teams together and hence submitting single report. As far as SAUs are concerned, SAUs of this zone have formed 111 teams comprising 319 scientists and adopted 204 villages under MGMG scheme.

Table 1: Number of teams formed and village selected under MGMG in Zone-I

S. No.	Name of Institution	No. of teams	No. of scientists	No. of villages
ICAR Institutes				
1.	ICAR-IARI & IASRI, New Delhi	121	498	600
2.	ICAR-NBPGR, New Delhi	19	76	95
3.	ICAR-NCIPM, New Delhi	5	22	27
4.	ICAR-NIAP, New Delhi	3	18	15
5.	ICAR-NRCPB, New Delhi	6	40	6
6.	ICAR-CIRB, Hisar	7	26	30
7.	ICAR-NRCE, Hisar	6	23	24
8.	ICAR-CSSRI, Karnal	16	64	78
9.	ICAR-IIWBR, Karnal	14	58	69
10.	ICAR-NBAGR, Karnal	3	27	15
11.	ICAR-NDRI, Karnal	29	118	145
12.	ICAR-CPRI, Shimla	7	30	7
13.	ICAR-DMR, Solan	2	10	12
14.	ICAR-CITH, Srinagar	3	12	3
15.	ICAR-ATARI, Ludhiana	1	4	2
16.	ICAR-CIPHET, Ludhiana	9	46	45
17.	ICAR-IIMR, Ludhiana	7	22	24
	Total	258	1094	1197
SAUs				
1.	PAU, Ludhiana	28	66	55
2.	GADVASU, Ludhiana	3	13	10
3.	CCS HAU, Hisar	27	60	59
4.	LUVAS, Hisar	4	20	20
5.	CSK HPKV, Palampur	14	45	13
6.	Dr. YSPUH&F, Solan	32	100	32
7.	SKUAST (K), Srinagar	3	15	15
8.	SKUAST (J), Jammu	0	0	0
	Total	111	319	204
	Grand Total	369	1413	1401

