ACTION PLAN FOR THE YEAR

2018-19

(APRIL 2018 TO MARCH 2019)

KRISHI VIGYAN KENDRA

GRAMOTTHAN VIDYAPEETH, SANGARIA

HANUMANGARH (RAJ)

DETAILS OF ACTION PLAN OF KVKs DURING 2018-19

(1st April 2018 to 31st March 2019)

1. GENERAL INFORMATION ABOUT THE KVK

1.1. Name and address of KVK with phone, fax and e-mail

Address	Telephor	ne	E mail	Website
Krishi Vigyan Kendra, G.V., Sangaria	Office FAX k		kvksangariahmh	www.Kvksangaria.org
Hanumangarh-I	01499-252702	01499-252702	@gmail.com	hanumangarh1.kvk2.in

1.2 .a. Name and address of host organization with phone, fax and e-mail

Address	Telephone		Telephone E mail	
	Office	FAX		
Gramotthan Vidyapeeth, Sangaria	01499-250026	01499-250050	cosangariagv@gmail.com	www.gvsangara.com

1.2.b. Status of KVK website : Yes

1.2.c. No. of Visitors (Hits) to your KVK website (as on today) : 7995

1.2.d Status of ICT lab at your KVK : N/A

1.3. Name of the Senior Scientist cum Head with phone & mobile no.

Name	Telephone / Contact					
	Office	Mobile	Email			
Dr. Anoop Kumar	01499-252702	09414874800	anoopkvkhmh@gmail.com			
-			anoopkvk@redifmail.com			

1.4. Year of sanction: 1994

1.5. Staff Position (as on December 27, 2017)

SI	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale (Rs.)	Grade Pay	Present basic (Rs.)	Date of joining	Permanent /Temporary	Category (SC/ST/OBC/ Others)	Mobile No.	Email id	Please attach recent photograph
1	Senior Scientist cum Head	Dr. Anoop Kumar	Senio r Scient ist cum Head	Fisher ies Scien ce	37400- 67000 +9000	9000	51600	10-11-05	Permanent	OBC	9414874 800	anoopk vkhmh @gmail .com	
2	Scientist	Dr. Chandra Shekhar Sharma	SMS (Agro)	Agron omy	15600- 39100 + 5400	5400	30140	18-4-98	Permanent	Gen.	8432557 123	drcsshar ma68@g mail.com drcsshar ma@redif fmail.com	
3	Scientist	Sh. Umesh Kumar	SMS (PP)	Ento molog y	15600- 39100 + 5400	5400	28690	11-5-98	Permanent	OBC	9414535 717	umeshkv k@gmail. com	

4	Scientist	Sh. Mahavir Prasad Kaswan	SMS (Horti.)	Veget able Crops	15600- 39100 + 5400	5400	28690	25-9-98	Permanent	OBC	9414577 903	mahavir9 .mahavir @gmail.c om	
5	Scientist	Smt. Santosh Jhajharia	SMS (H.Sc.)	H.Sc. Ext.	15600- 39100 + 5400	5400	22020	8-9-08	Permanent	OBC	9462000 090	santoshjh ajhariakv k@gmail. com	
6	Scientist	Dr. Mukesh Kumar	SMS (A.H.)	Live stock Produ ction	15600- 39100 + 5400	5400	17550	11-6-14	Permanent	OBC	9928800 416	drmukes h@hotma il.com	
7	Scientist	Dr. Kuldeep Singh	SMS (Ag Ext)	Agri. Ext.	15600- 39100 + 5400	5400	20310	16-6-14	Permanent	OBC	9672133 448	kuldeep2 006singh @yahoo. com	
8	Program me Assistant	Sh. Anand Prakash Singh	Progr amme Assist ant (Farm Mana ger)	Agric ulture	9300- 34800 +4200	4200	19690	22-4-98	Permanent	Gen.	9413515 815	anandpra kash6@g mail.com	
9	Program me Assistant	Sh. Ravinder Kumar Kulria	Progr amme Assist ant (Com putor)	Comp uter Scien ce	9300- 34800 +4200	4200	19690	11-5-98	Permanent	OBC	9461107 775	ravikulria 9@gmail. com ravikulria @ymail.c om	
10	Program me Assistant	Sh. Raghuveer Singh Nain	Progr amme Assist ant (Train ing)	Agric ulture	9300- 34800 +4200	4200	15240	16-11-07	Permanent	OBC	9460026 849	raghuvee rnain09@ gmail	
11	Assistant	Sh. Sandeep Kumar	Assist ant	Accou nts	9300- 34800 +4200	4200	14670	11-9-08	Permanent	Gen.	9461036 002	sandeep bansal17 2@gmail. com	
12	Stenogra pher	Sh. Mahendra Kumar	Steno graph er		5200- 20200 +2400	2400	12230	6-7-98	Permanent	Gen.	9461205 050		9

13	Driver	Sh. Subhash Chandra	Driver (Tract or)	5200- 20200 +1900	1900	10740	2-12-96	Permanent	Gen.	9413432 466	
14	Driver	Sh. Surendra Kumar	Driver (Jeep)	5200- 20200 +1900	1900	8290	11-9-08	Permanent	Gen.	9315322 635	
15	Supporti ng staff	Sh. Isar Ram	Watc hman	5200- 20200 +1800	1800	8590	1-12-96	Permanent	Gen.	9571531 482	
16	Supporti ng staff	Sh. Vijay Singh	Farm attend ant	5200- 20200 +1800	1800	8300	24-6-98	Permanent	OBC	9460621 549	

1.6. Total land with KVK (in ha) :

S. No.	Item	Area (ha)
1	Under Buildings	01.50
2.	Under Demonstration Units	01.50
3.	Under Crops	11.75
4.	Horticulture/Orchard/Agro forestry	02.50
5.	Others if any	03.25

1.7. Infrastructural Development:

A) Buildings

		Source	Stage									
S.		of		Complete		Incomplete						
No.	Name of building	landing	Completion Year	Plinth area (Sq.m)	Expenditure (Rs.)	Starting year	Plinth area (Sq.m)	Status of construction				
1.	Administrative Building	ICAR	31.3.98	568	15.28							
2.	Farmers Hostel											
3.	Staff Quarters (6)	ICAR		400	25.95							
4.	Demonstration Units (1) Fisheries Demonstration Unit	ICAR	28.2.02	0.25 h	5.25							
5	Fencing	ICAR	31.3.06	3300m	8.10							
6	Rain Water harvesting system											
7	Threshing floor	ICAR	31.3.05	265	1.00							
8	Farm godown	ICAR	31.3.07	55.68	1.38							

9	Seed processing unit & Godown, Pipeline, Drip irrigation and raingun	State Agri. Deptt.	30.10.07	227	17.24		
10	Ornamental hatchery	KVK	2016	80	-		
11	Hightech Nursery	State Agri. Deptt.	30.06.13	3280	25.00		
12	Vermi compost	KVK	2005	40			
13	Azolla unit	KVK	2015	20	Τ		
14	Mushroom unit	KVK	2016	25q			
15	Soil & water testing Lab	ICAR	2005	35			
16	Plant Health clinic	ICAR	2011	38			
17	Animal lab.	KVK	2016	35			
18	Bee keeping unit	KVK	2008	4 boxes			
19	Nutritional garden	KVK	2015	-			
20	Crop museum	KVK	2010	0.5 ha		T	
21	Integrated Farming System	ICAR	2017	1.0 ha			
22	Technology Unit	ICAR	2017	1 Room			
23	Goat unit	KVK	2017	137.5 x 55 f			
24	Poultry unit	KVK	2017	20 x 35 f			

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Tractor	1995	1,94,000		Condemn
Motorcycle	2011	47,624		Good
Bolero	2013	815366		Good

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
ОНР	2002	17,840	Working
Slide Projector (1)	2002	24,415	Working
Microscope (5)	1997	11,160	Working
Computer (1)	2000	69,070	Working
Colour TV (1)	2000	13,900	Working
Camera (1)	2000	5,550	Working
Xerox (1)	2002	1,13,400	Working
AC (1)	2002	21,300	Working
AC (1)	2015	37,500	Working
Soil & water testing equipments for lab.	2004	8,30,668	Working
LCD with computer (1)	2007	1,25,000	Working
Handy camera (1)	2007	50,000	Working
Computer (1)	2007	39,000	Working
ERNET Hub (1)	2009	ICAR	Not working
Plant Health Clinic	2011	10,00,000	Working

Mirdaparikshak (1)	2015	75,000	Working
OHP (1)	1997	3,600	Not working
Slide Projector (1)	1997	4,200	Not working
Mirdaparikshak (1)	2017	90300	Working
AC (3)	2017	112500	Working
RO (1)	2017	32065	working

1.8. A). Details of SAC meetings to be conducted in the year

SI.No.		Date	
1.	Scientific Advisory Committee	20.10.2018	

2. DETAILS OF DISTRICT

2.1	Major farming systems/enterprises (based on the analysis made by the KVK)
S. No	Farming system/enterprise
1	Agriculture-Animal Husbandry
2	Agriculture-Animal husbandry-Horticulture
3	Agriculture-Animal Husbandary-Horticulture-Aquaculture
4	Agriculture-Animal Husbandary-Horticulture-Aquaculture-Mushroom
5	Agriculture-Animal Husbandary-Horticulture-Aquaculture-Beekeeping
6	Agriculture-Animal Husbandary-Horticulture-Aquaculture-Poultry
2.2	Description of Agro-climatic Zone & major agro ecological situations (based or
2)	Soil two

a) Soil type

SI. No. Agro-climatic Zone		Characteristics
1	Zone 1b (Irrigated	It Zone lies between 20° N to 30° N latitude and 74° to 75° 30' longitudes. It is bounded on the
	North-Western Plains)	North by Punjab, on the South by Bikaner and Churu, on the East by Haryana and on the West by
		Pakistan. In Hanumangarh District, we find hot summer, cool winter, unreliable rainfall and great
		variation in the temperature (2 ^o C in Jan. to 48.9 ^o C in June). The rainfall mostly restricted to rainy
		season. The monsoon normally comes in the first week of the July and recedes in the last week of
		September.

b) Topography

S. No.	Agro ecological situation	Characteristics
1	Canal irrigated light & medium soil	Sangaria & Hanumangarh tehsil sandy loam to loamy sand having good drainage property & calcasious sub soil. Organic matter or nitrogen level low. P_2O_5 low to medium & K ₂ O medium to high. Ground water is saline.
2	Ghaghar flood prone soil	Tibbi & Hanumangarh tehsil loam to salty loam soil, Saline, alkaline problematic soils. Paddy, Wheat, Mustard & Gram.
3	Rain Fed Area	Nohar & Bhadra tehsil fine sand to loam sand soil, sand dumes found in the area. Guar, Bajra, kharif pulses Gram, Taramira, Barley & Wheat crops.
4	Salt affected soil	Tibbi, Rawatsar, Nohar and Bhadra. Sandy and alkaline soil. Saline ground water, not suitable for irrigation, Paddy wheat mustard, Toria and fodder crops.

2.3	Soil Types		
S. No	Soil type	Characteristics	Area in ha
1	Canal irrigated light & medium soil	Sangaria & Hanumangarh tehsil sandy loam to loamy sand having good drainage property & calcasious sub soil. Organic matter or nitrogen level low. P ₂ O ₅ low to medium & K ₂ O medium to high. Ground water is saline.	353514
2	Ghaghar flood prone soil	Tibbi & Hanumangarh tehsil loam to salty loam soil, Saline, alkaline problematic soils. Paddy, Wheat, Mustard & Gram.	21790
3	Rain Fed Area	Nohar & Bhadra tehsil fine sand to loam sand soil, sand dumes found in the area. Guar, Bajra, kharif pulses Gram, Taramira, Barley & Wheat crops.	422077
4	Salt affected soil	Tibbi, Rawatsar, Nohar and Bhadra. Sandy and alkaline soil. Saline ground water, not suitable for irrigation, Paddy wheat mustard, Toria and fodder crops.	15440

2.4. Area, Production and Productivity of major crops cultivated in the district (2016-17)

S. No	Crop	Area (ha)	Production (MT.)	Productivity (kg/ha)
1	Cotton	160918	544465	575
4	Paddy	34450	101135	2936
5	Groundnut	24015	38301	1595
6	Moongbean	56142	27194	484
7	Mothbean	88320	24065	272

8	Bajra	41705	18421	442
9	Clusterbean	373273	130169	349
10	Til	1125	391	348
11	Wheat	240237	983546	4094
12	Barley	11730	40357	3440
13	Gram	109031	70043	679
14	Mustard	123573	171235	1386
15	Tarameera	2152	907	421

Source: Directorate of Agriculture, GOR.

2.5. Weather data (2017-18)

Manth	Deinfell (mm)	Temperature 0 C		Relative Humidity (%)	
WONTH	Raintaii (mm)	Maximum	Minimum	Maximum	Minimum
April 17	-	45.6	16.2		
May 17	6.5	46.8	22.4		
June 17	93.5	46.7	21.8		
July 17	86.5	41.2	24.6		
August 17	77.0	40.2	25.7		
Sept. 17	28.0	39.1	23.2		
Oct. 17	-	39.7	18.1		
Nov. 17	3.0	33.3	9.1		
Dec. 17	8.0	25.9	3.8		
Total	302.5				

Source: District agriculture department.

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district

Category	Population
Cattle	502071
Cross breed/Exotic	97198
Indigenous	404153
Buffalo	389303
Sheep	189210
Goats	212993
Pigs	1462
Horse	1223
Mules	407
Rabbits	973
Poultry	136427
Backyard	59223
Poultry farm	77207
Horse	1223
Mules	407
Camel	31226
Donkey	3370

Source: Department of Animal Husbandary.

S.No.	Animal Production	Production year 2016-17
1	Milk (000 Tones)	14645.12
2	Egg (Lakhs Tones)	12613.00
3	Meat (000 tones)	189.34
4	Wool (000 kg.)	1308.30

Year	Fish seed Production (Fry in lacs)	Fish Production (MT)	Income (lacs)
2015-16	395	2967.55	75.64
2016-17	927	2905.77	84.71
2017-18	542	2270.00	94.88+

2.7 Details of Operational area / Villages

SI. No.	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
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1	Pilibanga Hanuman garh	Pilibanga Hanumang arh	Amar Singh wala, Ayalki, Nandewali dhani, Fattewali, 3 TKW Pakka Sarna, Banwala, Hirnawali, Fatehgarh, Gurusar,			1.To increase the productivity of major field crops and encouraging farmers for sustainable agriculture through natural farming system using compost vermi
	Sangaria	Sangaria	Indergarh, , Bhakrawali, Santpura, Nagrana, Singhpura, Morjan Sekhon, Chak Hirasinghwala, Lambi Dhab, Chak Pratapnagar, Jandwala Sikhan		Unemployment Lack of knowledge	 and moisture conservation technology. 2. Encouraging farmers for seed production to obtain good quality seed. 3. To popularize Integrated Pest Management especially
	Тіbbі	Tibbi	Kulchander, Surewala, Basir, Talwara Jhil, Naiwala, Saliwala, Saharani, Sabuana, Mirzawali Mer, Tibbi	Cotton, Guar, Moong, Wheat, Gram & Mustard, Dairy, Poultry and fisheries	about scientific cultivation. Least use of bio pesticide products Lack of diversification in agriculture Lack of knowledge about climate change. Lack of awareness about water management Lack of knowledge about nutritional value of soil	stress on seed treatment and motivate the farmers for income generation through Bee- keeping and mushroom cultivation. 4. To extend the area under fruit orchards and techniques in nursery raising and its proper management. 5. Introducing employment generation activities for farm women like fruit and vegetable preservation, tailoring, embroidery, soft toys making etc. 6. To motivate the farmers for fish farming, fish seed production and ornamental fish culture. 7.To motivate the farmers, youths and farm women for dairy, poultry and pig farming for self employment and income generation.

2.8 Priority thrust areas

Crop/Enterprise	Thrust area
Cotton, Guar, Moong, Moth, Wheat, Gram, Mustard, Barley	To increase the productivity of major field crops and encouraging farmers for sustainable agriculture through natural farming system using compost vermi compost, FYM and moisture conservation technology.
Cotton, Guar, Moong, Moth, Wheat, Gram, Mustard, Barley	To popularize Integrated Pest Management especially stress on seed treatment.
Seed production	Encouraging farmers for seed production to obtain good quality seed.
Beekeeping & Mushroom cultivation	To motivate the farmers for income generation through Bee- keeping and mushroom cultivation.
Kinno, Malta, Pomegranate, Aonla, Ber, Carrot, Methi, Onion, Muskmelon, Garlic,	To extend the area under fruit orchards and techniques in nursery rising and its proper management.

Fish Farming	To motivate the farmers for fish farming and fish seed production.
Animal Production	To motivate the farmers, youths and farm women for dairy, goat, poultry and pig farming for self employment and income generation.
Income generating activities for farm women & rural youth	Introducing employment generation activities for farm women like fruit and vegetable preservation, tailoring, embroidery, soft toys making etc.

3. TECHNICAL PROGRAMME

3. A. Details of targeted mandatory activities by KVK

o. A. Botano ol talgotoa	mandatory dontineo by ret					
0	FT	FLD				
(1)	(2)				
Number of OFTs	Number of Farmers	Area (ha)	Number of Farmers			
11	72	108.25	355			

Trai	ning	Extension Activities				
(3)	(4)				
Number of Courses	Number of Participants	Number of activities	Number of participants			
43	1575	24	226462			

Seed Production (Qtl.)	Planting material (Nos.)	Fish seed prod. (Nos)	Soil Samples
(5)	(6)	(7)	(8)
205.0	350000		2700

3. B. Abstract of interventions to be undertaken

						Interventions				
S. No	Thrust area	Crop/ Enterprise	ldentified Problem	Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for extension personnel if any	Extension activities	Supply of seeds, planting materials etc.	
1	To increase the productivity of field crops	Cotton	Improper use of fertilizer	Efficient use of fertilizer in Cotton.					fertilizers	
2	To increase the productivity of field crops	Chickpea	No use of bio fertilizer	Use of liquid Bio-fertilizers in Gram crop					Seed, Bio- fertilizers	
3	To increase the productivity of field crops	Mungbean	Varietal assessment	Comparative study of moongbean cultivars					Seed	
4.	IPM	Kinnow	Citrus psylla management	Citrus psylla (<i>Diaphorina</i> <i>citri</i> Ashmed) management in Kinnow					Pesticides	
5	IPM	Cotton	White fly management	White fly (Bemisia tabasi) management in Bt. Cotton					Pesticides	
6	To extend the area under Vegetables	Cauliflower	Wider spacing	Evaluate spacing for cauliflower planting					Saplings	
7	To extend the area under Vegetables	Chilli	Fruit dropping	Management of Flower dropping in Chilli.					PGR	

8	Animal	Animal	Nutrition	Use of by-	1			By pass
Ŭ	nutrition	Solonoo	problem	pass protein				protein &
	indination	Science	problom	with mineral				mineral
				mixture to				mixturo
								mixture
				Increase fat				
				% in milk			ļ	ļ
9	Disease	Animal	Anestrous	Problem of				Mineral
	management	Science		anestrous in				mixture &
	_			lactating				Cobalt
				huffaloes				tablets
10	Woman and		Nutrition	Supplemente				
10		Home	Nutrition	Supplementa				Anna
	child care	Science	problem	ry diet for				Bajra
				children of				jiggery
				age 3-6				Laddu
				year(Iron &				Lauuu
				calcium				
				deficiency)				
11	To motivate	Fisheries	Poor ground	Adontohility	1	1	<u> </u>	Fish sood
	the formare	Colonaa	r oor ground	Adoptability				1 1311 3660
		Science	water	of saline				
	for fish			water fish				
	farming							
				species in				
				Hanumangar				
				h				
12			Low				<u> </u>	<u> </u>
12	l o increase	Moong			National	Scientific		Seed, Bio
	the		productivity		Food	cultivation		fertilizers,
	productivity				Security	of moong		PP
	of field crops				Mission	(1)		measures
	•				(NFSM)	. ,		
10			1				l	
13	To increase	Gram	LOW		National	Scientific		Seed, Bio
	the		productivity		Food	cultivation		fertilizers,
	productivity				Security	of Gram (1)		PP
	of field crops				Mission	. ,		measures
					(NESM)			
4.4			1	_			 .	
14	To increase	Mustard	LOW		National	Scientific		Seed, Bio
	the		productivity		Mission for	cultivation		fertilizers,
	productivity				Oilseed and	of mustard		PP
	of field crops				Oil palm	(1)		measures
					(NMOOP)	()		
L							ļ	ļ
15	To increase	Wheat	Low		Popularize			Seed
	the		productivity		&			
	productivity				performanc			
	of field crops				e of new			
					varieties			
				_	Valieties		ļ	
16	Fodder	Oat	Low		Popularize			Seed
	production		productivity		&			
	-				performanc			
					e of new			
					vorieties			
L			-		vaneties		ļ	ļ
17	Fodder	Berseem	Low		Popularize			Seed
	production		productivity		&			
1					performanc			
					o of now			
1					vorietia			
	<u> </u>				varieties	<u> </u>	<u> </u>	ļ
18	Integrated	Gram	Low		Use of bio-			Bio agents
	pest		productivity		agents			
	management				Trichoderm			
					a			
					a			

19	To extend the area under fruit orchards	Kinnow	Low productivity	Fruit dropping in kinnow		Micro nutrients,Hor monesfungic ides
20	Integrated crop management	Onion	Low productivity	Package of practices		Saplings
21	Off season vegetables	Bitter gaurd	Low productivity	Low tunnel technology		Low tunnel
22	Fruit and vegetable preservation	Mix pickle	Low quality & shelf life	Preparation of mixed pickles		Fruits, vegetable and spices
23	Income generating activities	Vegetables	Non availability of seasonal vegetables	Kitchen gardening		Seed, saplings
24	Disease management	Dairy Animal	Mastitis	Popularizati on of teat cup to reduce mastitis		Teat cup and solution
25	Nutrition management	Dairy Animal	Less availability of green fodder in lean period	Use of Silo bags (silage making)		Silo bag

3.1 Technologies to be assessed and refined

A.1 Abstract on the number of technologies to be assessed in respect of **crops**

Thematic areas	Cereals	Oilseed s	Pulses	Commercia I Crops	Vegetables	Fruits	Flower	Plantatio n crops	Tuber Crop s	TOTAL
Varietal Evaluation			1							1
Seed / Plant production										
Weed Management										
Integrated Crop Management					1					1
Integrated Nutrient Management			1	1						2
Integrated Farming System										
Mushroom cultivation										
Drudgery reduction										
Farm machineries										
Value addition										
Integrated Pest Management				1		1				2
Integrated Disease Management										
Resource conservation										
technology										
Small Scale income										
generating enterprises										
TOTAL			2	2	1	1				6

A.2. Abstract on the number of technologies to be refined in respect of crops

Thematic areas	Cereals	Oilseed s	Pulses	Commercia I Crops	Vegetables	Fruits	Flower	Kitchen garden	Tuber Crop s	TOTAL
Varietal Evaluation										
Seed / Plant production										

Weed Management						
Integrated Crop Management			1			1
Integrated Nutrient						
Management						
Integrated Farming System						
Mushroom cultivation						
Drudgery reduction						
Farm machineries						
Post Harvest Technology						
Integrated Pest Management						
Integrated Disease						
Management						
Resource conservation						
technology						
Small Scale income						
generating enterprises						
TOTAL			1			1

A.3. Abstract on the number of technologies to be assessed in respect of livestock / enterprises

Thematic areas	Cattle	Poultry	Sheep	Goat	Home Sci.	Vermi culture	Fisheries	TOTAL
Evaluation of Breeds							1	1
Nutrition Management	1				1			2
Disease of Management	1							1
Value Addition								
Production and Management								
Feed and Fodder								
Small Scale income								
generating enterprises								
TOTAL	2				1		1	4

A.4. Abstract on the number of technologies to be refined in respect of livestock / enterprises

Thematic areas	Cattle	Poultry	Sheep	Goat	Home Sci.	Rabbitary	Fisheries	TOTAL
Evaluation of Breeds								
Nutrition Management								
Disease of Management								
Value Addition								
Production and Management								
Feed and Fodder								
Small Scale income								
generating enterprises								
TOTAL								

B. Details of On Farm Trial

OFT-1 Object - Efficient use of fertilizers in Cotton crop. (Assessment) (Repeat)

Cotton is main cash crop of Hanumangarh district in Kharif season, cultivated over an area of about 1.49 lac hectare with a production of 4.35 lac bales and productivity 2.71 bales per hectare (2015-16). Farmers of this area usually prefer use of Di-ammonium phosphate (DAP) in standing crop of cotton at first irrigation. They believe that it increases plant growth and yield. Application of D.A.P. in standing crop possibly increases the rapid availability of nitrogen to plant as compared to urea application and its direct effect on plants can be seen but due to this, results in wastage of a large amount of DAP and even nutrients cannot be utilized efficiently. It causes an increase in cost of cultivation, but no markable increment in yield is notices.

The recommended doses of N, P and K are 150, 40 and 20 kg per hectare respectively. Entire dose of phosphorus and potassium and one third dose of nitrogen are applied as basal dose at the time of sowing. Remaining dose of nitrogen is applied in two split doses at first irrigation and second irrigation or third irrigation. Instead of use DAP in standing crop, if we use 100% soluble fertilizers as foliar spray to

the crop, it will help in reducing the wastage of DAP and will also improve the supply of plant nutrients to the crops in an efficient manner. These types of fertilizers are easily available in the market.

Therefore, this On Farm Trial is designed to fulfill these objectives to assess the efficacy of fertilizers in cotton crop in present scenario.



Problem cause diagram

Treatments:-

T1: Use of DAP in standing crop. (Farmer's practices)

T₂: Use of fertilizers as per recommendation. (Recommended practices)

 T_3 : Use of fertilizers as per recommendation with foliar application of Urea phosphate (17 : 44), NPK (19 : 19 : 19) and Potassium sulphate (0 : 0 : 45) (Assessment)

Replications	:	6
Plot size	:	0.25 ha. (0.75 ha area for each location)
Critical inputs	:	Seed, Fertilizers
Source: PRA		

OFT-2 Object :- Use of liquid Bio-fertilizers in Gram crop. (Assessment) (New)

Chickpea (*Cicer arietinum*) is a major pulse crop Hanumangarh district in Rabi season. There ia a good possibility to increase its production by inoculation with Rhizobium & Phosphate solubilizing bacteria (PSB) inoculants to the seed or to the soil even in fields where chickpea have been grown for many years. This can minimize uses of nitrogenous and phosphatic fertilizers, which is very costly.

Fertilizers directly increase soil fertility by adding nutrients. Bio-fertilizers add nutrients through the natural processes of fixing atmospheric nitrogen, solubilizing Phosphorus, and stimulating plant growth through the synthesis of growth promoting substances.

At present, Bio-fertilizers are supplied to the farmers as carrier based inoculants. Carrier-based bio-fertilizers are prepared with the help of activated charcoal, which act as a carrier for microbial inoculants. Bio-fertilizer consumption is not very satisfactory due to certain disadvantages associated with carrier-based bio-fertilizers like low shelf life (3-4 months), storage condition (stored in cool temperature) as it is temperature sensitive, bulky to transport, therefore, high transport cost, less scope for export, more chances of contamination, problem of proper packing, poor cell protection, poor moisture retention capacity and restriction on use of charcoal as a measure of conservation.

The advantages of liquid bio-fertilizers over conventional carrier based bio-fertilizers are: longer shelf life (12- 24 months), no effect of high temperature and no contamination, no loss of properties due to storage at high temperature up to 45 ^oC, high populations can be maintained more than 10⁹ cells/ ml up

to 12 to 24 months, easy to use by the farmers, high export potential, dosages are 10 times less then carrier-based, quality control protocols are easy and quick.

Therefore, there is a need to assess the response of liquid bio-fertilizers in Gram crop in present scenario.



Problem cause diagram

Treatments:-

T1: No use of Bio-fertilizers. (Farmer's practices)

T₂: Use of Bio-fertilizers as per recommendation (Carrier based inoculants). (Recommended practices)

T₃: Use of liquid Bio-fertilizers (Assessment)

Observations to be taken:- Plant stand (m²), Plant height (cm), No. of pods per plant, Yield (q/ha), Test wieght (gm)

Replications	:	6
Plot size	:	0.25 ha. (0.75 ha area for each location)
Critical inputs	:	Seed, Fertilizers
Source: PRA		

OFT-3 Object - Comparative study of moongbean cultivars. (Assessment) (New)

Originated in India, Greengram or Moongbean is the third important pulse crop. It is quite crop grown for seeds in summer season because of its short duration. The seeds are highly nutritious with protein content of 23-24%. The whole split grains are used as a pulse. The straw and husks are fed to cattle.

During last three four decades, despite of several efforts made to boost the pulse production could not stabilized the productivity which has been fluctuating ever the years. There are many factors limiting pulse production e.g. agro-climatic factors, lack of awareness about improved varieties, improper agronomic management, heavy infestation of weeds, severe crop damage due to attack of disease and insects etc. Out of these old varieties or local seed is an important factor which responsible for decrease pulse production.

The traditional or old varieties of mungbean grow in the district. The yield of these varieties is also very low. However, several new cultivars are now available. These have the potential to give higher yield of good quality seeds.

Therefore, there is a need to assess the comparative study of mungbean varieties in present scenario.

Treatments:-

T₁: IPM 02-3. (Existing variety)

T₂: GM-4. (New variety)

T₃: GM-5. (New variety)

Observations to be taken: - Plant stand (m^2) , Plant height (cm), No. of pods per plant, No. of seeds per pod, Yield (q/ha), Test weight (gm)

Replications		•	6
Plot size		0 25 ha	(0.75 ha area for each location)
Critical inputs	•	•.20 Ha	Sood
Critical inputs			Seeu
Recommended	Dr.	P. L. N	enira, Director Research, SKRAU, Bikaner

OFT-4 Object - Citrus psylla (Diaphorina citri Ashmed) management in Kinnow (Assessment) (New)

Citrus is the third major fruit of India after mango and banana. In northern part of Rajasthan, Kinnow mandarin is cultivated in larger area. In Hanumangarh district kinnow mandrain covered 1916 ha area. Kinnow is attacked by number of insect-pest throughout its life. Out of these, citrus psylla is an important pest, which cause sometime 30 per cent loses in Kinnow orchard alone. This pest also transmits huanglongbing (greening) disease in citrus fruits.

Farmers of the area are generally using Difenthuron 50wp @ 1 gm per litre of water, which is not effective to control citrus psylla. Some new molecules are available in market, which may be found effective for the same. Therefore, there is a need to check the efficacy of new effective molecules.



Problem Cause Diagram

Technological Intervention

1. Use of new molecules to manage citrus psylla pest in kinnow orchards.

- Treatment
 - T₁ -Difenthuron 50wp @ 1.00 gm/lt. (Farmers practice)
 - T_2 -Nuvaluron 10 EC@ 1.00 ml/lit. (Recommended practice)
 - Buprofenzin 25 EC @ 1.25 ml/lit. (Assessment) T₃ -

Note : Spray schedule will be adopted at ETL

Replication -

8 Plot size 100 plants each treatment -

Observations -

- 1. Observation of pest at 3, 5 and 10 days after spray.
- 2. Yield of plant, size of fruit and quality of fruit.

OFT-5 Object - White fly (Bemisia tabasi) management in Bt. Cotton (Assessment) (New)

Cotton cultivation is one of the oldest and most wide spread agricultural practices in the district. In Hanumangarh District Bt. Cotton area was 1.49 lakh hectares and production 4.35 lakh bales (2015-16). Cotton is susceptible to a wide range of insect pests. Among these, white fly is a major pest and contribute to lower yield.

For the control of white fly, Difenthuron 50wp @ 2gm / litre of water is recommended in package of practices. It is also recommended by company 1.5 gm per lit. Farmers of the area use amount of Difenthuron 50wp @ 1gm per litre, which is not effective to control white fly. Therefore, there is a need to evaluate proper dose of Difenthuron 50wp for effective control of white fly.



Problem Cause Diagram

Technological Intervention:

Proper dose of pesticides.

Treatment

T ₁	-	Difenthuran50wp @ 1.00 gm/lit. (Farmers practice)
T ₂	-	Difenthuran50wp @ 2.00 gm/lit. (Recommended practice)
T ₃	-	Difenthuran50wp @ 1.50 gm/lit. (Assessment)

Note : Spray schedule will be adopted at ETL

Replication	-	8
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Plot size - 0.5 hac. each treatment

Observation -

- 1. Observation of pest at 3,5, and 10 days after spray.
- 2. Yield of plot, size of boll and quality of lent.

OFT-6 Object - Evaluation of plant spacing in cauliflower. (Refinement) (Repeat)

Cauliflower (*Brassica oleracea var. botrytis* L) is one the most popular winter vegetable grown throughout the country. It is grown for its white tender curd, which is used as raw or cooked as vegetable. Among cole crops, cauliflower following cabbage is important with regard to area and production.

Recommended spacing for cauliflower planting is 45×45 cm but the farmers normally apply closed spacing 30×20 cm. Therefore, there is need to evaluate the planting space in cauliflower.



Problem Cause Diagram

TECHNOLOGY INTERVENTION:

1. Wider spacing

TREATMENT:

- T₁ 30 x 20 cm spacing (Farmer Practice)
- T₂ 45 x 45 cm spacing (Recommendation)
- T_3 45 x 30 cm spacing (Refinement)

REPLICATIONS	:	6
Plot Size	:	0.125 ha.

OBSERVATION:

- 1. Yield
- 2. Size of curd
- 3. Compactness of curd

OFT7 Object - Management of Flower dropping in Chilli. (Assessment) (New)

Chilli is known as hot pepper (*Capsicum annum var. longum L.*) and an important vegetable as well as spice crop grown in 400 ha area in Hanumangarh. Flower dropping is a serious problem in chillies under a condition of high temperature and low humidity. There are many types of PGR, which responds well to plant growth in terms of growth, fruit setting and yield. Foliar spray of plant growth regulator at flowering stage, increase the number of branches and inhibits dropping of flowers in chilli. So we plan to framework on assessment of flower dropping in chilli.



Problem Cause Diagram

TECHNOLOGY INTERVENTION:

Use of plant growth regulator.

TREATMENT:

- T₁ No use of PGR (Farmer practice)
- T₂ Foliar spray of PGR (NAA @ 10 and 15 ppm at 40-60 days after DAT)
- T3 Foliar spray of PGR (GA 3 @ 10 ppm at flowering stage)

REPLICATIONS	:	5

Plot Size	:	0.1 ha.

OBSERVATION:

- 1 Growth and yield.
- 2. Net return
- 3. B:C Ratio
- OFT 8 Object: Use of by-pass Protein with mineral mixture to increase fat% & SNF% in milk of cross breed cow. (Assessment) (Repeat)

It has been observed during PRA, and various extension programmes that milk rate at milk collection centers is less due to low Fat% and SNF %, which make their business non profitable. Animal owners are not using mineral mixture in normal diet of animals instead of this farmers think that mineral mixture is a medicine.

Cross breed cow owners always complaint that milk rate is less due to low fat% and SNF% in the milk. Following Possible causes are mainly responsible for low fat% and SNF% in the milk is untreated protein feed denatured in rumen during anaerobic fermentation in rumen. During anaerobic fermentation NH3 (ammonia) is produced a part of which is absorbed by rumen membrane and converted to protein in liver, rest of Protein is digested in abomasums and absorbed in intestine.



Reason of Low Milk Production and low fat% & SNF%

- 1. Malnutrition problem.
- 2. Imbalanced use of feed and fodder.
- 3.No use of mineral in feeding.
- 4.No use of by-pass protein in dairy animals.
- 5.Lack of knowledge about management of animals.

Possible Solutions

1.Use of mineral mixture in feed.

2.Use of by-pass fat after calving to increase fat% & SNF% in dairy animals.

Treatments

- T₁ Normal feeding (Control).
- T₂- Mineral mixture @ 50 gm/animal/day.
- T_3 Mineral mixture @50 gm/animal/day with by-pass Protein .

Replications:6Duration:6 MonthsObservations to be recorded:daily milk yield and milk fat% & SNF% in dairy animals.

OFT 9 Object: Problem of anestrous in lactating buffaloes. (Assessment) (Repeat)

It has been observed during PRA, and various extension programmes that animal owners are not feeding mineral mixture in normal diet and dewormer at regular interval. Resulting Buffalo production faces problem of silent heat and anestrous.

This is mainly due to deficiency of some essential and trace minerals. Possible bio physical causes of anestrous is mineral deficiency, metabolic disorder, parasitic infestation, chronic disease, hormonal imbalance and socio economic cases are lack of awareness, poor housing system, poor nutrition etc.



Reason of anestrous:

1. Deficiency of minerals

- 2. Copper & Cobalt deficiency
- 3. Parasitic infestation

Possible Solutions

1. Use of mineral mixture in feed.

2. Use of copper & Cobalt tablets along with mineral mixture and dewormer.

Treatments

T-1 : No use of Mineral mixture and Cu & Co tablets (Farmers practice)

T-2: farmer practice + Mineral mixture @ 50g bid + Cu & Co tablets

T-3 : farmer practice + Mineral mixture @ 50g bid +Cu & Co tablets + deworming of animals

Replications:6Duration:1 Month

Observations to be recorded: Signs of heat shown by animals, no of animals in heat.

OFT 10 Object: Supplementary diet for children of age 3-6 year (Iron & calcium deficiency) (Assessment) (Repeat)

Most of the children of the village, which belong the age group of 3-6 year, is suffering from nutritional deficiency specially Iron and Calcium. These children take supplementary meal (Poshak) from Anganwari centre. Anganwari meal is rich in carbohydrate and protein. Due to this reason children suffer from low hemoglobin level and poor growth. Therefore, proper supply of these nutrients to the children is needed. KVK, Hanumangarh-1 organizes OFT to fulfill the requirement for the same. This OFT (Programme) aims to explore the reasons and help the children and their mother to combat nutritional problems with the help low cost locally available diet.

Causes -

- 1. Lack of knowledge about nutritional diet
- 2. Economical factors (Below poverty line)
- 3. Illiterate and ignore.



Problem Cause Diagram

Technology Intervention – Bajra and jaggery are good sources of Iron and calcium. Amla is one of the richest sources of ascorbic acid (Vitamin C)

Replication -

Treatments –

T₁- Local daily diet (Carbohydrate Rich)

10

- T₂- Local daily diet + Poshak (Carbohydrate and Protein Rich)
- T₃- Local daily diet + Poshak + Bajra jiggery Laddu (75 gm per day) + Amla Jam (35 gm per day)

Parameters -

- 1) Hemoglobin test
- 2) Body weight
- 3) Body height
- 4) Knowledge test of mothers

OFT 11 Object - Promotion of saline water Aquaculture in Hanumangarh. (Assessment) (New)

In Hanumangarh district, the canal water is mainly used for the crop irrigation. Though the canal water is first choice of the farmers for crop irrigation, but the groundwater is also used when canal water supply is not sufficient for irrigation. As per the water quality standards (Total Alkalinity 300-450 ppm Total hardness 900-1250 ppm, Salinity 6-12 ppt and pH 8.0-9.0), the raw groundwater of this region is not suitable for crop irrigation. Therefore, the farmers have constructed water tanks for the storage of groundwater for maturation. The water stored for irrigation can also be used for saline water fish rearing. Therefore, to promote the multiple use of water and additional income of farmers, this OFT is to assess the adoptability of saline water aquaculture in Hanumangarh.



Problem Cause Diagram

Treatment

- T_1 Blue tilapia
- T₂ Musil cephalus
- T₃ Chanos-chanos
- T₄ Common carp

Observation to be taken -

A. Fish growth parameters

- 1. Fish Survival
- 2. Fish growth (Both length & weight)
- B. Economic parameters
- 1. Yield per unit.
- 2. Economics
- 3. BC ratio

Replications - 4

3.2 Frontline Demonstrations

A. Details of FLDs to be organized in 2018-19

SI. No.	Crop	Variety	Thematic area	Technology for demonstration	Critical inputs	Season and year	Area (ha)	No. of farmers/ demon.	Parameters identified
1	Moong	MH-421	Integrated crop management	Package demonstration	Seed, Bio inputs	Kharif 2018	10	50	Yield
2	Cotton	Bt. Hybrid RCH-773	Integrated pest management	Popularize IPM technology	Sticky trap, Bio- pesticide d	Kharif 2018	6	15	Yield
3	Gram	GNG-2144 GNG-2171	Integrated crop management	Package demonstration	Seed, Bio inputs	Rabi 2018	40	100	Yield
4	Mustard	RH-749	Integrated crop management	Package demonstration	Seed, Bio inputs	Rabi 2018	40	100	Yield
5	Wheat	HD 3086	Integrated crop management	Popularize & performance of new varieties	Seed	Rabi 2018	10	25	Yield
6	Oat	JHO-822	Fodder Production	Popularize & performance of new varieties	Seed	Rabi 2018	1	10	Yield
7	Barseem	Vardan	Fodder Production	Popularize of Fodder cultivation	Seed	Rabi 2018	1	10	Yield
8	Gram	Trichoderma harzianum	Integrated pest management	Use of bio agents Trichoderma hergenium	Bio agents	Rabi 2018	5	10	Yield
9	Kinnow	Kinnow	Integrated crop management	Fruit dropping management	Micro nutrients, Hormones fungicides	2018	5	20	Yield
10	Onion	Agrifound Dark Red	Production of low volume and high value crops	Package of practice	Seed	Kharif 2018	1	20	Yield
11.	Bitter gourd	Amansari	Off season vegetables	Low tunnel technology	Low tunnel	Winter 2018	0.25	5	Yield
12	Home Science	Preparation of mixed pickels	Value addition	Value addition	Vegetabl es, Mustard oil etc.	2018-19	-	10	Self life
13	Home Science	Nutritional kitchen garden	House hold food security by kitchen gardening and nutrition gardening	Nutritional kitchen garden	Seed & plant of Vegetabl es & fruits etc.	2018-19	2250Sq .m	15	Economic spot & farmer Recation
			TOTAL				114.25	370	

Cluster Frontline Demonstration (Kharif 2018)

Under National Food Security Mission (NFSM)

Crop: Mungbean Variety: MH 421 Area under CFLD: 20 ha No. of CFLDs (farmers): 50

In Hanumangarh district, the production level of mungbean is not sufficient on account of several causes like unavailability of quality seeds of important varieties in time and poor crop management practices due to unawareness and non-adoption of recommended production and plant protection technologies. The farmers of the area are still producing crops based on the knowledge transmitted to them by their forefathers leading to a grossly unscientific agronomical, nutrient management and pest management practices. There are many technology adoption gap find out during PRA as given below:

Technology	Existing practice	Technological intervention		
Varieties	SML 668, IPM 02-3, MH 2-15	MH 421		
Seed rate	12-16 kg/ha	16 kg/ha		
Time of sowing	15 June to 15 July	First fortnight of July		
Seed treatment	No	Carbendazium 50% WP @ 2 g per kg of seed & Bio fertilizer		
Nutrient management	Rare use (Single supper phosphate or DAP)	20 kg Nitrogen and 40 kg phosphorus per hac.		
Weed management	Rare use of Pendimethaline 30 EC @ 1 kg ai per hectare	Imazethapyr 10% SL @ 40 gm a.i. per hectare		
Plant protection measures	Use of chemical pesticides as per requirement	Use of bio pesticides as per requirement		

Gap analysis of technology adoption in Mungbean crop

Technological package demonstrated (2018-19)

- Crop:- Mungbean
- Variety: MH 421
- Recommended seed rate:- 16 kg per hectare
- Seed treatment :- Carbendazium 50% WP @ 2 g per kg of seed
- Basal application of fertilizers: 20 kg N_2 & 40 kg P_2O_5 per hectare
- Use of bio fertilizer: Rhizobium & PSB culture
- Use of herbicide: Imazethapyr 10% SL @ 40 gm a.i. per hectare
- Use of PP measures :- As per requirement (Cotto 12 for sucking pest & Daman A 47 for pod borer)

FLD on integrated pest management in Bt. Cotton

Total area under cotton 1.49 Lakh in Hanumangarh district with production 4.35 lakh bales (2016-17). Bt. Cotton cover 70 percent area of total cotton sown. Bt. Cotton is susceptible a wide range of sucking pests (white fly, jassid, thrips and mites) and CLCV. For this reason the productivity of Bt. Cotton decreases continuously. The modern concept of pest management is based on ecological principals and involves the integration of different components/control tactics in to a integrated pest management system. IPM, in turn is a component of the agro-ecosystem management technology for sustainable cotton production. In cotton monitoring can be done by setting light traps, sex pheromones

traps,, yellow & blue sticky traps and regular field scouting at 3-5 days intervals and use safer pesticides for defenders and effective management of pest through FLD programmes.

Technology	Existing practice	Technological intervention
Variety	RCH-650, SP-7172, SP-7272	RCH-773
Monitoring	Visual monitoring & occasionally visit	3-5 days intervals visit, traps, monitoring
Plant production measures	Use of chemical pesticides	Use of Bio-pesticides

Gap analysis of technologies adoption in Bt. Cotton crop

Technological package demonstrated (2018)

Crop – A. Cotton

Variety – Bt. Cotton hybrid RCH-773

Sucking pest management – Use of bio pesticides, sticky traps and light traps.

Cluster Frontline Demonstration (Rabi 2018-19)

Under National Mission on Oilseeds and Oil palm (NMOOP)

Crop : Mustard Variety : RH 0749 Area under CFLD : 40 ha No. of CFLDs (farmers) : 100

Indian mustard {*Brassica juncea* (L) Czern & Coss} is the major oilseed crop grown in the Hanumangarh district during Rabi season. In Hanumangarh, the productivity of rapeseed-mustard was 1386kg/ha, 1.23 lakh ha area under cultivation and total production was 1.71 lakh metric tons during 2016-17. The yield levels also have been variable ranging from 1116 kg/ha (2011-12) to 2055 kg/ha (2010-11) during the past ten years. Though, mustard crop occupy prominent position in the district but vast yield gap exists between potential yield and yield under real farming situation. The reasons for vast yield gap are poor adoption of newly released crop production and protection technologies and their management practices in the farmer's fields

Technology	Existing practice	Technological intervention
Varieties	V-45S42, Laxmi, Saloni	RH 749
Seed rate	3-4kg/ha	2.0 kg/ha
Spacing	30 X 5-7 cm	45 X 10-15 cm
Seed treatment	Partially use of	Metalexil 35 SD @ 6 g per kg of seed &
	Imidachloprid 48% FS @ 5	Imidachloprid 48% FS @ 5 ml per kg of
	ml per kg of seed	seed
Thinning	No thinning	Thinning before first irrigation to maintain
		planting space 10-15 cm

Gap analysis of technology adoption in Mustard crop

Nutrient	Farmers generally used 200	38 kg Nitrogen and 40 kg Phosphorus as
management	kg SSP as basal dose.	basal application and remaining 38 kg
	They mixed 30 kg DAP with	Nitrogen at first irrigation as per soil test
	3-4 kg seed of mustard at	based
	sowing time.	
Weed management	One hoeing	Use of herbicide Pendimethalin 38.7% CS
		750g a.i. per hectare in 600 liter of water
		as pre-emergence.
Plant protection	One spray of fungicide to	2 spray of fungicides at 15 days interval to
measures	control of Sclerotinia Stem	control of Sclerotinia Stem rot at 50-60
	rot at 100 DAS	DAS

Technological package demonstrated (2018-19)

- Crop:- Indian mustard (Brassica juncea)
- Spacing: 45 X 10-15 cm
- Variety: RH 749
- Recommended seed rate:- 2.0 kg per hectare
- Seed treatment :- Metalexil 35 SD @ 6 g per kg of seed & Imidachloprid 48% FS @ 5 ml per kg of seed
- Basal application of fertilizers: 75 kg N₂ & 40 kg P₂O₅ per hectare
- Use of bio fertilizer: Azotobactor & PSB culture
- Use of herbicide: Pendimethalin 38.7% CS
- Use of PP measures :- As per requirement

Cluster Frontline Demonstration (Rabi 2018-19)

Under National Food Security Mission (NFSM)

Crop : Chickpea Variety : GNG 2171 Area under CFLD : 40 ha No. of CFLDs (farmers) : 100

Chickpea commonly known as gram is an important Rabi pulse crop of the Hanumangarh district as well as the villages adopted by KVK, Sangaria. It occupies about 13.75 per cent area of the district and 8.23 per cent area of the villages. The productivity level of the crop is not sufficient due to use of old varieties with poor crop management practices. Therefore, it is very essential to demonstrate the improved varieties and other production technologies to which the farmers generally do not adopt. A wide gap exists between the available techniques and its actual application by the farmers which is reflected through poor yield in the farmer's fields.

Technology	Existing practice	Technological intervention
Varieties	GNG 1581, GNG 1958	GNG 2171
Seed rate	48 kg/ha	60 kg/ha
Seed treatment	Carbendezim 50%WP @	Seed treatment with Trichoderma
	1.5 g per kg of seed	harzianum @ 10 g/kg & Imidachloprid

Gap analysis of technology adoption in Chickpea crop

		48% FS @ 5 ml per kg of seed and use of Rhizobium & PSB culture
Soil treatment	Partially use of Quinalphos @ 25 kg/ha for termite management	Use of <i>Trichoderma harzianum</i> @ 10 kg/ha
Nutrient	Rare use of 80 kg/ha	20 kg Nitrogen and 40 kg phosphorus per
management	DAP as basal	hac. (88 kg DAP)
Weed	Use of herbicide	Hand weeding at 30 DAS
management	Pendimethalin 38.7% CS	
-	750g a.i. per hectare in 600	
	liter of water as pre-	
	emergence.	
Plant protection	Use of chemical pesticides	Use of bio pesticides as per requirement
measures	as per requirement	

Technological package demonstrated (2018-19)

- Crop:- Chickpea
- Spacing: 30 X 10-15 cm
- Variety: GNG 2171
- Recommended seed rate:- 60 kg per hectare
- Seed treatment :- Carbendezim 50%WP @ 1.5 g per kg of seed & Imidachloprid 48% FS
 @ 5 ml per kg of seed
- Soil treatment :- Trichoderma 10 kg per hectare.
- Basal application of fertilizers: 20 kg N₂ & 40 kg P₂O₅ per hectare
- Use of bio fertilizer: Rhizobium & PSB culture
- Weeding & hoeing: hand weeding at 30 DAS
- Use of PP measures :- As per requirement (Daman A 47 for pod borer)

FLD on use of Trichoderma harzianum (Bio-agent) in gram crop

Crop: Gram Variety : GNG 1581 Area under FLD : 4 ha No. of FLDs (farmers) : 10

Chickpea is a major Rabi pulse of the Hanumangarh district, which cultivated an about 1.09 ha. area (2015-16). Due to continuous degradation of soil healths many pathogens are developed in soil specially Root rot, wilt and collar rot in gram growing areas. For this reason the productivity of gram decreases continuously. Seed on soil treatment with *Trichoderma harzianum* play an important role to control these pathogens and also increase seed

germination and plant growth. Therefore, it is required that demonstration of bio agent may be conducted in gram crop in present scenario.

Technology	Existing practice	Technological intervention		
Varieties	GNG 1581, GNG 1958	GNG 1581, GNG 1958		
Soil treatment	No use	Use of <i>Trichoderma harzianum</i> @ 10 kg/ha		

Gap analysis of technology adoption in Chickpea crop

Technological package demonstrated (2018-19)

- Crop:- Chickpea
- Variety: GNG 1581, GNG 1958
- Soil treatment: Trichoderma harzianum 10 kg per hectare.

FLD on fruit dropping management in kinnow orchards

Total area under kinnow 1916 ha. In Hanumangarh District with annual production is 84304 MT. Kinnow is an important fruit crop of Northern Rajasthan. The Kinnow trees bear large numbers of flowers and fruits, all of which are unable to carry to maturity. It is a common observation that not more than 7-8% of the flowers develop into mature fruits. First the unfertilized flowers drop from the trees and later, some of the fruits also drop in two as three definite waves. A considerable number of fruits drop in April soon after the fruit set. Another drop comes when the fruit is about 3-5 cm in diameter. Usually, these two drops are not of such intensity, as to materially affect the total yield. The last fruit drop, Known as pre harvest drop, occurs just before the fruit is matured. It, however, reduce the yield considerably. There are two main causes of fruit drop i.e. physiological and pathological. So we conducted the demonstration on fruit dropping management in kinnow.

S.No.	Crop	Thematic Area	Technology from demonstration	Critical input	Season and year	Area ha.	No. of farmers	Parameters identified
1.	Kinnow	Management of Orchard	Fruit dropping management	Hormone, Fungicides & Micro nutrients	2018- 19	5	20	Yield

Particulars	Existing Practice	Technological Intervention
Nutrient management	DAP, MOP, SSP	DAP,MOP, SSP
Micro Nutrient management	Zinc, COC	Zinc, COC, MgSo4, MnSo4, FeSO4, Boran, Lime
Use of Hormones	Planofix	Planofix, 2-4D, GA3
Use of fungicide	Carbendism, mencojeb	Carbendism, Propineb
P.P. Measures	Proper control Insect-pest & Disease	Proper control of Insect-pest disease

Technology demonstrate – Following technologies demonstrate at farmers field on Kinnow orchard to control the fruit dropping.

- Two spray of Zinc sulphate 21% 500 g + Copper sulphate 300 g + MgSO₄ 200 g + MnSO₄ 200 g + FeSO₄ 200 g + Boron or Boric Acid 125 g + Lime 900 g dissolve in 100 liter water in February and July month.
- 2. Two spray of 2-4D (Sodium Salt) after the fruit set in April-May and in September at pre maturity stage.
- 3. Spray of Propineb 70wp 200 g + Gibbrellic Acid (GA₃) 2g dissolve in 100 lit. water in September month.
- 4. Spray of Planofix 25 ml dissolve in 100 lit. water in month of February and May.

FLD on onion cultivation in Kharif season

Onion is an important and indispensable item in every kitchen as condiment and vegetable. Primarily the bulb with edible portion but in some places, green leaves are also eaten, raw as well as cooked. Most of the farmers of district grown onion in Rabi season. Improved varieties for Kharif onion is now available in market which can grow easily for higher production in kharif season. So, we promote the Kharif onion to the farmers.

Particulars	Existing Practice	Technological Intervention
Sowing time	Sowing of Onion in Rabi Season	Sowing of Onion in Kharif and Rabi Season

Crop	Variety	No. of Demonstrations	Area(ha.)	Sowing Season
Onion	Agrifound Dark Red (ADR)	20	1.0	Kharif

FLD on cultivation of vegetables in low tunnel technology

Low tunnel are flexible transparent that are installed over the rows of individual beds of transplanted vegetables to enhance plant growth by warming the air around the plants in the open field during winter season. They can also warm the soil and protect the plants from cold wind, injury and advance the crop by 30 to 40 days than the normal season. This low cost technology for off season cultivation of cucurbits like cucumber, muskmelon, round melon, bitter gourd and summer squash etc. is suitable and may be quite cost effective for the vegetable growers Hanumangarh, where the temperature during winter season goes below 8^oC for a period of 30-40 days.

Particulars	Existing Practice	Technological Intervention
Early crop of Bitter gourd	Sowing of Seed in open field in the month of February	Sowing of seed in low tunnel in the month of December

Сгор	Variety	No. of Demonstrations	Area(ha.)
Bitter gourd	Amansri	5	0.25

In this technology before transplanting of seedlings on beds, flexible galvanized iron hoops are fixed manually on a distance of 2-3 meter. The width of two ends of hoop is kept 40-60 cm with a highest of 40-60 cm above the levels of beds for covers the beds for covering the plastic on the rows or beds for making low tunnels. Transplants of seedlings is done in a simple row on each bed at a planting distance of 45-50 cm. Distance between the rows in usually kept 1.5 meter. Transparent 30 micron plastic sheet is used for making low tunnels, which reflects intra-red radiation to keep the temperature of the low tunnels higher than the outside field.

FLD on kitchen gardening

The part of the home garden used to grow vegetable is called "Kitchen Garden" generally the front yards is utilized for flowers or other ornamentals and the backyard is allocated for fruits and vegetables. Obviously the house wives are very keen in growing vegetables for the kitchen.

Front line demonstration on kitchen garden is conducted on selected farm women field with supply of seeds and planting materials. The aim of this demonstration is to provide family deeds and support income. As it is Kitchen garden, small cultivating areas are easy to maintain for farm women. Farm families grow generally 1 or 2 vegetables in a season that cannot fulfill the requirement of vegetables and fruit for a family throughout the season. Therefore, 150 sqm area with 12 vegetables and fruit in a season for kitchen gardening sufficient to fulfill the requirement of seasonal vegetable and fruit for a family (4-5 members)

Nutritional upliftment through Nutrition garden

- Sustainability of nutrition garden in long run will be a measure to eliminate micronutrient deficiencies in population.
- Daily consumption of variety of vegetables grown organically has a better nutritional impact on population. It is recommended to promote organic manure in place of chemical fertilizers for healthy living and eco-friendly environment.
- Surplus production from the home stead garden can be source of supplementary income to the poor communities and thus it is recommended to achieve economic security of the families through sale of surplus produce.
- Establishment of nutrition garden is ensured accessibility and food security through variety of vegetables and fruits, which can improve nutritional status of the people.

No. of Demonstration - 15 families

150 sqm./Demonstration

Particulars	Existing Practice	Technological Intervention
No. of Vegetables	1 or 2 vegetables/season	12 vegetable/season
Nutrition status	Low nutrient available	Fully nutrient available

FLD on fruit & vegetable preservation

Preservation is very important in rural areas because lack of availability process food and most farm women are not aware about preservation. It affects spoilage of farm product. So, Front line demonstration on preservation is help in

- 1. Increasing the shelf-life of foods thus increasing the supply.
- 2. Making the seasonal food available throughout the year.
- 3. Adding variety to the diet.
- 4. Saving time and energy.
- 5. Stabilizing prices of foods, as there is less scope of shortage of supply to demand
- 6. Decreasing wastage of food by preventing decay of spoilage of food.
- 7. Improve the nutrition of the population.
- 8. An income generation for rural area.

Preservation increase availability of foods, thus improving the nutrition of the people. Availability of seasonal foods throughout the year also helps in stabilizing prices of such foods.

No. of Demonstrations - 10

Particulars	Existing Practice	Technological Intervention
Self life	Below 1 month	6-8 month

Sponsored Demonstration

Сгор	Area (ha)	No. of farmers

B. Extension and Training activities under FLDs

S. No.	Activity	Activity No. of activities Month		Number of participants
1	Field days	10	Sept., Oct., Feb., March	400
2	Farmers Training	4	June, July, Nov.	160
3	Media coverage	20	Sept., Oct., Feb., March	Mass coverage
4	Training for extension functionaries	-	-	-
5	Film show	25	Sept., Oct., Feb., March	400

C. Details of FLD on Enterprises

(i) Farm Implements

Name of the implement	Сгор	Season and year	No. of farmers	Area (ha)	Critical inputs	Performance parameters / indicators

(ii) Livestock Enterprises

Enterprise	Breed	No. of farmers	No. of animals, poultry birds/ha. etc.	Critical inputs	Performance parameters / indicators
Fish culture	Common Carps	25	-	Fish seed	Yield (q/ha)
Dairy animal	Popularization of teat cup to reduce mastitis	10	10	Teat cup with solution	Mastitis in Animals
Dairy animal	Use of Silo bags (silage making)	10	10	Silo bag	Lit/day
TOTAL		30			

FLD on fish farming in pucca pond

The state Agriculture department promotes or motivates to the farmers for construction of diggies (water storage tanks). Government also provide subsidy for construction of diggies. About 5000 diggies (Average size 100'x100'x15') are available at the farmer's field. These diggies (water storage tanks) are used only for irrigation purpose. These diggies can be utilized for fish culture to generate additional income. Only 5 feet water depth is required for fish culture in pucca storage tank (diggies). The culturable species are Catla, Rohu, Mrigal (Indian

major carps) and silver carp, Grass carp common carp (Exotic carps) are most common species are used for fish culture in the district. To popularize this technology among the farmers kvk to be conducted demonstrations as follows:

Particulars	Existing Practice	Technological Intervention
Use of stored water	Only for irrigation purpose	For irrigation as well as fish farming

Average size of storage tank : 100 X 100 X 15 feet

Technology demonstrate :

Source of water : Canal

Fish species: Catla, Rohu and mrigal

Seed size : Fingerlings (40-60 mm)

Use of lime : three times (30 kg per installment)

Netting: 15-20 days interval

Supplementary feeding : Rice bran, oil cake (2-3% of their body weight)

FLD on Silo bags (silage making)

During lean period less availability of green fodder resulting in decrease milk production and reduced performance of animal. Animal owners use low quality feed (Dry fodder only) during this period. Generally silage making process by silo-pit is very typical and time consuming resulting farmers are less adopting this technology. By use of silo bags silage making is easy and less time consuming. These bags are easy to fill, airtight and easily open when silage is prepared.

Particulars	Existing Practice	Technological Intervention
Feed management	No use of quality fodder during lean period	Use of silo bags for quality silage making. These bags are easy to fill, airtight and easily open when silage is prepared.

Technology demonstrates:

- 1. 500kg polyester bags are use to prepare silage.
- 2. Non legume crop selected for preparation of silage.
- 3. easy to transport filled bags.

FLD on Popularization of Teat cup to reduce mastitis

Mastitis is the major problem of dairy industry. This is mostly occurring due to direct entrance of bacteria in the teats which is due to less hygienic conditions in dairy farm. Chances of mastitis can be reduced by making an antiseptic painting after milking on teat by using teat cup. Teat cup is a good tool to reduce the chances of mastitis in lactating dairy animals.

Particulars	Existing Practice	Technological Intervention
Disease prevention	No use of Teat dip cup to reduce mastitis in lactating animals	Use of Teat dip cup to reduce mastitis in lactating animals.

Technology demonstrates:

1. Teat dip cup with solution (Filmadine).

2. Application of solution on teat after milking by using teat dip cup to reduce chances of mastitis.

FLD- Use of Teat Dip Cup to reduce Mastitis in Milking Animals



3.3 Training (Including the sponsored and FLD training programmes):

A) ON Campus

	No. of	"		No.	of Pa	rticipant	s	
Thematic Area	Courses		Others			SC/ST		Grand
	0001303	Male	Female	Total	Male	Female	Total	Total
(A) Farmers & Farm Women								
I Crop Production								
Weed Management								
Resource Conservation Technologies								
Cropping Systems								
Crop Diversification								
Integrated Farming								
Water management								
Seed production								
Nursery management								
Integrated Crop Management	1	14	3	17	6	2	8	25
Fodder production								
Production of organic inputs								
II Horticulture								
a) Vegetable Crops								
Production of low volume and high value crops								
Off-season vegetables								
Nursery raising								
Exotic vegetables like Broccoli								
Export potential vegetables								
Grading and standardization								
Protective cultivation (Green Houses, Shade Net etc.)	1	14	3	17	6	2	8	25
b) Fruits								
Training and Pruning								
Layout and Management of Orchards	1	14	3	17	6	2	8	25
Cultivation of Fruit								
Management of young plants/orchards								
Rejuvenation of old orchards							l	
Export potential fruits								

Micro irrigation systems of orchards								
Plant propagation techniques								
c) Ornamental Plants								
Nursery Management	1	14	3	17	6	2	8	25
Management of potted plants			<u> </u>			_	Ŭ	
Export potential of ornamental plants								
Propagation techniques of Ornamental Plants								
d) Plantation crons								
Broduction and Management technology								
Processing and value addition								
a) Tubor crops								
Production and Management technology								
1) Spices								
Production and Management technology								
Processing and value addition								
g) Medicinal and Aromatic Plants								
Nursery management								
Production and management technology								
Post harvest technology and value addition				 				
III Soil Health and Fertility Management								
Soil fertility management			_					
Soil and Water Conservation								
Integrated Nutrient Management								
Production and use of organic inputs								
Management of Problematic soils								
Micro nutrient deficiency in crops								
Nutrient Use Efficiency								
Soil and Water Testing								
IV Livestock Production and Management								
Dairy Management	I							
Poultry Management								
Piggery Management								
Rabbit Management/goat								
Disease Management								
Feed management								
Production of quality animal products								
V Home Science/Women empowerment	1		L	i		L		
Household food security by kitchen gardening and nutrition gardening	I							
Design and development of low/minimum cost diet								
Designing and development for high nutrient efficiency diet								
Minimization of nutrient loss in processing								
Gender mainstreaming through SHGs								
Storage loss minimization techniques								
	1		17	17		ß	g	25
Value addition			17		-	0	0	20
Location apositio drudgen, reduction technologica								
Dural Crofte								
Women and child care								
VI Agrii. Engineering								
Installation and maintenance of micro irrigation systems								
Use or Plastics in farming practices				 				
Production of small tools and implements	<u> </u>			 				
Repair and maintenance of farm machinery and implements				 				
Small scale processing and value addition	4		ļ					
Post Harvest Technology								
VII Plant Protection		<u> </u>	_					
Integrated Pest Management								
Integrated Disease Management								
Bio-control of pests and diseases	1		<u> </u>	<u> </u>				
Production of bio control agents and bio pesticides	1	14	3	17	6	2	8	25

VIII Fisheries								
Integrated fish farming				1				<u> </u>
Carp breeding and hatchery management		-		-				
Carp fry and fingerling rearing				1	++			L
Composite fish culture								
Hatchery management and culture of freshwater	nrawn			-				
Breeding and culture of ornamental fishes	piawii							
Portable plastic care batchary		-		1				
Pon outure of fish and provin		-		+				ļ
Pen culture of fish and prawn		_		-				
		_						
Edible oyster farming		_		_				
								ļ
Fish processing and value addition		<u> </u>		, I	<u> </u>	I	, <u> </u>	<u> </u>
IX Production of inputs at site						ļ 		
Seed Production								
Planting material production								
Bio-agents production								
Bio-pesticides production								
Bio-tertilizer production				ļ		ļ	ļ	
Vermi-compost production								
Organic manures production								
Production of fry and fingerlings								
Production of Bee-colonies and wax sheets								
Small tools and implements								
Production of livestock feed and fodder								
Production of Fish feed								
X Capacity Building and Group Dynamics								
Leadership development								
Group dynamics								
Formation and Management of SHGs								
Mobilization of appiel appital				1		<u> </u>	1	
MODILIZATION OF SOCIAL CAPITAL								
Entrepreneurial development of farmers/youths	1	14	3	17	6	2	8	25
Entrepreneurial development of farmers/youths WTO and IPR issues	1	14	3	17	6	2	8	25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry	1	14	3	17	6	2	8	25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies	1	14	3	17	6	2	8	25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management	1	14	3	17	6	2	8	25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems	1	14	3	17	6	2	8	25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI, Specify)	1	14	3	17	6	2	8	25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL	1 	14	3	17	6	2	8	25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH	1 	14	3 3 35	17	6 36	2	8 56	25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production	1 7 2	14 	3 3 35 6	17 11 119	6 36 12	2 20 4	8 56	25 175
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping	1 7 2 1	84 28 14	3 35 6 3	17 119 34	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming	1 7 2 1	14 	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production	1 7 2 1	84 28 14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs	1 7 2 1	14 84 28 14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal)	1 7 2 1	14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production	1 7 2 1	14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production	1 7 2 1		3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Social Uturo	1 7 2 1		3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Extended cultivation of vegetable access	1 7 2 1		3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops	1 7 2 1	14 84 28 14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production	1 7 2 1	14 84 28 14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production Repair and maintenance of farm machinery and implements	1 7 2 1	14 84 28 14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production Repair and maintenance of farm machinery and implements	1 7 2 1	14 84 28 14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production Repair and maintenance of farm machinery and implements Nursery Management of Horticulture crops	1 7 7 2 1	14 84 28 14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production Repair and maintenance of farm machinery and implements Nursery Management of Horticulture crops Training and pruning of orchards	1 7 2 1	14 84 28 14 28 14 28 14 28 14 28 14 28 14 28 14 28 14 28 14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production Repair and maintenance of farm machinery and implements Nursery Management of Horticulture crops Training and pruning of orchards Value addition	1 7 2 1	14 84 28 14 28 14 28 14 28 14 28 14 28 14 28 14 28 14 28 14	3 35 6 3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production Repair and maintenance of farm machinery and implements Nursery Management of Horticulture crops Training and pruning of orchards Value addition Production of quality animal products	1 7 2 1	14 84 28 14 28 14 	3	17 119 34 17	6 36 12 6	2 20 4 2	8 56 16 8	25 175 50 25
Entrepreneurial development of farmers/youths Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production Repair and maintenance of farm machinery and implements Nursery Management of Horticulture crops Training and pruning of orchards Value addition Production of quality animal products Dairying	1 7 2 1 	14 84 28 14 28 14 	3	17 119 34 17	6 36 12 6 	2 20 4 2 2 2	8 56 16 8 	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production Repair and maintenance of farm machinery and implements Nursery Management of Horticulture crops Training and pruning of orchards Value addition Production of quality animal products Dairying Sheep and goat rearing	1 7 2 1 	14 84 28 14 28 14 	3 35 6 3 3	17 119 34 17 	6 36 12 6 	2 20 4 2 2 4 2 2 4	8 56 16 8 	25 175 50 25
Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production Repair and maintenance of farm machinery and implements Nursery Management of Horticulture crops Training and pruning of orchards Value addition Production of quality animal products Dairying Sheep and goat rearing Quail farming	1 7 2 1 	14 84 28 14 28 14 	3 35 6 3 3	17 119 34 17 	6 36 12 6 	2 20 4 2 2 4 2 2 4 2 4	8 56 16 8 	25 175 50 25
Entrepreneurial development of farmers/youths Entrepreneurial development of farmers/youths WTO and IPR issues XI Agro-forestry Production technologies Nursery management Integrated Farming Systems XII Others (PI. Specify) TOTAL (B) RURAL YOUTH Mushroom Production Bee-keeping Integrated farming Seed production Production of organic inputs Integrated Farming (Medicinal) Planting material production Vermi-culture Sericulture Protected cultivation of vegetable crops Commercial fruit production Repair and maintenance of farm machinery and implements Nursery Management of Horticulture crops Training and pruning of orchards Value addition Production of quality animal products Dairying Sheep and goat rearing Quail farming Piggery	1 7 2 1 	14 84 28 14 28 14 14 28 14 14 28 14	3 35 6 3 3	17 119 34 17 	6 36 12 6 	2 20 4 2 2 4 2 2 4 2 4	8 56 16 8 	25 175 50 25

Poultry production	1	14	3	17	6	2	8	25
Ornamental fisheries				I	T	İ		
Para vets					t			
Para extension workers				I	T	İ		
Composite fish culture	2	28	6	34	12	4	16	50
Freshwater prawn culture								
Shrimp farming	1	14	3	17	6	2	8	25
Pearl culture	1	14	3	17	6	2	8	25
Cold water fisheries						ľ		
Fish harvest and processing technology								
Fry and fingerling rearing								
Small scale processing					T	1		
Post Harvest Technology				I	T	İ		
Tailoring and Stitching					T	1		
Rural Crafts	1	-	17	17	-	8	8	25
TOTAL	12	168	36	204	72	24	96	300
(C) Extension Personnel					T	İ		
Productivity enhancement in field crops					1	1		
Integrated Pest Management	1	14	3	17	6	2	8	25
Integrated Nutrient management						İ		
Rejuvenation of old orchards								
Protected cultivation technology								
Formation and Management of SHGs								
Group Dynamics and farmers organization								
Information networking among farmers						1		
Capacity building for ICT application	1	14	3	17	6	2	8	25
Care and maintenance of farm machinery and						1		
implements								
WTO and IPR issues								
Management in farm animals	1	14	3	17	6	2	8	25
Livestock feed and fodder production					Ī			
Household food security								
Women and Child care	1	-	17	17	-	8	8	25
Low cost and nutrient efficient diet designing								
Production and use of organic inputs								
Gender mainstreaming through SHGs								
Any other (Pl. Specify)								
TOTAL	4	42	26	68	18	14	32	100
G. Total	23	294	97	391	126	58	184	575

B) OFF Campus

		No. of Participants							
Thematic Area	No. of Courses		Others			Grand Total			
		Male	Female	Total	Male	Female	Total		
(A) Farmers & Farm Women									
I Crop Production									
Weed Management		1			I				
Resource Conservation Technologies									
Cropping Systems									
Crop Diversification									
Integrated Farming									
Water management	1	28	6	34	12	4	16	50	
Seed production									
Nursery management									
Integrated Crop Management	1	28	6	34	12	4	16	50	
Fodder production									
Production of organic inputs	1	28	6	34	12	4	16	50	
II Horticulture									
a) Vegetable Crops									
Production of low volume and high value crops	1	28	6	34	12	4	16	50	

Off-season vegetables								
Nursery raising								
Exotic vegetables like Broccoli		-						
Export potential vegetables		-						
Grading and standardization		-						
Protective cultivation (Green Houses, Shade		-						
Net etc.)								
b) Fruits		-						
Training and Pruning		-						
Lavout and Management of Orchards		-						
Cultivation of Fruit	1	28	6	34	12	4	16	50
Management of young plants/orchards								
Rejuvenation of old orchards								
Export potential fruits		-						
Micro irrigation systems of orchards		-						
Plant propagation techniques		-						
c) Ornamental Plants		-						
Nursery Management		-						
Management of potted plants	1	28	6	34	12	4	16	50
Export potential of ornamental plants	•		<u> </u>			· · · · ·		
Propagation techniques of Ornamental Plants		-		-				
d) Plantation crops		-		-				
Production and Management technology		_						
Processing and value addition		-						
e) Tuber crops		-						
Production and Management technology		-						
Processing and value addition		-						
f) Snices		-						
Production and Management technology		_						
Processing and value addition		_						
a) Medicinal and Aromatic Plants		_						
y) medicinal and Aromatic Flams		_						
Reduction and management toobhology								
Production and management technology								
III Soil Health and Fortility Management								
Soil fortility management	2	56	10	69	24	0	22	100
Soll refullity management	2	50	12	00	24	0	32	100
Soli and Water Conservation								
Draduation and use of organic inputs		_						
Monogoment of Broblematic soils								
Management of Problematic solls								
Nicro nutrient deficiency in crops								
Nutrient Use Emclency				ļ				
Soll and Water Testing			l	<u> </u>	<u> </u>		L	
IV LIVESTOCK Production and Management			1	7	T			
Dairy Management		_						
Poultry Management								
Piggery Management								
Rabbit Management /goat		_	4.0					100
Disease Management	2	56	12	68	24	8	32	100
Feed management		_						
Production of quality animal products					<u> </u>		İ	
V Home Science/Women empowerment			·····		7	1	 r	
Household food security by kitchen gardening	1	-	34	34	-	16	16	50
and nutrition gardening		-		-				
Design and development of low/minimum cost	1	-	34	34	-	16	16	50
diet		_					.	
Designing and development for high nutrient								
		_					 	
Minimization of nutrient loss in processing		_			 	 	 	
Gender mainstreaming through SHGs		_					 	
Storage loss minimization techniques		_		~ .				
Value addition	1	-	34	34	-	16	16	50

Income generation activities for empowerment	1		24	24		16	16	50
of rural Women	I	-	34	34	-	10	10	50
Location specific drudgery reduction								
technologies								
Rural Crafts								
Women and child care								
VI Agril. Engineering								
Installation and maintenance of micro irrigation								
systems								
Use of Plastics in farming practices								
Production of small tools and implements								
Repair and maintenance of farm machinery and								
implements								
Small scale processing and value addition								
Post Harvest Technology								
VII Plant Protection								
Integrated Pest Management	2	56	12	68	24	8	32	100
Integrated Disease Management								
Bio-control of pests and diseases								
Production of bio control agents and bio								
pesticides								
VIII Fisheries								
Integrated fish farming								
Carp breeding and hatchery management								
Carp fry and fingerling rearing								
Composite fish culture	1	28	6	34	12	4	16	50
Hatchery management and culture of freshwater								
prawn								
Breeding and culture of ornamental fishes								
Portable plastic carp hatchery								
Pen culture of fish and prawn								
Shrimp farming								
Edible oyster farming								
Pearl culture								
Fish processing and value addition								
IX Production of Inputs at site								
Seed Production								
Planting material production (Horti.)								
Bio-agents production								
Bio-pesticides production								
Bio-fertilizer production								
Vermi-compost production (Horti.)								
Organic manures production (A.S.)								
Production of fry and fingerlings								
Production of Bee-colonies and wax sheets								
Small tools and implements								
Production of livestock feed and fodder								
Production of Fish feed								
X Capacity Building and Group Dynamics								
Leadership development	1	28	6	34	12	4	16	50
Group dynamics	2	56	12	68	24	8	32	100
Formation and Management of SHGs(HS)								
Mobilization of social capital								
Entrepreneurial development of farmers/youths								
(Agro.)								
WTO and IPR issues								
AI Agro-torestry								
Production technologies								
Inversery management								
Integrated Farming Systems (Agro)								
All Others (Pl. Specify)								
IOTAL	20	448	232	680	192	128	320	1000

No. o					o. of Participants				
Thematic Area	No. of Courses		Others			SC/ST		Grand Total	
		Male	Female	Total	Male	Female	Total	Grand Total	
(A) Farmers & Farm Women									
I Crop Production									
Weed Management									
Resource Conservation Technologies							1	1	
Cropping Systems	_								
Crop Diversification	-								
Integrated Farming	-	1					1	••••••••••••••••••••••••••••••••••••••	
Water management	1	28	6	34	12	4	16	50	
Seed production									
Nursery management									
Integrated Crop Management	2	42	9	51	18	6	24	75	
Fodder production							1		
Production of organic inputs	1	28	6	34	12	4	16	50	
Il Horticulture						l		1	
a) Vegetable Crops					<u> </u>		1	I	
Production of low volume and high value crops	1	28	6	34	12	4	16	50	
Off-season vegetables	· · · · · · · · · · · · · · · · · · ·		Ŭ	<u> </u>	<u> </u>	·····			
Nursery raising							<u> </u>		
Evotic vegetables like Broccoli									
Export potential vegetables									
Crading and standardization									
Bratactive sultivation (Croop Houses, Shade Net etc.)	1	14	2	17	6	2	0	25	
h) Fruite		14	<u></u> з	17	0		0	25	
b) Fruits									
Training and Pruning			_	47				05	
Layout and Management of Orchards	1	14	3	17	6	2	8	25	
Cultivation of Fruit	1	28	6	34	12	4	16	50	
Management of young plants/orchards					. <u> </u>			ļ	
Rejuvenation of old orchards									
Export potential fruits									
Micro irrigation systems of orchards									
Plant propagation techniques									
c) Ornamental Plants									
Nursery Management	1	14	3	17	6	2	8	25	
Management of potted plants	1	28	6	34	12	4	16	50	
Export potential of ornamental plants									
Propagation techniques of Ornamental Plants									
d) Plantation crops									
Production and Management technology									
Processing and value addition									
e) Tuber crops								I	
Production and Management technology									
Processing and value addition									
f) Spices									
Production and Management technology									
Processing and value addition									
g) Medicinal and Aromatic Plants									
Nurserv management		·						l	
Production and management technology	-	·							
Post harvest technology and value addition									
(B) RURAL YOUTH									
Mushroom Production	1								
Bee-keeping	1							l	
Integrated farming							<u> </u>	 	
Seed production									
Production of organic inpute	<u> </u>						.	<u> </u>	
Planting material predication	1							 	
Planung material production	1	<u> </u>	 	 			<u> </u>		

(C) Consolidated table (ON and OFF Campus)

Vermi-culture	I							
Serieulture	1							
Sericulture								
Protected cultivation of vegetable crops								
Commercial fruit production								
Repair and maintenance of farm machinery and								
implements	ļ							
Nursery Management of Horticulture crops								
Training and pruning of orchards								
Value addition								
Production of quality animal products		1						
Dairying								
Sheep and goat rearing								
Quail farming	l							
Piggen/								
Poblit forming								
Rabbit familing								
Ornamental fisheries								
Para vets								
Para extension workers								
Composite fish culture	ļ							
Freshwater prawn culture								
Shrimp farming	Ι							
Pearl culture								
Cold water fisheries	1				<u> </u>			
Fish harvest and processing technology								
Env and fingerling rearing								
Small scale processing								
Dest Hervest Technology								
Talloring and Stitching								
Rural Crafts								
TOTAL	10	224	10	272	96	32	128	400
		224	40	212	50	~~	120	700
(C) Extension Personnel		224	40	212	50		120	-00
(C) Extension Personnel Productivity enhancement in field crops			40	212	50			-00
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management			40					
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management			40					
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards			+0					
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology			+0					
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs			40					
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization			40					
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information petworking among farmers			40					
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Canadia building for ICT application			+0					
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application			+0					
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PL Specify)								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PI. Specify)								
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PI. Specify) TOTAL G. Total	10		40	272			129	
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PI. Specify) TOTAL G. Total	10	224	48	272	96	32	128	400
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PI. Specify) TOTAL G. Total III Soil Health and Fertility Management	10	224	48	272	96	32	128	400
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PI. Specify) TOTAL G. Total III Soil Health and Fertility Management Soil fertility management	10 10 2	224 224 56	48 48 12	272	96 24	32 32 8	128	
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PI. Specify) TOTAL G. Total III Soil Health and Fertility Management Soil and Water Conservation	10 10 2	224 224 56	48 48 12	272	96 24	32 32 8	128	
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PI. Specify) TOTAL G. Total III Soil Health and Fertility Management Soil and Water Conservation Integrated Nutrient Management	10	224 	48 48 12	272	96 24	32 32 8	128	
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PI. Specify) TOTAL G. Total III Soil Health and Fertility Management Soil and Water Conservation Integrated Nutrient Management Production and use of organic inputs	10	224 	48 12	272	96 24	32	128	400
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PI. Specify) TOTAL G. Total III Soil Health and Fertility Management Soil and Water Conservation Integrated Nutrient Management Production and use of organic inputs Management of Problematic soils	10	224 224 56	48 48 12	272	96 24	32	128	
(C) Extension Personnel Productivity enhancement in field crops Integrated Pest Management Integrated Nutrient management Rejuvenation of old orchards Protected cultivation technology Formation and Management of SHGs Group Dynamics and farmers organization Information networking among farmers Capacity building for ICT application Care and maintenance of farm machinery and implements WTO and IPR issues Management in farm animals Livestock feed and fodder production Household food security Women and Child care Low cost and nutrient efficient diet designing Production and use of organic inputs Gender mainstreaming through SHGs Any other (PI. Specify) TOTAL G. Total III Soil Health and Fertility Management Soil and Water Conservation Integrated Nutrient Management Production and use of organic inputs Management of Problematic soils Micro nutrient deficiency in crops	10	224 224 56	48 48 12	272	96 24	32	128	400

Soil and Water Testing								
IV Livestock Production and Management				1			1	
Dairy Management							·	
Poultry Management								
Piggery Management								
Rabbit Management/goat								
Disease Management	2	28	40	68	12	20	32	100
Feed management							-	
Production of quality animal products				1			ł	
V Home Science/Women empowerment								
Household food security by kitchen gardening and								
nutrition gardening	1	-	34	34	-	16	16	50
Design and development of low/minimum cost diet	1		34	34	-	16	16	50
Designing and development for high nutrient efficiency							-	
diet								
Minimization of nutrient loss in processing							1	
Gender mainstreaming through SHGs								
Storage loss minimization techniques								
Value addition	2	-	51	51	-	24	24	75
Income generation activities for empowerment of rural						_ ·	— ·	
Women	1	-	34	34	-	16	16	50
Location specific drudgery reduction technologies	L						1	
Rural Crafts				 			<u> </u>	
Women and child care								
VI Agril, Engineering								
Installation and maintenance of micro irrigation systems								
Use of Plastics in farming practices							+	
Production of small tools and implements								
Repair and maintenance of farm machinery and								
implements								
Small scale processing and value addition								
Post Harvest Technology								
VII Plant Protection								
Integrated Pest Management	2	56	12	68	24	8	.32	100
Integrated Disease Management	-							100
Bio-control of pests and diseases				İ			1	
Production of bio control agents and bio pesticides	1	14	3	17	6	2	8	25
VIII Fisheries			Š		0	~	Ŭ.	20
Integrated fish farming								
Carp breeding and batchery management				<u> </u>				
Carp fry and fingerling rearing								
Composite fish culture	1	28	6	34	12	A	16	50
Composite fish culture	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Peagl culture	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Saed Production	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Seed Production	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Seed Production Planting material production	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Seed Production Planting material production Bio-agents production	1	28	6	34	12	4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Seed Production Planting material production Bio-agents production Bio-pesticides production	1	28	6	34		4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Seed Production Planting material production Bio-agents production Bio-pesticides production	1	28	6	34		4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Seed Production Planting material production Bio-agents production Bio-pesticides production Bio-fertilizer production	1		6	34		4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Seed Production Planting material production Bio-agents production Bio-pesticides production Bio-fertilizer production Organic manures production	1		6	34		4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Seed Production Planting material production Bio-agents production Bio-pesticides production Bio-fertilizer production Organic manures production Production of fry and fingerlings	1		6	34		4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Seed Production Planting material production Bio-agents production Bio-pesticides production Bio-fertilizer production Organic manures production Production of fry and fingerlings Production of Bee-colonies and wax sheets	1		6	34		4	16	50
Composite fish culture Hatchery management and culture of freshwater prawn Breeding and culture of ornamental fishes Portable plastic carp hatchery Pen culture of fish and prawn Shrimp farming Edible oyster farming Pearl culture Fish processing and value addition IX Production of Inputs at site Seed Production Planting material production Bio-agents production Bio-pesticides production Bio-fertilizer production Organic manures production Production of fry and fingerlings Production of Bee-colonies and wax sheets Small tools and implements	1		6	34		4	16	50

Production of Fish feed				1			1	
X Capacity Building and Group Dynamics								
Leadership development	1	28	6	34	12	4	16	50
Group dynamics	2	56	12	69	24	- 0	22	100
Formation and Management of SHCs	<u> </u>	- 50	12	00	24	0	32	100
		1.4	2	17	6			25
		14	ა	17	0	۷	0	20
WTO and IPR issues								
XI Agro-forestry								
Production technologies								
Nursery management								
Integrated Farming Systems								
Sponsored training								
TOTAL	17	308	219	527	132	116	248	775
(B) RURAL YOUTH								
Mushroom Production	2	28	6	34	12	4	16	50
Bee-keeping	1	14	3	17	6	2	8	25
Integrated farming								
Seed production								
Production of organic inputs							1	
Integrated Farming	1			1			1	
Planting material production				1				
Vermi-culture				1			·	
Sericulture								
Protected cultivation of vegetable crops								
Commercial fruit production								
Repair and maintenance of farm machinery and				1	———		·	
implements								
Nursery Management of Horticulture crops					———			
Training and pruning of orchards								
Value addition				-				
Production of quality animal products					———			
	1	1.4	3	17	6	2	0	25
Shoop and goat rearing	2	29	6	24	12	2 1	16	20 50
	Z	20	0	54	12	4	10	50
Piggery								
Rabbit farming				47			<u> </u>	~-
Politry production	1	14	3	17	6	2	8	25
Ornamental fisheries								
Para vets								
Para extension workers								
Composite fish culture	2	28	6	34	12	4	16	50
Freshwater prawn culture								
Shrimp farming	1	14	3	17	6	2	8	25
Pearl culture	1	14	3	17	6	2	8	25
Cold water fisheries								
Fish harvest and processing technology								
Fry and fingerling rearing								
Small scale processing								
Post Harvest Technology								
Tailoring and Stitching								
Rural Crafts	1	-	17	17		8	8	25
TOTAL	12	168	36	204	72	24	96	300
(C) Extension Personnel								
Productivity enhancement in field crops				I			1	
Integrated Pest Management	1	14	3	17	6	2	8	25
Integrated Nutrient management	1			1			1	
Rejuvenation of old orchards				1			·	
Protected cultivation technology	1			İ			11	
Formation and Management of SHGs				1	<u> </u>			
Group Dynamics and farmers organization				1	<u> </u>			
Information networking among farmers				1			·	
	1							

Capacity building for ICT application	1	14	3	17	6	2	8	25
Care and maintenance of farm machinery and								
implements								
WTO and IPR issues								
Management in farm animals	1	14	3	17	6	2	8	25
Livestock feed and fodder production								
Household food security								
Women and Child care	1	-	17	17	-	8	8	25
Low cost and nutrient efficient diet designing								
Production and use of organic inputs								
Gender mainstreaming through SHGs								
Any other (PI. Specify)								
Total	4	42	26	68	18	14	32	100
G. TOTAL	43	742	329	1071	318	196	504	1575

Details of training programmes attached in Annexure -I

Nature of Extension	No. of		Farmers		Exte	ension Offi	cials		Total	
Activity	activities	Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	10	450	50	500	20	5	25	470	55	525
Kisan Mela	1	5000	600	5600	100	20	120	5100	620	5720
Kisan Ghosthi	4	250	30	280	6	2	8	256	32	288
Exhibition	5	7000	1000	8000	180	70	250	7180	1070	8250
Film Show	90	1450	310	1760	50	20	70	1500	330	1830
Farmers Seminar	2	200	80	280	10	5	15	210	85	295
Workshop	-	-	-	-	-	-	-	-	-	-
Group meetings	14	150	50	200	12	2	14	162	52	204
Lectures delivered as resource persons	100	1500	300	1800	30	5	35	1530	305	1835
Newspaper coverage	100									
Radio talks	15									
TV talks	4									
Popular articles	30									
Extension Literature	15									
Advisory Services										
Scientific visit to farmers field	50	1000	200	1200	20	5	25	1020	205	1225
Farmers visit to KVK	1200	1100	100	1200	-	-	-	1100	100	1200
Diagnostic visits	-	-	-	-	-	-	-	-	-	-
Exposure visits	2	100	-	100	-	-	-	100	-	100
Ex-trainees Sammelan	-	-	-	-	-	-	-	-	-	-
Soil health Camp	-	-	-	-	-	-	-	-	-	-
Animal Health Camp	2	60	10	70	4	-	4	64	10	74
Agri mobile clinic	-	-	-	-	-	-	-	-	-	-
Soil test campaigns	2									
Farm Science Club Conveners meet	-	-	-	-	-	-	-	-	-	-
Self Help Group Conveners meetings	20	-	-	-	-	-	-	-	-	-

3.4. Extension Activities (including activities of FLD programmes)

Mahila Mandals Conveners meetings	-	-	-	-	-	-	-	-	-	-
Celebration of important days (specify)	6	200	100	300	6	4	10	206	110	316
Krishi Mohostva	-	-	-	-	-	-	-	-	-	-
Krishi Rath	-	-	-	-	-	-	-	-	-	-
Pre Kharif workshop	1	100	40	140	5	2	7	105	42	147
Pre Rabi workshop	1	100	40	140	5	2	7	105	42	147
PPVFRA workshop	1	90	10	100	4	2	6	94	12	106
Any Other (Specify)										
SMS	24	192000	7200	199200	4500	300	4800	1.96500	11700	204200
Total	1699	210750	10120	220870	4952	444	5396	21167	14770	226462

3.5 Target for Production and supply of Technological products SEED MATERIALS

SI. No.	Сгор	Variety	Quantity (qtl.)
CEREALS	Wheat	WH 1105, HD 2967, HD 3086, PBW-550 (Unnat)	100.00
	NA vete vel	DU 740 DU 0040	40.00
OILSEEDS	Mustard	KH-749, KH-8812	10.00
PULSES	Gram	GNG1581, GNG 1958, GNG 2144, GNG-2171	50.00
	Moong	GM-4, GM-5, MH-421	15.00
VEGETABLES			
OTHERS (Specify)	Guar	HG2-20	20.00
	Oat	JHO- 822	10.00
Total			205.0

PLANTING MATERIALS

SI. No.	Сгор	Variety	Quantity (Nos.)
FRUITS	Kinnow		30000
	Malta	Blood red	7000
	Nimbu	Ganganagar acid lime	3000
	Bael	Seeded	5000
	Jamun	Seeded	5000
	Pomegranate	Cutting	5000
SPICES			
VEGETABLES	Chili	F₁ Hybrid	100000
	Tomato	F₁ Hybrid	25000
	Cabbage, Cauliflower	F₁ Hybrid	100000

	Brinjal	F₁ Hybrid	10000
	Cucurbits	F₁ Hybrid	20000
FOREST SPECIES	Shisam	Seeded	10000
	Bermi Deck	Seeded	5000
ORNAMENTAL CROPS	Rose	Red Rose	10000
	Marigold	French	10000
	Mogra		5000
		Total	350000

Bio-products

SI. No.	Product Name	Species	Quantity	
			No	(kg)
BIO PESTICIDES				
1				
2				

LIVESTOCK

SI. No.	Туре	Breed	Qua	intity
			(Nos)	Unit
1	Cattle			
2	Duck		11	1
3	GOAT	Sirohi	17	1
4	SHEEP			
5	POULTRY	Pratap Dhan, Karak Nath	220	1
6	Pig farming			
7	Fisheries Ornamental	Moli, Guppy, Shark	5000	1
/	Fisheries IMC	Katla, Rohu, Mrigal	5000	1

3.6. Literature to be Developed/Published

(A)	KVK News Letter	:	Keshaw Kheti Quarterly Agri. Magazine
	Date of start	:	2001
	Number of copies to be published	:	2000

(B) Literature developed/published

S.No.	Торіс	Number
1	Research paper each scientist	2
2	Technical reports	10
3	News letters	-
4	Training manual all discipline	4
5	Popular article	30
6	Extension literature	15
	Total	61

(C) Details of Electronic Media to be Produced

S. No.	Type of media (CD / VCD / DVD / Audio- Cassette)	Title of the programme	Number
1			

3.7. Success stories/Case studies identified for development as a case. - 10

- a. Brief introduction
- b. Interventions
- c. Output
- d. Outcomes
- e. Impact
 - i) Social economic
 - ii) Bio-Physical
- f. Good Action Photographs

3.8 Indicate the specific training need analysis tools/methodology followed for

Practicing Farmers

- a) Bio agent production
- **Rural Youth**
- a) Mushroom cultivation
- b) Beekeeping

c) Income generating activities for women like stitching, beauty parlor

In-service personnel

- a)
- b)
- c)

3.9 Indicate the methodology for identifying OFTs/FLDs For OFT :

- i)
 - ii) Problem identified from Matrix
- iii) Field level observations
- iv) Farmer group discussions
- v) Others if any

PRA

For FLD :

- i) New variety/technology
- ii) Poor yield at farmers level
- iii) Existing cropping system
- iv) Others if any

3.10 Field activities

- i. Name of villages identified/adopted with block name (from which year) -
- ii. No. of farm families selected per village : 100
- iii. No. of survey/PRA conducted : 5
- iv. No. of technologies taken to the adopted villages
- v. Name of the technologies found suitable by the farmers of the adopted villages:
- vi. Impact (production, income, employment, area/technological- horizontal/vertical)
- vii. Constraints if any in the continued application of these improved technologies

5

3.11. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab: **1. Year of establishment** 2005 :

2. List of equipments purchase with amount

SI. No.	Name of the equipment	Quantity	Cost (Rs)
1			

3. Targets of samples for analysis:

Details	No. of Samples	No. of Farmers	No. of Villages	Amount to be realized
Soil Samples	2000	1800	18	60000
Water	600	500	22	15000
Plant	100	100	20	8000
Total	2700	2400	60	83000

4.0 LINKAGES

4.1 Functional linkage with different organizations

SI.No.	Name of organization	Nature of Linkage
1.	Department of Agriculture, Hanumanga	Identification of training needs & conducting of training programmes, Joint implementation of programme for increasing productivity of crops/enterprises, joint diagnostic survey.
2.	Department of Horticulture, Hanumangarh	Identification of training needs & conducting of training programmes, joint implementation of programme for increasing productivity of crops/enterprises, joint diagnostic survey.
3.	Department of Animal Husbandry, Hanumangarh	Identification of training needs & conducting of training programmes, joint implementation of programme for increasing productivity of crops/enterprises, joint diagnostic survey.
4.	Department of fisheries Hanumangarh	Identification of training needs & conducting of training programmes, joint implementation of programme for increasing productivity of crops/enterprises, joint diagnostic survey.
5.	Department of Women Child development, Hanumangarh	Identification of training needs & conducting of training programmes, joint implementation of programme for increasing productivity of crops/enterprises, joint diagnostic survey.
6.	CIFE, Mumbai	Identification of training needs & conducting of training programmes, joint implementation of programme for increasing productivity of crops/enterprises, joint diagnostic survey.
7.	RSSC, Hanumangarh	Providing Seeds and Agricultural inputs.
8.	RSSOCA, Hanumangarl	Monitoring and inspection facilities.
9.	IFFCO, Hanumangarh	Providing Seeds and Agricultural inputs and trainings.
10.	KRIBHCO, Hanumangar	Providing Seeds and Agricultural inputs and trainings.
11.	Punjab National Bank, Sangaria	Financial Management
12.	KVSS Sangaria (Coop. Society)	Purchase of Agricultural inputs.
13.	SKRAU, Bikaner	Identification of training needs & conducting of training programmes, joint diagnostic survey, identification of target groups for implementing the KVK activities such as training.
14.	CCHAU, PAU	Identification of training needs & conducting of training programmes, joint diagnostic survey, identification of target groups for implementing the KVK activities such as training.

15.	ARS and ARSS	Identification of training needs & conducting of training programmes, joint diagnostic survey, identification of target groups for implementing the KVK activities such as training,
16.	NABARD, Hanumangarh	Identification of training needs & conducting of training programmes, Joint implementation of programme for increasing productivity of crops/enterprises, Contribution received for infrastructural development.
17.	ATC, Hanumangarh	Help in training and Demonstration
18.	DIC, Hanumangarh	Identification of training needs & conducting of training programmes, Joint implementation of programme for increasing productivity of crops/enterprises.
19.	Forest Department	Providing sapling of plants.
20.	Department of Healt Hnaumangarh	Help in medical camp
21.	AIR, Suratgarh	Coverage
22.	Etv. Rajasthan	Coverage
23.	Gangmul Dairy	Involvement in training programme.
24.	Municipality Board	Help in development healthy environment.
25.	CIPMC, Sri Ganganaga	Sponsoring the IPM training programme.
26.	RSLDC, Jaipur	Sponsoring the RMoL training programmes.
27.	EMI, Jaipur	Sponsoring the RMoL training programmes.
28.	NDRI, Karnal	Collection of blood samples and other information regarding livestock in the district and provide technical inputs
29.	AMPEDA, Chennai	Involvement in training programme
30.	Zila Parishad	Involvement in MGNREGA and SGSY
31.	CAPART, Jaipur	To uplift farming community through NGO
32.	RAJUVAS, Bikaner	Identification of training needs & conducting of training programmes, joint diagnostic survey, identification of target groups for implementing the KVK activities such as training.
33	NFL	Providing Seeds and Agricultural inputs and trainings.
34.	ATMA, Hanumangarh	Involvement in all activities of ATMA.
35	NIPHM, Hyderabad	Technical sport.

4.2 Details of linkage with ATMA

a) Is ATMA implemented in your district

Yes/No

S. No.	Programme	Nature of linkage
1	B-2C Training of farmers within district level	Involement in training programmes
2	B-3B Demonstration (Allied Sector)	Involvement in demonstration programme
3	B-4 Expousure visit of farmers within state	Involvement in farmers visit
4	B-5 Capacity building, Skill development and support services for FIGs/CIGs	Involvement in organization of FIGs/CIGs and training programmes
5	B-10 Development of technology package on electronic form to be shared through IT network	Development of Audio/Vedeo Cds/DVDs for farmer welfare
6	B-11-ii Expert support from SAU/KVK at different levels	KVK scientist support
7	B-16 Fram school	Organization of farm school at farmers field

4.3 Give details of programmes under National Horticultural Mission

S. No.	Programme	Nature of linkage
1		
2		

4.4 Nature of linkage with National Fisheries Development Board

S. No.	Programme	Nature of linkage
1		
2		

5.0 Utilization of hostel facilities

S. No.	Programme	No. of days
1		
	Total	

6.0 Convergence with departments :

7.0 Feedback of the farmers about the technologies demonstrated and assessed :

- 1. Good response of GNG-1958 and GNG-1581 varieties of chickpea.
- 2. Good response of basal application of fertilizers and IPM practices in chickpea crop.
- 3. Result of H-NPV was very slow in chickpea crop.
- 4. Performance of HD-2967 and HD-2932 varieties of wheat are good but HD-2967 is better than HD-2932
- 6. NS-22 is an average variety of tomato in production point of view.
- 7. Kranti (Chilli) is a good variety for this area.

i) Farmers & Farm women (On Campus)

- 8. MP chari is an average variety of sorghum in the production point of view.
- 9. MP chari is an average variety of sorghum in the production point of view

8.0 Feedback from the KVK Scientists (Subject wise) to the research institutions/universities :

- 1. Use of effective herbicides to control of Pyaji (*Asphodelus tenuifolius*) in chickpea crop.
- 2. Chickpea varieties should be developed having low water requirement.
- 3. Effective control measures against nematode in wheat crop.
- 4. Research should be conducted on micro nutrient deficiency in wheat crop.
- 5. Some other varieties of oat (fodder) should be assessed for this zone
- 6. Some other varieties of maize (fodder) should be assessed for this zone
- 7. Yellow mosaic virus resistant variety of moongbean should be developed for this area.

Annexure - I

Training Programme

Date	Clientele	le Title of the training programme	Duration in days	N pa	lumber articipa	of nts	Numl	G. Total		
				М	F	Т	Μ	F	Т	
Crop Produc	tion	-	•	<u> </u>				•	-	
June 2018	PF	Improved production technology of moong bean	4	14	3	17	6	2	8	25
Horticulture										
May 2018	PF	Planning, layout & Plantation of new orchard	4	14	3	17	6	2	8	25

Nov. 2018	PF	Protective cultivation	4	14	3	17	6	2	8	25
Feb., 2019	PF	Nursery management	4	14	3	17	6	2	8	25
Livestock p	roductior	<u>ייייי</u> ו		4	4		4	•		I
May 2018	RY	Goat farming	4	14	3	17	6	2	8	25
July 2018	RY	Modern Poultry farming	4	14	3	17	6	2	8	25
Aug. 2018	RY	Modern Dairy Farming	4	14	3	17	6	2	8	25
Jan. 2019	RY	Goat farming	4	14	3	17	6	2	8	25
Agriculture	Extensio	n		<u>+</u>		ā	4			
Sept.2018	PF	Entrepreneurial opportunities in mushroom production	4	14	3	17	6	2	8	25
Home Sc.				£	*		4			
May, 2018	RY	Bengal making	4	-	17	17	-	8	8	25
Nov. 2018	FW	Vegetable preservation	4	-	17	17	-	8	8	25
Plant protec	tion						4	•		I
Nov. 2018	PF	Pest & disease management of mustard and production of bio agent	4	14	3	17	6	2	8	25
Fisheries						-	4			
May 2018	RY	Fish culture in village ponds	4	14	3	17	6	2	8	25
June 2018	RY	Fish culture in village ponds & Pakka pond	4	14	3	17	6	2	8	25
Aug. 2018	RY	Pearl culture	4	14	3	17	6	2	8	25
Sept. 2018	RY	Shrimp culture in saline water	4	14	3	17	6	2	8	25

i) Farmers & Farm women (Off Campus)

Date	Clientele	Title of the training programme	Duration	No. c	of partic	ipants	Num	G.		
			in days	Μ	F	Т	М	F	Т	Total
Crop Product	tion		-				•••••••			
April 2018	PF	Precise irrigation in cotton crop	4	28	6	34	12	4	16	50
August 2018	PF	Production of organic inputs and organic farming	4	28	6	34	12	4	16	50
Nov. 2018	PF	Scientific cultivation of wheat crop	4	28	6	34	12	4	16	50
Horticulture										
July, 2018	PF	Improved production techniques of kharif vegetables	4	28	6	34	12	4	16	50
Sep. 2018	PF	Scientific cultivation of Rose & Marigold	4	28	6	34	12	4	16	50
Oct. 2018	PF	Nutrient management in citrus	4	28	6	34	12	4	16	50
Live Stock Pr	oduction.						•••••••	'		
June 2018	PF	Role of Vaccination & balance feeding in animal health	4	28	6	34	12	4	16	50
Dec. 2018	PF	Disease management in animals	4	28	6	34	12	4	16	50
Agril. Extensi	ion	.		4	4		-h	·		
May 2018	PF	Update knowledge on major Kharif crops through Kisan club	4	28	6	34	12	4	16	50
July 2018	PF	Use of electronic media for capacity building of farming community	4	28	6	34	12	4	16	50
Oct. 2018	PF	Update knowledge on major Rabi crops through Kisan club	4	28	6	34	12	4	16	50
Home Sc.							-h			
Sept.2018	FW	Importance & management of kitchen garden	4	-	34	34	-	16	16	50
Dec. 2018	FW	Different Amala product making	4	-	34	34	-	16	16	50
Jan. 2019	FW	Prepare minimum cost nutrition diet for family member	4	-	34	34	-	16	16	50
Plant Protect	ion									

July 2018	PF	Awareness for natural enimies of Cotton	4	28	6	34	12	4	16	50
Dec. 2018	PF	Integrated pest management of wheat and gram	4	28	6	34	12	4	16	50
Fisheries										
Dec. 2018	PF	Ornamental fish culture and Azolla cultivation	4	28	6	34	12	4	16	50
Soil health										
June 2018	PF	Production of organic manure by different type of compost methods	4	28	6	34	12	4	16	50
Dec. 2018	PF	Organic farming for sustainable Agriculture	4	28	6	34	12	4	16	50

ii) Vocational training programmes for Rural Youth

Crop /	Identified Thrust	Training title*	Month	Duratio	No. of Participants			SC/ST participants			G.Total
Enterprise	Alta			ii (aayo)	М	F	Т	Μ	F	Т	
	Income generating				-	17	17	-	8	8	25
Home	activities for	Garment making & Boutique	June,	15							
Science	empowerment of	management (Off campus)	2018	15							
	women										
Plant	Mushroom production	Mushroom production techniques	June	4	14	3	17	6	2	8	25
Protection			2018	4							
Plant	Muchroom production	Muchroom production toobniques	Aug.	4	14	3	17	6	2	8	25
Protection	Mushroom production	Mushroom production techniques	2018	4							
Plant	Paakaaning	Aphis melifera (Italian)	Sept.	4	14	3	17	6	2	8	25
Protection	реекееріну	Beekeeping	2018	4							

iii) Training programme for extension functionaries

Date	Clientele	lientele Title of the training programme			No. of participants				Number of SC/ST			
			days	М	F	Т	М	F	Т			
On Campus												
May 2018	LSA, Animal Husbandary Deptt.	Nutrient management in farm animals	2	17	-	17	8	-	8	25		
June 2018	Agriculture Supervisor	Pest & disease management in cotton crop	2	14	3	17	6	2	8	25		
Oct. 2018	Anganwari workers	Nutritional education for women & child	2	-	17	17	-	8	8	25		
Jan. 2019	Extension workers	ICT application for agriculture development	2	14	3	17	6	2	8	25		

iv) Sponsored programme

Discipline	Sponsoring agency	Clientele	Title of the training programme	No. of course	No. of participants			N	G. Total				
					М	F	Т	М	F	Т			
a) Sponse	a) Sponsored training progdramme												
						ļ							
						ļ	ļ			ļ			
			Total										
b) Sponse	pred research pro	aramme				1					I		
.,	·····]				T					I		
						1							
			Total]							
c) Any sp	ecial programme	5				.					7		
						ļ	ļ						
							<u> </u>						
			Total			<u> </u>							