ICAR-KRISHI VIGYAN KENDRA, GADAG

ANNUAL REPORT - 2017-18

(FOR THE PERIOD FROM 01 APRIL 2017 TO 31 MARCH 2018)

ICAR-K.H.Patil Krishi Vigyan Kendra, Hulkoti
Gadag district, Karnataka State
Pincode: 582205
Host Organisation: Agricultural Science Foundation, Hulkoti

PART I - GENERAL INFORMATION ABOUT THE KVK

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

KVK Address	Telephone		E mail	Web Address
	Office	Fax		
ICAR-K.H.Patil Krishi Vigyan Kendra, Hulkoti, Gadag dist.	(08372)289606 /289325	-	kvk.Gadag@icar.gov.in kvkhulkoti@gmail.com	www.khpkvk.org

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

Address	Telephone		E mail	Web Address
	Office	Fax		
Agricultural Science Foundation, Hulkoti Gadag dist.	(08372) 289069	-	hulkotiasf@gmail.com	www.asf.net.in

1.3. Name of the Programme Coordinator with phone & mobile No

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. L.G. Hiregoudar	08372-289772	9448358772	laxs1961@gmail.com

1.4. Year of sanction:

1.5. Staff position as on 31 March 2018

Sl. No.	Sanctioned post	Name of the incumbent	Designation	M / F	Discipline	Highest Qualification (for PC, SMS and Prog. Asstt.)	Pay Scale	Basic pay	Date of joining KVK	Permanent /Temporary	Category (SC/ST/ OBC/ Others)
1	Head/Senior Scientist	Dr. L.G. Hiregoudar	Programme Coordinator	M	Crop Physiology	M.Sc (Agri), PhD	37400-67000+ 10000	66620	19.10.1985	P	OBC
2	Scientist /SMS	Mr. S.K.Mudlapur	Subject Matter Specialist	M	Plant Protection	B.Sc (Agri)	15600-39100+ 7600	33750	22.07.1985	P	OBC
3	Scientist /SMS	Mr. S.H.Adapur	Subject Matter Specialist	M	Ag. Extension	M.Sc (Agri)	15600-39100+ 7600	32570	22.11.1990	P	Others
4	Scientist /SMS	Dr. Sudha V. Mankani	Subject Matter Specialist	F	Home Science	M.H.Sc, PhD	15600-39100+ 7600	32570	20.07.1993	P	OBC
5	Scientist /SMS	Mr. V.D.Vaikunthe	Subject Matter Specialist	M	Agronomy	B.Sc (Agri)	15600-39100+ 7600	32570	23.07.1985	P	OBC
6	Scientist /SMS	Mr. K.T.Patil	Subject Matter Specialist	M	Horticulture	B.Sc (Agri)	15600-39100+ 7600	32570	25.07.1985	P	OBC
7	Scientist /SMS	Mr. N.H.Bhandi	Subject Matter Specialist	M	Soil Science	M.Sc (Agri)	15600-39100+ 6000	25560	01.06.2005	P	OBC
8	Programme Assistant (Lab Tech.)	Dr. B.M.Murgod	Programme Assistant	M	Animal Science	B.V. Sc	9300-34800+ 4600	15840	25.06.2007	P	Others

Sl. No.	Sanctioned post	Name of the incumbent	Designation	M / F	Discipline	Highest Qualification (for PC, SMS and Prog. Asstt.)	Pay Scale	Basic pay	Date of joining KVK	Permanent /Temporary	Category (SC/ST/ OBC/ Others)
9	Programme Assistant (Computer)	Smt. L.S.Asuti	Computer Programmer	F	-	M.Sc (IT)	9300-34800+4600	17090	01.06.2005	P	OBC
10	Programme Assistant / Farm Manager	Mr. Suresh L. Halemani	Farm Manager	M	-	B.Sc (Agri.)	9300-34800+4200	13060	01.02.2011	P	OBC
11	Assistant	Mr. M.B. Jakkanagoudar	Assistant	M	-	M.Com	9300-34800+4600	15840	25.06.2007	P	OBC
12	Jr. Stenographer	Mr. T.K. Sai Swaroop Rao	Jr. Stenographer	M	-	SSC & Certificate in Stenography	5200-20200 +2400	5430	15.12.2016	P	OBC
13	Driver - 1	Mr. N.L. Hadapad	Auxiliary staff	M	Driver-Cum-Mechanic	7th Std.	5200-20200+2400	12760	03.09.1992	P	OBC
14	Driver - 2	Mr. G.D. Madivalar	Auxiliary staff	M	Driver-Cum-Mechanic	7th Std.	5200-20200+2400	11470	26.06.1995	P	OBC
15	SS-1	Mr. V.R. Navalli	Supporting staff	M	Field Assistant	SSLC	5200-20200+2400	9940	20.07.1993	P	OBC
16	SS-2	VACANT									

1.6. Total land with KVK (in ha): 28.0 ha

S. No.	Item	Area (ha)
1	Under Buildings	1.5
2.	Under Demonstration Units	0.5
3.	Under Crops	12.0
4.	Orchard/Agro-forestry	14.0
5.	Others	-

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	1996	800	33.46	-	-	-
2.	Farmers Hostel	ICAR	1997	550	17.26	-	-	-
3.	Staff Quarters	ICAR	31-03-2006	400	25.82	-	-	-
	1							
	2							
	3							
	4							
	5							
	6							
4.	Demonstration Units							
	1. Dairy	ICAR	31-03-1997	50	4.00	-	-	-
	2. Sheep & goat	ICAR	31-03-1997	50	2.63	-	-	-
	3. Organic input production unit	ICAR	31-03-2011	67	3.00			
5	Fencing	ICAR	31-03-2011		8.00			
6	Rain Water harvesting system	ICAR	31-03-2007	-	10.00	-	-	-
7	Threshing floor	ICAR	31-03-2011	278	2.00	-	-	-
8	Farm godown	ICAR	31-03-2011	70	3.00	-	-	-
9	Vermi Compost	DDB	31-03-2002	100	3.50	-	-	-
10	Vehicle & implement shed	ICAR	31-03-2011	80	3.00	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Jeep (Mahindra Bolero)	2009	6.00	170688	Good
Tractor	2003	5.00	99373 Hrs	Need replacement
Motor cycle - I	2004	0.40	58159	Good
Motor cycle - II	2009	0.50	50604	Good

C) Equipment & AV aids

Name of the equipment	Year of purchase	Cost (Rs. in lakhs)	Present status
Computer	2008	1.00	Good
Digital Amplifier with Public Address System	2013	0.36	Good
Fax	2009	0.15	Good
OHP	2004	0.25	Good
Motorised projection screen	2013	0.21	Good
White board	2013	0.14	Good
LED display board	2013	0.10	Good
Hipro lab model gin machine	2006	0.70	Good
Seed delinting machine	2006	0.18	Good
Cotton seed sorter	2007	0.50	Good
Seed treatment drum	2007	0.40	Good
Lap top Computer	2007	0.53	Good
LCD	2007	0.45	Good
Ceramic black board	2007	0.12	Good
Rotavator	2008	0.75	Good
Rotary weeder	2009	0.84	Good
Laser guided land leveler	2011	3.89	Good
Power tiller	2011	2.72	Good
Lab equipments for dairy and goatery	2011	0.50	Good
Generator	2011	1.00	Good
EPBAX system	2011	0.50	Good
Equipments of Plant health diagnostic unit	2011	10.00	Good
Xerox machine	2007	0.78	Good
Laptop computer	2016-17	0.589	Good
Desktop computer	2016-17	0.25	Good
Printer	2016-17	0.181	Good
Copier	2016-17	0.595	Good
Projector	2016-17	0.48	Good
Digital camera	2016-17	0.242	Good
Pico projector	2016-17	0.145	Good
Amplifier	2016-17	0.055	Good
Class room chairs	2016-17	0.21	Good
File cabin	2016-17	0.20	Good
Hostel furniture	2016-17	0.59	Good

1.8. Details of SAC meeting conducted during 2017-18

Date	Number of Participants	Salient Recommendations	Action taken	Remarks, if any
07-03-2018	36	1. Advise farmers to avail processing facilities created at UHS, Bagalkot	1. KVK shall advise farmers accordingly	
		2. UHS, Bagalkot has started "Centre of Excellence for FPOs" and let FPOs make use of this centre for training to their Executives.	2. KVK shall inform Executives of FPOs in Gadag district to attend training whenever arranged at UHS, Bagalkot	
		3. Organise trainings to Cashew growing farmers about value addition and processing to cashew fruits	3. KVK shall organize trainings to cashew farmers during December, 2018	
		4. Give the feedback about the technologies to Scientists of SAUs/ICAR Institutes after completion of FLDs/OFTs every year.	4. KVK shall give feedback to Scientists from this year 2017-18	
		5. Provide a pamphlet to farmers about various schemes of development departments	5. KVK shall provide the pamphlets to farmers during 2018-19	
		6. Arrange training about efficient use of harvested rain water collected in farm ponds for successful crop production during rain deficit situations	6. KVK shall arrange training in collaboration with UAS, Dharwad during June-July, 2018	

PART II - DETAILS OF DISTRICT

2.1 Major farming systems/enterprises (based on the analysis made by the KVK)

S. No	Farming system/enterprise
Rainfed situation	
1	Agricultural crops + Dairy enterprise
2	Agricultural crops + Horticultural crops
3	Agriculture + Horticulture + Dairy enterprise
Irrigated situation	
1	Agriculture + Dairy enterprise
2	Agriculture + Horticulture + Dairy enterprise

2.2 Description of Agro-climatic Zone & major agro ecological situations (based on soil and topography)

S. No	Agro-climatic Zone	Characteristics
1	Northern Dry Zone-3 and Region-2 of the state	This zone comprises of Gadag, Ron, Mundaragi, Gajendragad and Naragund blocks. Rainfall ranges from 450-600 mm with 30-35 rainy days mainly from June – September months. Maximum temperature ranges from 36-40^0 c. This zone is drought prone. **Kharif crops grown:** Greengram, Groundnut, Onion, Bt. Cotton Chilli, Sunflower, Maize etc **Rabi crops grown:** Bengalgram, Rabi Sorghum, wheat, sunflower etc
2	Northern Semi Transitional Zone-8 and Region-4 of the state	This zone comprises of Shirahatti and Laxmeshwar blocks. Average rainfall is 619 mm. Gets rainfall from both South-West and North-East mansoons. **Kharif crops grown:** Greengram, Sorghum, Bt-cotton, Groundnut, Sunflower, Millets, Maize, Onion, Chilli etc **Rabi crops grown:**Rabi Sorghum, Sunflower, Bengal gram, Wheat etc

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha
1	Very shallow red gravelly loam soils	Less water holding capacity with less runoff and high infiltration rate,	26,625
2	Shallow red gravelly mixed with deep black soils	Less water holding capacity with moderate runoff and high infiltration rate. It contains high sand percent.	10,659
3	Medium deep red clayey soils	Moderate water holding capacity with less runoff and moderate infiltration rate. It contains high clay percent.	25,210
4	Medium deep red gravelly clay soils	Moderate water holding capacity with less runoff and high infiltration rate. It contains high clay percent.	63,163
5	Deep red gravelly clay soils	High water holding capacity with less runoff and less infiltration rate. It contains high clay percent.	8,290
6	Medium deep black clayey soils	Moderate water holding capacity with high runoff and less infiltration	1,50,117
7	Deep black clayey soils	More water holding capacity with low infiltration rate of water & clay content is more than 35 percent	67,444
8	Deep black calcareous clayey soils	More water holding capacity with low infiltration rate and high runoff. It contains more percent of Calcium	92,238
9	Deep alluvial black clayey soils	More water holding capacity with low infiltration rate and high run off.	17,088
10	Deep alluvial clayey soils (salt affected in patches)	More water holding capacity, less infiltration rate and high run off affects the seed germination	1,053
		Total	**4,61,887**

2.4. Area, Production and Productivity of major crops cultivated in the district (Reference year: 2014-15)

Sl. No	Crop	Area (ha)	Production (Metric tons)	Productivity (Kg /ha)
	Cereals			
1	Maize	55365	184140	3326
2	Sorghum	184643	39606	629
3	Wheat (Irrigated)	16756	22504	1343
	Pulses			
4	Greengram	57370	25012	436
5	Bengalgram	85006	538931	634
6	Redgram	1541	870	565
	Oilseeds			
7	Groundnut	43434	27493	633
8	Sunflower	42024	19205	457
	Commercial crops			
9	Bt. Cotton	17812	13091	735
10	Onion	37227	152258	4.09 tonns
12	Dry chillies	12382	6339	512

Source: District Statistical Office

Note: The data for the year 2017-178is not available at District Statics Office / Office of Joint Director of Agriculture

2.5. Weather data

Month	Rainfall (mm)	Temperature ^{0} C		Relative Humidity (%)
		Maximum	Minimum	
April, 2017	7.9	43.50	16.90	55.03
May, 2017	51.9	41.80	18.80	62.15
June, 2017	48.9	39.00	18.80	73.72
July, 2017	38.9	35.90	18.70	75.55
August, 2017	88.3	36.80	18.00	75.51
September, 2017	166.3	36.10	17.40	77.11
October, 2017	106.5	35.70	14.00	75.13
November, 2017	2.3	35.20	11.00	69.42
December, 2017	0.5	35.30	7.70	65.10
January, 2018	0.0	35.70	8.50	56.88
February, 2018	2.4	37.30	7.10	49.58
March, 2018	27.0	41.30	11.30	52.70

* Source: KSDA, Gadag and Karnataka State Natural Disaster Monitoring Centre, Bengaluru

2.6. Production and Productivity of Livestock, Poultry, Fisheries etc. in the district

Category	Population	Production	Productivity
Cattle			
Crossbred	15418	25968 Lit. of milk/day	5.22 Kg/day
Indigenous	158588	45944 Lit of milk/day	2.40 Kg/day
Buffalo	80234	64088 Lit. of milk/day	2.80 Kg/day
Sheep			
Crossbred			
Indigenous	313459	158 tons/year (meat)	15 Kg/animal
Goats	172411	134 tons/year (meat)	16 Kg/animal
Pigs			
Crossbred			
Indigenous			
Rabbits			
Poultry birds (egg production)	158656	72 lakh/year	100 per year

Source: District Statistical Office Reference year: 2013-14

Note: The data for the year 2017-18 is not available at District Statics Office / Office of Deputy Directory of AH & VS

2.7 District profile has been **Updated** for 2017-18 : Yes (Latest available data is uploaded)

2.8 Details of Operational area / Villages

Sl. No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Gadag	Gadag	Binkadakatti	One year	Field crops	Less soil fertility due to non-use of organic manures	Jeevamruta & Ghanajeevamruta preparation
					Rabi Sorghum	Decreasing productivity of M 35-1 variety & moisture stress	Demonstration of SPV -2217 & BJV-44 varieties and Compartment bunding
					Foxtail millet & Little millet	Low productivity in existing local variety	Demonstration of improved variety DHFt-109-3 & DHLM-36-3 varieties
					Safflower & Linseed	Low productivity of local variety	Demonstration of Safflower + Linseed intercropping system
					Onion	Low productivity in local variety	Demonstration of improved Arka Kalayan variety
					Green Chillies	Low productivity in locally used hybrids	Assessment of chilli variety GCS 94-68
					Chrysanthemum	Low productivity in local varieties such as Kurnool & Mattur varieties	Assessment of “DUNDI” variety in comparision with Kurnool and Mattur varieties
					Bt. Cotton + Greengram intercrop	Low income due to mono cropping of Bt. Cotton	ICM in Bt. Cotton and Greengram
					CB Cows & buffaloes	Low productivity of milk	Scientific Dairy management technologies
					Goat kids	Low body weight gain	• Providing mineral licks for nutrient management • Management of Ecto-Endo parasites
					Hydroponic fodder production	Low productivity of milk due to non-feeding of green fodder throughout the year	Cultivation of nutritious green fodder in trays under Hydroponic technology
					Poultry bird rearing in cage system	Poultry birds produce less eggs and show low growth of body weight due to open system of rearing and not following proper	Rearing poultry birds in cage system with proper nutrition and disease management

Sl. No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
						nutrition and disease management.	
					Drudgery in Home	Smokey kitchen	• Smokeless chulha (Envirofit chulha)
					Nutrition & health	Lack of knowledge on balanced diet	• Balanced nutrition
					Nutrition & reproductive health	Lack of knowledge on reproductive health & hygiene	• Balanced diet, health & hygeine
					Tamarind	Lack of value addition in tamarind	• Value addition in tamarind
					Nutrition garden	Lack of awareness on nutrition & nutrition garden	• Nutrition garden
					Value addition	Lack of awareness on value addition and importance of millets	• Millet cookies • Millet fermented products • Millet Vermicelli
						Primary processing of millets	Primary processing of foxtail millet and little millet
2	Mundaragi	Mundaragi	Eklasapur	Two years	Field crops	Less soil fertility due to non-use of organic manures	Jeevamruta & Ghanjeevamrutha preparation
					Rabi Sorghum	Decreasing productivity of M 35-1 variety under sand mulched condition	Assessment of BJV-44 and SPV-2217 varieties for higher productivity
					Foxtail millet & Little millet	Low productivity in existing local variety	Demonstration of improved variety DHFt-109-3 & DHLM-36-3 variety
					Safflower & Linseed	Low productivity of local variety	Demonstration of Safflower + linseed intercropping system
					Onion	Low productivity in local variety	Demonstration of improved Arka Kalayan variety
					Ashwagandha	Rabi crops are not profitable under low moisture conditions	Demonstration of Ashwagandha crop (Jawahar variety)

Sl. No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
					Drudgery in Home	Smokey kitchen	Smokeless chulha (Envirofit chulha)
					Nutrition & health	Lack of knowledge on balanced diet	Balanced nutrition
					Nutrition & reproductive health	Lack of knowledge on reproductive health & hygiene	Balanced diet, health & hygeine
					Nutrition garden	Lack of awareness on nutrition & nutrition garden	Nutrition garden
					Value addition	Lack of awareness on value addition and importance of millets	• Millet cookies • Millet fermented products • Millet Vermicelli
						Primary processing of millets	Primary processing of foxtail millet and little millet
3	Kochalapur	Kochalapur	Ron	Two years	Field crops	Less soil fertility due to non-use of organic manures	• Jeevamruta & Ghanajeevamruta preparation
					Spreading Groundnut	Low yield due to mono cropping	• Redgram and Redgram based cropping systems • ICM in Spreading Groundnut
					Sunflower	Low productivity due to improper INM and IPM	• ICM in Sunflower
					Maize	Low productivity in Maize	• ICM in Maize
					Rabi Sorghum	Decreasing productivity of M 35-1 variety & moisture stress	• Demonstration of SPV-2217 & BJV-44 varieties • Compartment bunding
					Safflower & Linseed	Low productivity of local variety	• Demonstration of Safflower + linseed intercropping system
					Foxtail millet & Little millet	Low productivity of existing local variety	• Demonstration of improved variety DHFt-109-3 variety & DHLM-36-3 variety
					Onion	Low productivity in local variety	• Demonstration of improved Arka Kalyan variety

Sl. No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
					CB Cows & buffaloes	Low productivity of milk	• Scientific dairy management technologies
					Goat kids	Low body weight gain	• Providing mineral licks for nutrient management • Management of Ecto-Endo parasites
					Drudgery in Home	Smokey kitchen	• Smokeless chulha (Envirofit chulha)
4	Naragund	Naragund	Khanapur	Three years	Field crops	Less soil fertility due to non-use of organic manures	• Jeevamruta & Ghanajeevamruta preparation
					Maize	Imbalanced nutrition, incidence of stem borer, turcicum leaf blight & drudgery in harvesting	• Zinc and Iron nutrition • Functional clothing kits
					Bt. Cotton	Imbalanced nutrition, incidence of sucking pest	• Magnesium and Potassium nutrition • Sucking pest management • Myrid bug & midge management • Cotton harvesting bags
					Bengalgram	Low productivity of A-1 variety under irrigated condition.	Assessment of Bengalgram varieties JAKI-9218, NBEG-3 & GBM-2 varieties for higher productivity under irrigated condition
					Wheat	Low productivity due to imbalanced nutrition & disease and pest	ICM in Wheat
					Rabi Sorghum	Decreasing productivity of M 35-1 variety & moisture stress	• Demonstration of SPV -2217 & BJV-44 varieties • Compartment bunding
					Safflower & Linseed	Low productivity of local variety	• Demonstration of Safflower + Linseed intercropping system
					Onion	Low productivity in local variety	• Demonstration of improved Arka Kalayan variety
					CB Cows & buffaloes	Low productivity of milk	• Scientific dairy management technologies

Sl. No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
					Drudgery in Home	Smokey kitchen	• Smokeless chulha (Envirofit chulha)
					Nutrition & health	Lack of knowledge on balanced diet	• Balanced nutrition
					Nutrition & reproductive health	Lack of knowledge on reproductive health & hygiene	• Balanced diet , health & hygeine
					Nutrition garden	Lack of awareness on nutrition & nutrition garden	• Nutrition garden
5	Shirahatti	Shirahatti	Yalavatti	Three years	Field crops	Less soil fertility due to non-use of organic manures	• Jeevamruta & Ghanajeevamruta preparation
					Rabi Sorghum	Decreasing productivity of M 35-1 variety & moisture stress	• Demonstration of SPV -2217 & BJV-44 varieties • Compartment bunding
					Safflower & Linseed	Low productivity of local variety	• Demonstration of Safflower + Linseed intercropping system
					Greengram	Low productivity of existing variety, incidence of pod borer and powdery mildew, less market price	• ICM in Greengram
					Onion	Low productivity in local variety	• Demonstration of improved Arka Kalayan variety
					Chilli	Low productivity in chillies	• ICM in Chillies (Byadagi Dabbi variety)
					Bt. Cotton	Imbalanced nutrition, incidence of sucking pest	• Magnesium and Potassium nutrition • Sucking pest management • Mirid bug & midge management • Cotton harvesting bags
					CB Cows & buffaloes	Low productivity of milk	Scientific Dairy management technologies
					Goat Kids	Low body weight gain	• Providing mineral licks for nutrient management • Management of Ecto – Endo

Sl. No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
							parasites
					Drudgery in Home	Smokey kitchen	Smokeless chulha (Envirofit chulha)
					Nutrition & health	Lack of knowledge on balanced diet	Balanced nutrition
					Nutrition & reproductive health	Lack of knowledge on reproductive health & hygiene	Balanced diet , health & hygiene

2.8 Priority thrust areas

S. No	Thrust area
1	Low soil fertility due to non-use of organic manures
2	Non-diversification in field crops resulting in income insecurity to the farmers
3	(a) Low productivity of Maize due to imbalanced nutrition and (b) Health hazards during harvesting due to dust
4	Low productivity of Bt. Cotton due to imbalanced nutrition, high incidence of sucking pest and lack of knowledge on production technology
5	Low productivity due to imbalanced nutrition application and lack of knowledge on Integrated Crop Management practices in Oil seeds
6	Low productivity in pulses due to moisture stress, incidence of pod borer and wilt
7	Low productivity and low keeping quality of existing variety of Onion and lack of knowledge on balanced nutrition
8	Low productivity and low quality fruits in Red Chillies
9	Low productivity of milk in cattle due to imbalanced nutrition and incidence of ecto & endo-parasites
10	Drudgery in farm and home for farm women
11	Lack of knowledge on reproductive health aspects in young girls

PART III - TECHNICAL ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
5	5	24	24	21	21	249	249

Training				Extension Programmes			
3				4			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
119	254	3195	10858	677	714	23445	43636

Seed Production (Q)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
120	135.47	52500	58385

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
0	0	15900	16755

3.B1. Abstract of interventions undertaken

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products	
													No.	Kg
1	Cropping system	Redgram + Greengram and Redgram + Blackgram	Low productivity due to mono cropping of spreading groundnut	Redgram based intercropping systems	-	3	0	0	16	19.11	0	0	0	0
2	Varietal assessment	Bengalgram	Low productivity	Assessment of GBM-2 & NBEG-3 varieties	-	3	0	0	12	23.8	0	0	0	0
3	Varietal assessment	Rabi Sorghum	Low productivity in sand mulched condition	Assessment of BJV-44 & SPV-2217 varieties	-	3	0	0	10	0.36	0	0	0	0
4	Varietal demonstration	Rabi Sorghum	Low productivity	-	Demonstration of SPV-2217	3	0	0	6	2.04	0	0	0	0
5	Varietal demonstration	Rabi Sorghum	Low productivity	-	Demonstration of BJV-44	3	0	0	5	0.48	0	0	0	0
6	Varietal demonstration	Foxtail millet	Low productivity	-	Demonstration of DHFt-109-3 variety	2	0	0	5	1.08	0	0	0	0
7	Varietal demonstration	Little millet	Low productivity	-	Demonstration of DHLM-36-03 variety	2	0	0	5	0.25	0	0	0	0
8	ICM	Maize	Imbalanced nutrition & improper IPM & IDM	-	ICM in Maize	1	0	0	1	0	0	0	0	0

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products	
													No.	Kg
9	ICM	Mango	Imbalanced nutrition, Incidence of Mango hopper and powdery mildew	-	ICM in Mango	1	2	0	25	0	200	0	0	0
10	Varietal Assessment	Green Chillies	Low yield in local green chilli variety	Assessment of GCS-94-68 Green Chilli variety	-	1	0	0	5	0	0	0	0	0
11	ICM	Onion	Low productivity of local variety & low low keeping quality of bulbs	-	ICM in Onion-Arka Kalyan variety	4	0	0	20	4.84	0	0	0	0
12	ICM	Red Chillies	Low yield & low quality fruit production in local Byadagi Dabbi	-	ICM in pure Byadagi dabbi variety	4	0	0	20	0.90	0	0	0	0
13	ICM	Ashwagandha	No crop diversification	-	ICM in Ashwagandha	2	0	0	20	0.40	0	0	0	0
14	Varietal Demonstration	Chrysanthemum	Low yield in local market variety	0	Demonstration of Dundi variety in Chrysanth	1	0	0	10	0	6000	0	0	0

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products	
													No.	Kg
					emum									
15	Health and Nutrition	Nutrition Garden	Lack of awareness about Nutrition & Nutrition Garden	-	Nutrition Garden at Schools	9	3	13	12	0.06	450	0	0	0
16	Health & Drudgery	Functional Clothing Kit	Health problems due to inhalation of dust particles during threshing and winnowing	-	Functional Clothing Kit	2	0	0	2	0	0	0	0	0
17	Post Harvest Technology	Spiral Separator	Lack of awareness on cleaning and grading of grains which fetches low price for the produce	-	Spiral Separator	2	0	0	2	0	0	0	0	0
18	Intercropping system	Bt.Cotton + Greengram	Low income due to Monocropping	Assessment of Bt.Cotton + Greengram (1:2) intercropping system	-	0	0	0	0	5.94	0	0	0	0

3.B2. Details of technology used during reporting period

S. No	Title of Technology	Source of technology	Crop/enterprise	No. of programmes conducted			
				OFT	FLD	Training	Others (Extension activities)
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1	Cropping systems	UAS, Dharwad	Redgram + Greengram & Redgram + Blackgram	1	0	2	0
2	Varietal assessment	UAS, Raichur ARS, Nandyal	Bengalgram	1	0	3	0
3	Varietal assessment	UAS, Dharwad	Rabi Sorghum	1	2	6	0
4	Varietal demonstration	UAS, Dharwad	Foxtail millet	0	1	2	0
5	Varietal demonstration	UAS, Dharwad	Little millet	0	1	2	0
6	ICM in Maize	UAS, Dharwad	Maize	0	1	1	1
7	ICM in Mango	UHS, Bagalkot	Mango	0	4	3	25
8	Varietal Assessment GCS-94-68 in Chilli	UHS, Bagalkot	Green chilli	3	-	1	5
9	ICM in Onion-Arka Kalyan variety	UHS, Bagalkot	Onion	0	10	2	20
10	ICM in Chilli	UHS, Bagalkot	Red Chilli	0	10	2	15
11	ICM in Dundi variety of Chrysanthemum	UHS, Bagalkot	Chrysanthemum	0	4	1	10
12	ICM in Ashwagandha	UHS, Bagalkot	Ashwagandha	0	10	2	15
13	Nutrition Garden at Schools	UAS, Bangalore	Nutrition Garden	-	3	25	12
14	Functional Clothing Kit for threshing and winnowing of Maize	UAS, Dharwad	Health & Drudgery	-	20	2	2
15	Post Harvest Technology	Padson Industries, Akola, Maharashtra	Drudgery & primary processing	-	1	2	2
16	Value addition in millets	UAS, Dharwad	Value addition	-	-	16	6
17	Assessment of Bt.Cotton + Greengram (1:2) intercropping system	UAS, Dharwad	Bt.Cotton + Greengram	3	-	1	-

3.B2 contd..

No. of farmers covered															
OFT				FLD				Training				Others (Specify)			
General		SC/ST		General		SC/ST		General		SC/ST		General		SC/ST	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
3	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	38	0	11	0	0	0	0	0
3	0	0	0	17	2	1	0	70	0	12	0	0	0	0	0
0	0	0	0	3	2	0	0	17	4	0	0	0	0	0	0
0	0	0	0	4	1	0	0	19	3	0	0	0	0	0	0
0	0	0	0	17	3	0	0	17	3	0	0	0	0	0	0
0	0	0	0	4	0	0	0	57	25	86	19	20	0	10	0
3	0	0	0	0	0	0	0	10	0	0	0	5	0	0	0
0	0	0	0	10	0	0	0	25	3	2	1	15	2	3	0
1	0	0	0	10	0	0	0	28	2	1	0	10	2	3	0
0	0	0	0	4	0	0	0	10	0	0	0	5	0	0	0
0	0	0	0	10	0	0	0	20	0	0	0	10	0	0	0
0	0	0	0	0	0	0	0	186	847	68	221	55	250	15	30
0	0	0	0	20	0	0	0	8	25	0	0	5	25	5	8
0	0	0	0	8	0	0	2	15	30	6	4	20	35	6	8
0	0	0	0	0	0	0	0	6	502	0	129	25	40	5	5
0	0	0	0	0	0	0	0	0	544	0	80	0	25	0	0
3	0	0	0	24	3	1	0	11	0	2	0	0	0	0	0

PART IV - On Farm Trial

4.A1. Abstract on the number of technologies assessed in respect of crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management										
Varietal Evaluation	1		1		1					
Integrated Pest Management										
Integrated Crop Management			2							
Integrated Disease Management										
Small Scale Income Generation Enterprises										
Weed Management										
Resource Conservation Technology										
Farm Machineries										
Integrated Farming System										
Seed / Plant production										
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total	**1**		**3**		**1**					

4.A2. Abstract on the number of technologies refined in respect of crops : NIL

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management										
Varietal Evaluation										
Integrated Pest Management										
Integrated Crop Management										
Integrated Disease Management										
Small Scale Income Generation Enterprises										
Weed Management										
Resource Conservation Technology										
Farm Machineries										
Integrated Farming System										
Seed / Plant production										
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total										

4.A3. Abstract on the number of technologies assessed in respect of livestock enterprises : NIL

Thematic areas	Cattle	Poultry	Piggery	Rabbit	Fisheries	TOTAL
Evaluation of Breeds						
Nutrition Management						
Disease of Management						
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
TOTAL						

4.A4. Abstract on the number of technologies refined in respect of livestock enterprises : NIL

Thematic areas	Cattle	Poultry	Piggery	Rabbit	Fisheries	TOTAL
Evaluation of Breeds						
Nutrition Management						
Disease of Management						
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
TOTAL						

4.B. Achievements on technologies Assessed and Refined

4.B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trial covering all the Technological Options)
Integrated Nutrient Management					
Varietal Evaluation	Chilli	Assessment of GCS-94-68 Green Chilli variety	3	3	2.4
	Bengalgram	Assessment of potential productivity of GBM-2 & NBEG-3 varieties under protective irrigated condition	3	3	3.6
	Rabi Sorghum	Assessment of BJV-44 & SPV-2217 varieties for higher productivity under sand mulched condition	3	3	4.8
Integrated Pest Management					
Integrated Crop Management	Redgram + Greengram and Redgram + Black gram	Assessment of different Redgram+Greengram (1:2) & Redgram+Blackgram (1:2) intercropping system	3	3	2.4
	Bt.Cotton + Greengram	Assessment of Bt.Cotton + Greengram (1:2) intercropping system	3	3	2.4
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trial covering all the Technological Options)
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total					

4.B.2. Technologies Refined under various Crops : NIL

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trial covering all the Technological Options)
Integrated Nutrient Management					
Varietal Evaluation					
Integrated Pest Management					
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					

Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total					

4.B.3. Technologies assessed under Livestock and other enterprises : NIL

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds				
Nutrition management				
Disease management				
Value addition				
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Total				

4.B.4. Technologies Refined under Livestock and other enterprises : NIL

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds				
Nutrition management				
Disease management				
Value addition				
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Total				

4.C1. Results of Technologies Assessed

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Source of technology	Yield (Qt/Ha)	Unit of yield	Observations other than yield (Percentage of lodging)	Net Return Rs. / unit	BC Ratio	Remarks if any
1	2	3	4	5	6	7	8	9	10	11	12	13
Rabi Sorghum	Rainfed	Decrease in the productivity of M 35-1 variety under sand mulched condition	Assessment of BJV-44 & SPV-2217 varieties for higher productivity under sand mulched condition	3	**T.O.1 (Farmer practice)** Cultivation of M 35-1 variety	-	9.62	Qtl/ha	19.11	3993	1.22	-
					T.O.2 Assessment of BJV-44 variety	UAS, Dharwad	11.91	Qtl/ha	12.25	8073	1.44	-
					T.O.3 Assessment of SPV-2217 variety	UAS, Dharwad	13.29	Qtl/ha	8.23	10326	1.55	-

4.C2. Details of Successfully completed / concluded technology assessment (support with necessary summary of data and photographs)

1. **Title of Technology Assessed :** Assessment of BJV-44 & SPV-2217 varieties for higher productivity under sand mulched condition

2. **Performance of the Technology on specific indicators :**

Technology Assessed	Performance indicators			
	Grain yield (Qtl/ha)	Net Returns (Rs./ha)	B.C. Ratio	% increase in yield
Farmer's practice: Cultivation of M 35-1 variety	9.62	3993	1.22	-
Recommended practice: Assessment of BJV-44 variety	11.91	8073	1.44	23.80
Alternate practice: Assessment of SPV-2217 variety	13.29	10326	1.55	38.15

3. **Specific Feedback from farmers** : Lodging of plants in SPV-2217 is less compared to M 35-1 variety & duration of SPV-2217 is 8-10 days more compared to M 35-1 variety

4. **Specific Feedback from Extension personnel and other stakeholders :** Since SPV-2217 is a good yielder, this shall be promoted in the dstrict by making seeds available to farmers in large scale during next year

5. **Feedback to Research System based on results and feedback received :** Performance of SPV-2217 is good and it is accepted by the farmers

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Source of technology	Yield (Qt/Ha)	Unit of yield	Observations other than yield (No. of pods/plant)	Net Return Rs. / unit	BC Ratio	Remarks if any
1	2	3	4	5	6	7	8	9	10	11	12	13
Bengalgram	Protective irrigation	Decrease in the productivity of JG-11 variety	Assessment of GBM-2 & NBEG-3 varieties for higher productivity under protected irrigated condition	3	**T.O.1 (Farmers' practice)** Cultivation of JG-11 variety	-	10.83	Qtl/ha	55.33	21224	1.80	-
					T.O.2 Cultivation of JAKI-9218 variety	UAS, Dharwad	12.29	Qtl/ha	64.47	26033	1.93	-
					T.O.3 Assessment of GBM-2 variety	UAS, Raichur	11.87	Qtl/ha	58.87	24275	1.87	-
					T.O.4 Assessment of NBEG-3 variety	ARS, Nandyal under ANGRAU, Hyderabad	13.54	Qtl/ha	66.67	31258	2.10	

4.C2. Details of Successfully completed / concluded technology assessment (support with necessary summary of data and photographs)

1. **Title of Technology Assessed :** Assessment of GBM-2 & NBEG-3 varieties for higher productivity under protective irrigated condition

2. **Performance of the Technology on specific indicators :**

Technology Assessed	Performance indicators			
	Grain yield (Qtl/ha)	Net Returns (Rs./ha)	B.C. Ratio	% increase
Farmer practice: Cultivation of JG-11 variety	10.83	21224	1.80	-
Recommended practice: Cultivation of JAKI-9218 variety	12.29	26033	1.93	13.48
Alternate practice-1: Assessment of GBM-2 variety	11.87	24275	1.87	9.60
Alternate practice-2: Assessment of NBEG-3 variety	13.54	31258	2.10	25.02

3. **Specific Feedback from farmers** : NBEG-3 variety is high yielding compared to JAKI-9218 variety

4. **Specific Feedback from Extension personnel and other stakeholders :** Area under NBEG-3 has to be increased as it is a good yielder. Make seeds available to farmers through KVK and OFT farmers in bigger quantity

5. **Feedback to Research System based on results and feedback received :** The variety may be tested in multi locations in Northern Karnataka under protective irrigation

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Source of technology	Yield (Qt/Ha)	Unit of yield	Observations other than yield (No. of pods/plant)	Net Return Rs. / unit	BC Ratio	Remarks if any
1	2	3	4	5	6	7	8	9	10	11	12	13
Redgram	Rainfed	Low productivity in spreading groundnut due to mono cropping	Assessment of Redgram + Greengram & Redgram + Blackgram intercropping system (1:2)	3	**T.O.1 (Farmer practice)** Cultivation of spreading groundnut	-	6.58	Qtl/ha	30.13	3759	1.13	-
					T.O.2 Cultivation of Redgram	UAS, Dharwad	6.54	Qtl/ha	132.27	4407	1.17	-
					T.O.3 Assessment of Redgram + Greengram intercropping system (1:2)	UAS, Dharwad	Redgram: 6.04 Greengram: 2.13	Qtl/ha	129.4 11.4	8552	1.27	-
					T.O.4 Assessment of Redgram + Blackgram intercropping system (1:2)	UAS, Dharwad	Redgram: 6.22 Blackgram: 1.42	Qtl/ha	131.4 20.0	6332	1.20	

4.C2. Details of Successfully completed / concluded technology assessment (support with necessary summary of data and photographs)

1. **Title of Technology Assessed :** Assessment of Redgram + Greengram & Redgram + Blackgram intercropping system (1:2)

2. **Performance of the Technology on specific indicators :**

	Performance indicators		
	Grain yield (Qtl/ha)	**Net Returns (Rs./ha)**	**B.C. Ratio**
Farmers' practice: Cultivation of spreading groundnut	6.58	3759	1.13
Recommended practice: Cultivation of Redgram	6.54	4407	1.17
Alternate practice-1: Assessment of Redgram + Greengram intercropping system (1:2)	Redgram: 6.04 Greengram: 2.13	8552	1.27
Alternate practice-2: Assessment of Redgram + Blackgram intercropping system (1:2)	Redgram: 6.22 Blackgram: 1.42	6332	1.20

3. **Specific Feedback from farmers** : **I**ntercropping systems are profitable than mono cropping

4. **Specific Feedback from Extension personnel and other stakeholders :** Intecropping systems are more profitable and hence this technology shall be extended to all farmers

5. **Feedback to Research System based on results and feedback received :** Nil

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Source of technology	Yield (Qt/Ha)	Unit of yield	Observations other than yield (No. of pods/plant)		Net Return Rs. / Ha	BC Ratio	Remarks if any
1	2	3	4	5	6	7	8	9	No.of pods/plant in Greengram	No.of bolls/plant in Bt.Cotton	11	12	13
Bt.Cotton + Greengram	Protective irrigation	Low income due to mono cropping	Assessment of Bt.Cotton + Greengram (1:2) intercropping system	3	**T.O.1 (Farmer practice)** Bt.Cotton as sole crop	-	16.82	Qtl/ha	-	42.22	48368	2.67	-
					T.O.2 Recommended practice: Bt.Cotton + Greengram (1:1) intercropping system	UAS, Dharwad	Bt.Cotton:14.75 Greengram:4.8	Qtl/ha	12.44	33.10	56516	2.70	-
					T.O.3 Bt.Cotton + Greengram (1:2) intercropping system	UAS, Dharwad	Bt.Cotton:14.17 Greengram:7.06	Qtl/ha	11.66	31.11	63850	2.89	-

4.C2. Details of Successfully completed / concluded technology assessment (support with necessary summary of data and photographs)

1. **Title of Technology Assessed :** Assessment of Bt.Cotton + Greengram (1:2) intercropping system

2. **Performance of the Technology on specific indicators :**

	Performance indicators				
	Grain yield (Qtl/ha)	**Net Returns (Rs./ha)**	**B.C. Ratio**	**No.of pods/plant in Greengram**	**No.of bolls/plant in Bt.Cotton**
Farmers' practice: Bt.Cotton as sole crop	16.82	48368	2.67	-	42.22
Recommended practice: Bt.Cotton + Greengram (1:1) intercropping system	Bt.Cotton:14.75 Greengram:4.8	56516	2.70	12.44	33.10
Alternate practice-1: Bt.Cotton + Greengram (1:2) intercropping system (Plant Population more)	Bt.Cotton:14.17 Greengram:7.06	63850	2.89	11.66	31.11

1. **Specific Feedback from farmers** : In Bt.Cotton + Greengram (1:2) trial, the Greengram crop yield was more compared to Bt.Cotton + Greengram (1:1) trial
2. **Specific Feedback from Extension personnel and other stakeholders :** As Bt.Cotton + Greengram (1:2) trial got more net returns, this needs to be promoted.
5. **Feedback to Research System based on results and feedback received :** Nil

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Source of technology	Yield (Qt/Ha)	Unit of yield	Observations other than yield (Market price)	Net Return Rs. / unit	BC Ratio	Remarks if any
1	2	3	4	5	6	7	8	9	10	11	12	13
Chilli	Irrigated	Low yield in local green chilli variety	Assessment of GCS 94-68 Green Chilli variety	3	T.O.1 (Farmer practice) Cultivation of Nagavi variety	-	21.50	Qtl/ha	4000/Qtl	40866	1.90	-
					T.O.2 Cultivation of G-4 variety	UHS, Bagalkot	38.50	Qtl/ha	2500/Qtl	45683	2.01	-
					T.O.3 Cultivation of GCS 94-68 variety	UHS, Bagalkot	40.80	Qtl/ha	2850/Qtl	48730	2.50	-

4.C2. Details of Successfully completed / concluded technology assessment (support with necessary summary of data and photographs)

1. **Title of Technology Assessed :** Assessment of GCS 94-68 high yielding Green Chilli variety
2. **Performance of the Technology on specific indicators :** GCS 94-68 variety gave good yields and net returns
3. **Specific Feedback from farmers** : Farmers accepted GCS 94-68 for its good yielding ability
4. **Specific Feedback from Extension personnel and other stakeholders :** Nil
5. **Feedback to Research System based on results and feedback received :** Nil

4.D1. Results of Technologies Refined : NIL

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Refined	Source of technology	Yield	Unit of yield	Observations other than yield	Net Return Rs. / unit	BC Ratio	Remarks if any
1	2	3	4	5	6	7	8	9	10	11	12	13
					T.O.1 (Farmer practice)							
					T.O.2							
					T.O.3							

4.D.2. Details of Technologies refined:

1. Title of Technology Refined
2. Performance of the Technology on specific indicators
3. Specific Feedback from farmers
4. Specific Feedback from Extension personnel and other stakeholders
5. Feedback to Research System based on results/feedback received

PART V - FRONTLINE DEMONSTRATIONS

5. A. Summary of FLDs implemented

Sl. No.	Category	Farming Situation	Season	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		Farmers (No.)		Farmers (No.)	
									Proposed	Actual	SC/ ST	Others	Small/ Marginal	Others
1	Oilseeds	Rainfed	Kharif	Semi Spreading Groundnut	KDG-123	-	ICM in Semi Spreading Groundnut	ICM in KDG-123 variety	1.2	1.2	0	3	3	0
2	Oilseeds	Rainfed	Rabi	Safflower	PBNS-12	-	ICM	ICM in PBNS-12 variety	2.0	2.0	0	5	2	3
	Pulses													
3	Cereals	Rainfed	Rabi	Rabi Sorghum	SPV- 2217	-	Varietal demonstration	Demonstration of SPV-2217	4	4	1	9	4	6
4	Cereals	Rainfed	Rabi	Rabi Sorghum	BJV-44	-	Varietal demonstration	Demonstration of BJV-44 variety	4	4	0	10	5	5
5	Cereals	Rainfed	Rabi	Wheat	UAS-334	-	ICM	ICM in UAS-334 variety	4	4	1	9	3	0
6	Millets	Rainfed	Kharif	Foxtail millet	DHFt 109-3	-	Varietal demonstration	Demonstration of DHFt-109-3 variety	2	2	0	5	2	3
7	Millets	Rainfed	Kharif	Little millet	DHLM-36-03	-	Varietal demonstration	Demonstration of DHLM-36-03 variety	2	2	0	5	2	3
8	Vegetables	Rainfed	Kharif	Onion	Arka Kalyan	-	ICM	ICM demons-tration of Arka Kalyan variety	4	4	0	0	4	6
9	Flowers	Irrigated	Kharif	Chrysan-themum	Dundi	-	Variety demonstr-ation	Demonstration of Dundi variety	2	2	0	0	0	4
	Ornamental													
10	Fruit	Rainfed	Perennial	Mango	Alphonso	-	ICM	ICM in Mango	4	4	0	4	2	0
11	Spices and condiments	Rainfed	Kharif	Chilli	Byadagi Dabbi	-	ICM	ICM in Byadagi dabbi variety	4	4	0	0	6	4
	Commercial													

Sl. No.	Category	Farming Situation	Season	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		Farmers (No.)		Farmers (No.)	
									Proposed	Actual	SC/ ST	Others	Small/ Marginal	Others
12	Medicinal and aromatic	Rainfed	Rabi	Ashwa-gandha	Jawahar	-	ICM	ICM in Jawahar variety	4	4	0	0	6	4
13	Fodder			Perennial Fodder crops	• Hybrid Napier –DHN6 • Guinea Grass • Rhodes Grass • Signal Grass • Lucerne • Azolla Culture	-	Nutrition Management in dairy animals	Fodder and Azolla Production	1.0	1.0	0	10	10	0
	Plantation													
	Fibre													
14	Dairy			CB Cow	-	-	Nutrition Management in dairy animals	Usage of Silage bags for silage production	10 no.	10 no.	1	9	10	0
				CB Cow	-	-	Nutrition Management in dairy animals	Introduction of Hydroponic Fodder Production	5 Nos	5 Nos.	2	3	5	0
15	Poultry			Backyard Poultry Bird	Local (Naati)	-	Nutrition & Disease management	Rearing of poultry birds under cage system with proper nutrition and disease management	2 Nos.	2 Nos	1	1	2	0
	Rabbitry													
	Piggery													
16	Sheep and goat			Goat Kid	Local		Low body weight gain in	Management of mineral	40 no.	40 no.	20	20	40	0

Sl. No.	Category	Farming Situation	Season	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		Farmers (No.)		Farmers (No.)	
									Proposed	Actual	SC/ ST	Others	Small/ Marginal	Others
							goat kids	deficiency and parasite infestation in goat kid						
	Duckery													
	Common carps													
	Mussels													
	Ornamental fishes													
	Oyster mushroom													
	Button mushroom													
17	Vermicompost -**Organic Input Production and Usage in Rabi Sorghum crop**	Rainfed	Rabi Sorghum	-	-	-	Organic Farming	Organic Input Production and usage in Rabi Sorghum crop	4	4	-	10	4	6
	Sericulture													
	Apiculture													
	Implements													
	Others (specify)													

5.A. 1. Soil fertility status of FLDs plots, if analysed

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
1	Oilseeds	Rainfed	Kharif	Semi Spreading Groundnut	KDG-123	-	ICM in Semi Spreading Groundut	ICM in KDG-123 variety	Kharif	L	L	L	Maize & Sunflower
2	Oilseeds	Rainfed	Rabi	Safflower	PBNS-12	-	ICM	ICM in PBNS-12 variety	Rabi	L	L	M	Greengram
	Pulses												
3	Cereals	Rainfed	Kharif 2017	Maize	-	CP 818	ICM	ICM in Maize	Kharif 2017	L	L	M	Rabi Sorghum
4	Cereals	Rainfed	Rabi 2017-18	Rabi Sorghum	SPV-2217	-	Varietal demonstration	Demonstration of SPV-2217 variety	Rabi 2017-18	L	M	H	Greengram & fallow land
5	Cereals	Rainfed	Rabi 2017-18	Rabi Sorghum	BJV-44	-	Varietal demonstration	Demonstration of BJV-44 variety	Rabi 2017-18	L	L	M	Greengram & Bunch groundnut
6	Cereals	Rainfed	Rabi	Rabi Sorghum	SPV- 2217	-	Varietal demonstration	Demonstration of SPV-2217	Rabi	L	L	M	Greengram & Sunflower
7	Cereals	Rainfed	Rabi	Wheat	UAS-334	-	ICM in Wheat	ICM in Wheat	Rabi	L	L	M	Greengram & Sunflower
8	Millets	Rainfed	Kharif 2017	Foxtail millet	DHFt-109-3	-	Varietal demonstration	Demonstration of DHFt-109-3	Kharif 2017	L	L	M	Rabi Sorghum
9	Millets	Rainfed	Kharif 2017	Little millet	DHLM 36-03	-	Varietal demonstration	Demonstration of DHLM-36-03 variety	Kharif 2017	L	L	M	Sp. Groundnut & Sunflower
10	Vegetables	Rainfed	Kharif 2016-17	Onion	Arka Kalyan	-	ICM	ICM in of Arka Kalyan variety	Kharif 2017-18	L	L	H	Rabi Sorghum
11	Flowers	Irrigated	Kharif 2016-17	Chrysanthemum	Dundi	-	Varietal demonstration	Demonstration of Dundi variety	Kharif 2017-18	L	L	M	Wheat
	Ornamental												
12	Fruit	Rainfed	Perennial	Mango	Alphonso		ICM	ICM in Mango	Perennial	L	L	L	-

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
13	Spices and condiments	Rainfed	Kharif 2016-17	Chilli	Byadadi Dabbi	-	ICM	Demonstration of pure Byadagi Dabbi variety	Kharif 2017-18	L	M	H	Wheat
	Commercial												
14	Medicinal and aromatic	Rainfed	Kharif 2016-17	Ashwaga-ndha	Jawahar	-	ICM	Demonstration of Ashwagandha	Rabi 2017-18	L	L	M	Greengram
15	Fodder	Irrigated	Kharif 2016-17	Fodder crops	• Guinea grass • Signal grass • Lucerne	Hybrid Napier DHN-6	Varietal/ Hybrid demonstration	Demonstration of fodder crops	Kharif 2017-18	L	M	H	Rabi Sorghum / Sunflower
	Plantation												
	Fibre												

5.B. Results of FLDs

5.B.1. Crops

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (q/ha)				% Incre-ase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
							Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
							H	L	A										
Oilseeds																			
Groundnut	ICM in KDG-123 variety	KDG-123	-	Rainfed	3	1.2	12.2	9.0	10.5	8.37	25.44	30620	51375	20761	1.68	29592	43950	14358	1.49
Safflower	ICM in Safflower	PBNS-12	-	Rainfed	5	2.0	12.5	8.75	10.55	8.25	27.87	17469	34288	16819	1.96	15551	26813	11261	1.72
Pulses																			
Cereals																			
Rabi Sorghum	Demonstration of SPV-2217 variety	SPV-2217	-	Rainfed	10	4	13.75	10.0	12.03	9.95	20.90	15784	26060	10276	1.65	14668	21900	7232	1.49
Rabi Sorghum	Demonstration of BJV-44 variety	BJV-44	-	Rainfed	10	4	13.0	9.50	11.15	9.22	20.93	15939	24300	8361	1.52	14754	20440	5686	1.38
Wheat	ICM in Wheat	UAS-334	-	Rainfed (One time irrigation)	10	4	18	13.25	16.03	12.44	28.85	22688	37658	14970	1.66	20958	29234	8275	1.39
Millets																			
Foxtail millet	Demonstration of DHFt-109-3 variety	DHFt-109-3	-	Rainfed	5	2	16.25	11.25	13.50	10.12	33.4	14752	24300	9548	1.70	13925	18223	4298	1.33
Little millet	Demonstration of DHLM-36-03 variety	DHLM-36-03	-	Rainfed	5	2	15.0	10.5	12.45	10.15	22.66	15941	24900	8959	1.56	15439	20300	4861	1.31
Vegetables																			
Onion	ICM in Onion	Arka Kalyan	-	Rainfed	10	4	72. 50	45	60.99	44.72	36.72	52695	153246	112464	3.15	44775	142246	97774	3.2
Flowers																			
Chrysan themum	ICM in Chrysanthemum	Dundi	-	Irrigated	4	1	60.0	45	53.75	45.62	17.82	203000	367450	164450	1.81	186750	302232	115482	1.62
Orna mental																			
Fruit																			
Mango	ICM in Mango	Alphonso	-	Rainfed	4	1.6	3.75	3.00	3.41	2.73	24.09	85156	221812	136656	2.61	82915	177937	950225	2.14

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (q/ha)				% Incre-ase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
							Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
							H	L	A										
Spices and condiments																			
Chilli	ICM in Chilli	Byadagi Dabbi	-	Rainfed	10	4	12.50	8.50	9.69	7.90	22.60	41480	179357	137877	4.30	34690	134300	99660	3.80
Commer cial																			
Fibre crops like cotton																			
Medicinal and aromatic																			
Ashwagan Dha*	Demonstration of Jawahar variety in Ashwagandha crop	Jawahar	-	Rainfed	10	4	5.25	1.80	3.18	Compar ed to Bengal gram yield : 8.33	-	24485 (Ashwa gandha)	42770 (A.g.)	23290 (A.g.)	1.88 (A.g.)	23907 (Bengal gram)	38070 (B.g)	14452 (B.g)	1.58 (B.g)
Fodder																			
Plantation																			
Fibre																			
Others (pl.specify)																			

** BCR= GROSS RETURN/GROSS COST
H – Highest Yield, L – Lowest Yield A – Average Yield

* Ashwagandha crop demonstration does not have local check as this crop is a new introduction during rabi season. Hence, this is compared with Bengalgram crop as local check to show that Ashwagandha is more profitable compared to traditional rabi season crop i.e Bengalgram

1)Data on additional parameters other than yield : ICM in Groundnut

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demonstration plot**	**Local check plot**
Hay yield	1.63 ton/ha	2.1 ton/ha
Leaf minor incidence per sq.mt	0.44	1.32

2)Data on additional parameters other than yield : ICM in Wheat

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demonstration plot**	**Local check plot**
Wilt incidence (Number of wilt affected plant/sq.mt.area)	0.24	0.66

3)Data on additional parameters other than yield : ICM in Safflower

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demonstration plot**	**Local check plot**
No.of Aphids/leaf	0.24	1.08
% of leaf spot	5%	11.8%

4) Data on additional parameters other than yield : Demonstration of SPV-2217 variety in Rabi Sorghum

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demonstration plot**	**Local check plot**
% of lodging	9.58	20.54

5) Data on additional parameters other than yield : Demonstration of BJV-44 variety in Rabi Sorghum

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demonstration plot**	**Local check plot**
% of lodging	12.81	23.23

6) Data on additional parameters other than yield : ICM in Mango

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demonstration plot**	**Local check plot**
Mango Hopper (No./ inflorescence)	0.20	1.00
% of Powdery Mildew	4.38 %	12.5 %

5.B.2. Livestock and related enterprises

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield (kg/animal)				% Increase	*Economics of demonstration Rs./unit)				*Economics of check (Rs./unit)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Dairy	Fodder & Azolla Production	CB Cow	10	10	12	7	8.4	6.5	25.37	22690	63514	40824	2.73	30943	51483	20540	1.66
	Usage of Silage bags for silage preparation	CB Cow	10	10	9.5	6.0	7.8	7.1	9.23	29295	58665	29370	1.99	31482	54432	22950	1.70
	Introduction of Hydroponic Fodder Production	CB Cow	4	4	12	7.5	9.1	7.8	16.66	33895	69363	35468	2.04	33395	59535	26140	1.78
Poultry	Rearing of Backyard poultry birds under cage system with nutrition and disease management	Desi	2	2	141	102	122	63	92.85	5852	12150	6298	2.10	3773	5040	1267	1.34

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield (kg/animal)				% Increase	*Economics of demonstration Rs./unit)				*Economics of check (Rs./unit)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Rabbitry																	
Pigerry																	
Sheep and goat	Management of mineral deficiency and Ecto-Endo parasites in goat kid	Usmanabadi crossed	40	40	31	13.3	20.5	14.3	43.35	3581	8200	4619	2.29	3261	5720	2454	1.75
Duckery																	
Others (pl.specify)																	

** BCR= GROSS RETURN/GROSS COST

Data on additional parameters other than yield (viz., reduction of percentage diseases, increase in conceiving rate, inter-calving period etc.)

FLD on Fodder and Azolla production

Salient features of Perennial Grasses as perceived by Farmers involved in Demonstrations

	Palatability of grass / fodder	Soil erosion controlling character	Regenerating capacity of grass / fodder	Suitability to grow on the farm bunds	Average Bio-mass / 100 sq.ft. at 1st harvested stage	Average No. of tillers at 1st harvesting stage	Average height of the grass at 1st harvesting stage
Hybrid Napier DHN-6	75-85% (Very good)	Yes	Yes	Yes	28 Kg	44.0	5.6 ft.
Guinea grass	90-100% (Excellent)	Yes	Yes	Yes	19 Kg	51.0	1.6 ft.

Rhodes grass	90-100% (Excellent)	Yes	Yes	Yes	1.5 Kg	64.0	3.8 ft.
Signal grass	75-85% (Excellent)	Yes	Yes	Yes	4.0 Kg	51.0	2.4 ft.
Lucerne	90-100% (Excellent)	Yes	Yes	Yes	4.0 Kg	6.0	1.9 ft.

Data on additional parameters other than yield (viz., reduction of percentage diseases, increase in conceiving rate, inter-calving period etc.)

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demonstration**	**Check**
Feeding of Fodder and Azolla culture	• Gradual improvement in the general condition of the animal health • Increase in intake of dry fodder • Cows are coming to heat within the period	-
Salient features of Azolla production	• Average production of Azolla in 9'x4' area was around 0.25 Kg/day	-

Data on additional parameters : Rearing of Backyard poultry birds under cage system

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demonstration (Rearing Swarnadhara improved breed in cage system)**	**Check (Free range farming system with local variety)**
Laying of eggs (age)	Start laying of eggs at the age of 20-25 weeks	Start laying of eggs at the age of 25-30 weeks
Egg weight (g)	62 g	46 g
Feces to drop down	Allow the feces to drop down	Contamination of feces
Feather and vent picking	Reduced feather and vent picking	Increase in feather and vent picking
Victims	Do not become the victims of predators	Easily become victims of predators
Diseases	Less spread of disease	More spread of diseases
Nutrition	Proper nutrition	No systematic nutrition

Data on additional parameters : Introduction of Hydroponic Fodder Production

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demonstration**	**Check**
Water consumption	Low consumption of water. Ideal for drought areas	-
Fertiliser requirement	No fertiliser required	-
Nutrition	High nutrition and good hydration	-

Data on additional parameters : Usage of Silage bags for silage preparation

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demonstration**	**Check**
Supply of fodder	• Possible for regular supply of silage green fodder to the	-

Data on other parameters in relation to technology demonstrated		
	animals. • Ensuring the silaged green fodder especially during lean period	
Weather	Silage can be made under all weather conditions	-

5.B.3. Fisheries : NIL

Type of Breed	Name of the technology demonstrated	Breed	No. of Demo	Units/ Area (m^2)	Yield (q/ha)				% Increase	*Economics of demonstration Rs./unit) or (Rs./m2)				*Economics of check Rs./unit) or (Rs./m2)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Common carps																	
Mussels																	
Ornamental fishes																	
Others (pl.specify)																	

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST
H-High L-Low, A-Average

Data on additional parameters other than yield (viz., reduction of percentage diseases, effective use of land etc.)

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demo**	**Check if any**

5.B.4. Other enterprises

Enterprise	Name of the technology demonstrated	Variety/ species	No. of Demo	Units/ Area {m^2}	Yield				% Increase	*Economics of demonstration (Rs./unit) or (Rs./m2)				*Economics of check (Rs./unit) or (Rs./m2)			
					Demo			Check if any		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Oyster mushroom																	
Button mushroom																	
Vermicompost	Organic Input Production and usage in Rabi Sorghum crop	-	10	5 ha (10 units)	12.5	10.5	11.4	8.85	28.81	17960	29072	11022	1.61	17520	23162	5642	1.32
Sericulture																	
Apiculture																	
Others (pl.specify)																	
Nutrition *** Garden	Demonstration of Nutrition Garden in Schools	-	3	-	-	-	-	-	-	8000	11775	3775	1.47	-	-	-	-
Drudgery****	Functional clothing kit for threshing & winnowing of Maize	-	20	-	-	-	-	-	-	-	-	-	-	-			

** BCR= GROSS RETURN/GROSS COST
H-High L-Low, A-Average

***** Nutrition Garden:** Since this table does not suit for giving full details, the same is given below in a separate table

Village	Soil Type and Status	No. of Childrens	Area	Palak (Bundles)	Amaranthus (Bundles)	Spring Onion (Bundles)	Methi (Bundles)	Sabbasagee (Bundles)	Coriander (Bundles)	Total (Bundles)	Bhendi (Kg.)	Brinjal (Kg.)	Tomato (Kg.)	Chilli (Kg.)	Cucumber (Kg.)	Beans (Kg.)	Total (Kgs.)
			Sq.feet														
Eklaspur	Less fertile-Black sandy	104	2000	38	26	28	30	28	20	170	5	15	15	14	21	5	75
Binkadakatti	Less fertile-Red soil with pebbles	115	1700	39	25	-	25	32	19	140	-	17	6	5	4	2	34
Hulkoti	More fertile-Red soil	125	2200	116	51	-	46	78	24	315	4	44	-	12	-	4	64
TOTAL				**205**	**105**	**28**	**101**	**150**	**63**	**625**	**9**	**76**	**21**	**31**	**25**	**11**	**173**

Total Production of Leafy Vegetables, Other Vegetables and B.C. Ratio									
Quantity of leafy vegetable produced (Bundles)	**Cost per bundle (Rs.)**	**Total (Rs.)**	**Quantity of other vegetables produced (Kg.)**	**Cost per Kg of vegetable (Rs.)**	**Total (Rs.)**	**Gross Cost (Rs.)**	**Gross Return (Rs.)**	**Net Return (Rs.)**	**B.C. Ratio**
625	5	3125	173	50	8650	8000	11775	3775	1.47

****** Drudgery:** Since this table does not suit for giving the results, the same is given below in a separate table

Name of the technology demonstrated	No. of Demo	Weighted Mean Score		
		Particulars	**Demo (Functional clothing kit)**	**Check (Towel & shirts)**
Functional clothing kit for threshing & winnowing of Maize	20	Apron	4.4	2.2
		Hand gloves	4.2	1.9
		Mask	4.7	1.5
		Head gear	4.9	2.2
		Average	**4.7***	**1.95***

* Higher weighted means score indicates more acceptability, comfortability, functionality and suitability of functional clothing kit

Data on additional parameters other than yield- Organic Input Production and usage to Sorghum crop

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demo**	**Local**
Sorghum stover yield (tons/ha)	2.51	2.18

5.B.5. Farm implements and machinery

Name of the implement	Cost of the implement in Rs.	Name of the technology demonstrated	No. of Demo	Area covered under demo in ha	Labour requirement in Mandays		% save in labour requirement	Savings in labour (Rs./ha)	Economics (Rs./ha)	
					Demo (through spiral separator)	Check (Manual)			***DEMO*** Cost incurred for grading and cleaning of Bengalgram through Spiral separator	***CHECK*** Cost incurred for manual grading and cleaning of Bengalgram
Spiral Separator	15000	Demonstration of Spiral Separator for cleaning and grading of Bengalgram to get better market price	5	5	1.50	3	100	195	Rs.195 (Labour charges @ Rs.130/day)	Rs.390 (Labour charges @ Rs.130/day)

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

Data on additional parameters other than labour saved (viz., reduction in drudgery, time etc.)

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demo (Grading and cleaning through spiral separator)**	**Local (Manual grading and cleaning)**
Time required for cleaning and grading of 12 quintals of Bengalgram (Yield: 12 Qtls/ha)	12 H (Grading: 30 Minutes/Qtl & Cleaning : 30 Minutes/Qtl)	24 H (Grading: 1 Hour/Qtl Cleaning : 1 Hour/Qtl)
Market price (Rs./12 Qtls)	Rs.52800 (With grading)	Rs.48000 (Without grading)
Additional profit / ha	Rs. 4800	-

5.B.6. Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	19	1661	-
2	Farmers Training	28	1044	-
3	Media coverage	11	-	-
4	Training for extension functionaries	2	64	-
5	Others (Please specify)-Farm Advisory Services	354	464	-

PART VI – DEMONSTRATIONS ON CROP HYBRIDS

Demonstration details on crop hybrids

Type of Breed	Name of the technology demonstrated	Name of the hybrid	No. of Demo	Area (ha)	Yield (q/ha)				% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo			Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
					H	L	A										
Cereals																	
Bajra																	
Maize	ICM	CP-818	20	8.0	30.5	25.5	28.43	24.45	16.27	24020	34125	10105	1.42	21825	29340	7515	1.34
Paddy																	
Sorghum																	
Wheat																	
Others (pl.specify)																	

Total																		
Oilseeds																		
Castor																		
Mustard																		
Safflower																		
Sesame																		
Sunflower																		
Groundnut																		
Soybean																		
Others (pl.specify)																		
Total																		
Pulses																		
Greengram																		
Blackgram																		
Bengalgram																		
Redgram																		
Others (pl.specify)																		
Total																		
Vegetable crops																		
Bottle gourd																		
Capsicum																		
Others (pl.specify)																		
Total																		
Cucumber																		
Tomato																		
Brinjal																		
Okra																		
Onion																		
Potato																		
Field bean																		
Others (pl.specify)																		
Total																		
Commercial crops																		
Sugarcane																		
Coconut																		

Others (pl.specify)																		
Total																		
Fodder crops																		
Maize (Fodder)																		
Sorghum (Fodder)																		
Others (pl.specify)																		
Total																		

H-High L-Low, A-Average

PART VII. TRAINING

7.A.. Training of Farmers and Farm Women including sponsored training programmes (On campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management										
Resource Conservation Technologies	1	0	0	0	26	0	26	26	0	26
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management	17	458	24	482	62	7	69	520	31	551
Soil and Water Conservation	1	30	0	30	2	0	2	32	0	32
Integrated Nutrient Management										
Production of organic inputs	2	90	45	135	18	4	22	108	49	157
Others (pl.specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl.specify)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit	2	50	0	50	14	0	14	64	0	64
Management of young plants/orchards	1	14	0	14	0	0	0	14	0	14
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl.specify)										
c) Ornamental Plants										
Nursery Management										

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl.specify)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
e) Tuber crops										
Production and Management technology	1	6	0	6	0	0	0	6	0	6
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology	1	10	0	10	0	0	0	10	0	10
Processing and value addition										
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management	68	2534	535	3069	557	90	647	3091	625	3716
Integrated water management										
Integrated nutrient management										
Production and use of organic inputs										
Management of Problematic soils	4	72	137	209	8	21	29	80	158	238
Micro nutrient deficiency in crops										
Nutrient use efficiency										
Balanced use of fertilizers										
Soil and water testing										
Others (pl.specify)										
Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Rabbit Management										
Animal Nutrition Management										
Animal Disease Management	1	7	0	7	2	0	2	9	0	9
Feed and Fodder technology										
Production of quality animal products										
Others (pl.specify)										
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1	0	22	22	0	0	0	0	22	22
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	2	0	90	90	0	14	14	0	104	104
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	4	64	25	89	16	48	64	80	73	153
Women empowerment	1	0	30	30	0	0	0	0	30	30
Location specific drudgery production										
Rural Crafts										
Women and child care										
Others (pl.specify)										
Income generating activities	2	0	119	119	0	0	0	0	119	119
Agril. Engineering										
Farm machinery and its maintenance										
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										
Others (pl.specify)										
Plant Protection										
Integrated Pest Management	1	28	2	30	6	0	6	34	2	36
Integrated Disease Management										
Bio-control of pests and diseases										

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production of bio control agents and bio pesticides	2	26	0	26	0	0	0	26	0	26
Others (pl.specify)										
Organic farming	2	0	0	0	18	0	18	18	0	18
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
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										
Others (pl.specify)										
Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
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										
Mushroom production										
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
Group dynamics	3	64	0	64	11	0	11	75	0	75
Formation and Management of SHGs										

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Others (pl.specify)										
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	**117**	**3453**	**1029**	**4482**	**740**	**184**	**924**	**4193**	**1213**	**5406**

7.B Training of Farmers and Farm Women including sponsored training programmes (Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management	1	12	0	12	0	0	0	12	0	12
Resource Conservation Technologies	5	22	0	22	107	0	107	129	0	129
Cropping Systems										
Crop Diversification	2	29	0	29	31	0	31	60	0	60
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management	6	223	17	240	50	5	55	273	22	295
Soil and Water Conservation	6	64	0	64	127	14	141	191	14	205
Integrated Nutrient Management	1	0	0	0	25	0	25	25	0	25
Production of organic inputs										
Others (pl.specify)										
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising	1	10	0	10	0	0	0	10	0	10
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl.specify)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards	1	45	15	60	10	0	10	55	15	70
Cultivation of Fruit	4	163	33	196	39	7	46	202	40	242
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl.specify)										
Post harvest technology and value addition	1	60	5	65	10	10	20	70	15	85
c) Ornamental Plants										
Nursery Management										

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl.specify)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology	1	80	10	90	35	0	35	115	10	125
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated nutrient management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient use efficiency										
Balanced use of fertilizers										
Soil and water testing	2	62	0	62	5	2	7	67	2	69
Others (pl.specify)										
Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Rabbit Management										
Animal Nutrition Management										
Animal Disease Management										
Feed and Fodder technology										
Production of quality animal products										
Others (pl.specify)										
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1	0	45	45	12	8	20	12	53	65
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	2	49	120	169	13	45	58	62	165	227
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment										
Location specific drudgery production	2	8	25	33	0	0	0	8	25	33
Rural Crafts										
Women and child care										
Others (pl.specify)										
Agril. Engineering										
Farm machinery and its maintenance										
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										
Others (pl.specify)										
Plant Protection										
Integrated Pest Management	15	357	8	365	101	5	106	458	13	471
Integrated Disease Management	2	85	4	89	12	4	16	97	8	105
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides	1	41	2	43	7	0	7	48	2	50

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Others (pl.specify)										
Integrated pest and disease management	7	170	1	171	21	0	21	191	1	192
Organic farming	4	65	108	173	46	13	59	111	121	232
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
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										
Others (pl.specify)										
Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
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										
Mushroom production										
Apiculture										
Others (pl.specify)										
Capacity Building and Group Dynamics										
Leadership development										
Group dynamics	2	67	0	67	20	0	20	87	0	87
Formation and Management of										

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Others (pl.specify)										
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	**67**	**1612**	**393**	**2005**	**671**	**113**	**784**	**2283**	**506**	**2789**

7.C. Training for Rural Youths including sponsored training programmes (on campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching	1	0	33	33	0	4	4	0	37	37
Rural Crafts										
Production of quality animal products										
Dairying	24	408	162	570	191	55	246	599	217	816
Sheep and goat rearing	1	6	0	6	4	1	5	10	1	11
Quail farming										
Piggery										
Rabbit farming										
Poultry production	1	14	15	29	6	9	15	20	24	44
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
Entrepreneurial development of farmers / youths	5	107	21	128	51	0	51	158	21	179
TOTAL	**32**	**535**	**231**	**766**	**252**	**69**	**321**	**787**	**300**	**1087**

7.D. Training for Rural Youths including sponsored training programmes (off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production	3	37	25	62	83	19	102	110	44	154
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching	1	0	27	27	0	3	3	0	30	30
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
Nutrition Security	3	89	64	153	22	27	49	111	91	202
TOTAL	**7**	**126**	**116**	**242**	**105**	**49**	**154**	**221**	**165**	**386**

7.E. Training programmes for Extension Personnel including sponsored training programmes (on campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production	1	48	8	56	10	1	11	58	9	67
Household food security										
Any other (pl.specify)										
i) Soil health and fertility management	1	50	2	52	4	2	6	54	4	58
ii) Processing and value addition	1	22	26	48	5	6	11	27	32	59
iii) Skill in agriculture	1	10	1	11	4	5	9	15	6	21
iv) Capacity building of SHGs and convergence programme for their livelihood enhancement	13	0	368	368	0	77	77	0	445	445
Total	**17**	**130**	**405**	**535**	**23**	**91**	**114**	**154**	**496**	**650**

7.F. Training programmes for Extension Personnel including sponsored training programmes (off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing	1	0	27	27	0	6	6	0	33	33
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security	9	0	342	342	0	65	65	0	407	407
Any other (pl.specify)										
Health and nutrition	2	2	46	49	0	6	6	2	52	54
Total	**12**	**2**	**415**	**418**	**0**	**77**	**77**	**2**	**492**	**494**

7.G. Sponsored training programmes conducted

S. No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	**Crop production and management**										
1.a.	Increasing production and productivity of crops	6	122	7	129	49	1	50	171	8	179
1.b.	Commercial production of vegetables										
2	**Production and value addition**										
2.a.	Fruit Plants	3	88	0	50	26	0	26	114	0	114
2.b.	Ornamental plants										
2.c.	Spices crops										
3.	**Soil health and fertility management**	75	2641	667	3308	573	110	683	3214	777	3991
4	**Production of Inputs at site**	1	28	1	29	0	0	0	28	1	29
5	**Methods of protective cultivation**										
6	**Others (pl.specify)**										
7	**Post harvest technology and value addition**										
7.a.	Processing and value addition	4	86	51	137	21	13	34	107	64	171
7.b.	Others (pl.specify)										
8	**Farm machinery**										
8.a.	Farm machinery, tools and implements										
8.b.	Others (pl.specify)										
9.	**Livestock and fisheries**										
10	**Livestock production and management**										
10.a.	Animal Nutrition Management										
10.b.	Animal Disease Management										
10.c	Fisheries Nutrition										
10.d	Fisheries Management										
10.e.	Others (pl.specify)										
11.	**Home Science**										
11.a.	Household nutritional security	1	0	60	60	0	13	13	0	73	73
11.b.	Economic empowerment of women										
11.c.	Drudgery reduction of women										
11.d.	Others (pl.specify)										
12	**Agricultural Extension**										
12.a.	Capacity Building and Group Dynamics	16	64	368	432	11	77	88	75	445	520
12.b.	Others (pl.specify)										
	Entrepreneurship development	2	41	21	62	15	0	15	56	21	77
	Total	**108**	**3070**	**1175**	**4207**	**695**	**214**	**909**	**3765**	**1389**	**5154**

Details of sponsoring agencies involved

i) ASF, Hulkoti
ii) Karnataka State Department of Horticulture (Sujala Watershed)
iii) CADA
iv) Karnataka State Department of Agriculture
v) UAS, Dharwad
vi) GITSERD, Hulkoti

7.H. Details of Vocational Training Programmes carried out by KVKs for rural youth

Sl. No.	Area of training	No. of Courses	No. of Participants								
			General			SC/ST			Grand Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total
1	**Crop production and management**										
1.a.	Commercial floriculture										
1.b.	Commercial fruit production										
1.c.	Commercial vegetable production										
1.d.	Integrated crop management										
1.e.	Organic farming										
1.f.	Others (pl.specify)										
2	**Post harvest technology and value addition**										
2.a.	Value addition	1	0	30	30	0	0	0	0	30	30
2.b.	Others (pl.specify)										
3.	**Livestock and fisheries**										
3.a.	Dairy farming	12	232	102	334	99	33	132	331	135	466
3.b.	Composite fish culture										
3.c.	Sheep and goat rearing	1	6	0	6	4	1	5	10	1	11
3.d.	Piggery										
3.e.	Poultry farming	2	14	15	29	6	9	15	20	24	44
3.f.	Others (pl.specify)										
4.	**Income generation activities**										
4.a.	Vermi-composting										
4.b.	Production of bio-agents, bio-pesticides, bio-fertilizers etc.										
4.c.	Repair and maintenance of farm machinery and implements										
4.d.	Rural Crafts										
4.e.	Seed production										
4.f.	Sericulture										
4.g.	Mushroom cultivation										
4.h.	Nursery, grafting etc.										
4.i.	Tailoring, stitching, embroidery, dying etc.										
4.j.	Agril. para-workers, para-vet training										
4.k.	Others (pl.specify)										
5	**Agricultural Extension**										
5.a.	Capacity building and group dynamics										
5.b.	Others (pl.specify)										
	Entrepreneurship in agriculture	3	66	0	66	36	0	36	102	0	102
	Grand Total	**19**	**318**	**147**	**465**	**145**	**43**	**188**	**463**	**190**	**653**

PART VIII – EXTENSION ACTIVITIES

Extension Programmes (including extension activities undertaken in FLD programmes)

Nature of Extension Programme	No. of Programmes	No. of Participants (General)			No. of Participants SC / ST			No.of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	19	861	327	1188	370	55	425	38	10	48
Kisan Mela										
Kisan Ghosthi										
Exhibition	12	11297	6730	18027	505	420	925	896	145	1041
Film Show										
Method Demonstrations	26	331	394	725	45	38	83	12	8	20
Farmers Seminar	4	762	32	794	99	39	138	20	5	25
Workshop	1	86	0	86	20	0	20	3	0	3
Group meetings	14	331	202	533	87	68	155	14	8	22
Lectures delivered as resource persons	14	363	1100	1463	64	88	152	40	12	52
Newspaper coverage	30									
Radio talks	5									
TV talks	1									
Popular articles	6									
Extension Literature	10	2650	550	3200	50	25	75	35	10	45
Advisory Services	291	245	15	260	10	3	13	16	2	18
Scientific visit to farmers field	197	1400	100	1500	100	81	181	70	11	81
Farmers visit to KVK	58	7490	120	7610	220	25	245	95	6	101
Diagnostic visits	1	6	0	6	0	0	0	0	0	0
Exposure visits	1	16	0	16	0	0	0	0	0	0
Ex-trainees Sammelan										
Soil health Camp	6	400	0	400	72	0	72	0	0	0
Animal Health Camp										
Agri mobile clinic										
Soil test campaigns	4	364	0	364	59	0	59	2	0	2
Farm Science Club Conveners meet	2	364	50	414	55	22	77	16	0	16
Self Help Group Conveners meetings	2	0	55	55	0	0	0	0	0	0
Mahila Mandals Conveners meetings										

Nature of Extension Programme	No. of Programmes	No. of Participants (General)			No. of Participants SC / ST			No.of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Celebration of important days (specify)	10									
World environment day		65	10	75	19	9	28	4	0	4
Swifting cultivation of Millifera honey bee		65	35	100	7	5	12	4	0	4
World bio fuel day		73	0	73	20	0	20	2	2	4
Sankalp se Siddhi programme		398	63	461	63	19	82	10	6	16
Seva Diwas		32	20	52	4	7	11	2	0	2
Swachchata hi Seva was celebrated from 16-09-2017 to 30-09-2017		315	141	456	21	36	57	8	5	13
Mahila Kisan Diwas		8	165	173	0	39	39	5	0	5
World food day		80	0	80	8	0	8	0	2	2
World soil day		650	25	675	22	30	52	10	0	10
Kisan Diwas		310	32	342	31	0	31	8	6	14
Any Other (Specify)										
Total	**714**	**28962**	**10166**	**39128**	**1951**	**1009**	**2960**	**1310**	**238**	**1548**

PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIALS

9.A. Production of seeds by the KVKs

Crop category	Name of the crop	Name of the Variety	Name of the Hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers to whom provided
Cereals (crop wise)	Rabi Sorghum	SPV-2217		2.04	10200	68
	Rabi Sorghum	BJV-44		0.48	2400	16
	Rabi Sorghum	M 35-1		2.52	12600	67
	Foxtail millet	DHFt-109-3		1.08	5400	52
Oilseeds	Groundnut	G2-52		15	127500	50
	Groundnut	KDG-123		1.8	14400	3
	Safflower	PBNS-12		3.72	22320	109
	Linseed	NL-260		0.4	4400	5
Pulses	Bengalgram	JAKI-9218		22.6	221480	113
	Bengalgram	GBM-2		0.6	5880	3
	Bengalgram	NBEG-3		0.6	6000	3
	Greengram	DGGV-2		5.94	59400	101
	Blackgram	DU-1		1.66	16600	22
	Redgram	TS-3R		11.51	100965	291
	Horsegram	GPM-6		0.45	2250	5
Commercial crops						
Vegetables	Onion	Arka Kalyan		2.84	284000	64
Flower crops						
Spices	Coriander	Ajjampur local		0.54	4050	3
Fodder crop seeds	Lucerne			0.0315	1760	22
	Perennial Sorghum			0.102	6120	18
	Stylo haemata			0.005	400	10
Fiber crops	Cotton	DDHC-11		2.57	20560	18
Forest Species						
Others (specify)						
			Total	**76.489**	**928685**	**1043**
			Supply of seeds from farmers to farmers	**58.984**		
			Grand Total	**135.473**		

9.B. Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Commercial						
Vegetable seedlings						
Fruits	Mango	Alphonso		230	16400	2
	Papaya	Solo		6	198	3
Ornamental plants						
Medicinal and Aromatic						
Plantation						
Spices						
Tuber						
Fodder crop saplings	Guinea grass			8230	4827	3
	Congo signal			8720	4447	1

	Hybrid napier grass			10850	10850	5
Forest Species	Rhodes grass			5810	2963	1
	Melia dubia			400	4000	10
Others(specify)						
			Total	**34246**	**43685**	**25**
			Supply of seedlings from farmers to farmers	24139		
			Grand Total	**58385**		

9.C. Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	Number of farmers to whom provided
Bio Fertilizers	Vermiwash	120.00	3600	20
Bio-pesticide	Vermicompost	10500.00	31500	45
Bio-fungicide				
Bio Agents	Earthworms	88.25	26475	53
Others (specify)	Azolla	27.00	2700	28
	Total	**10735.25**	**64275**	**146**
Supply of Bio products from farmers to farmers		6019.75		
	Grand Total	**16755.00**		

9.D. Production of livestock materials : Nil

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	Number of farmers to whom provided
Dairy animals				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
Poultry				
Broilers				
Layers				
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others (Pl.specify)				
Fisheries				
Fingerlings				
Others (Pl. specify)				
Total				

PART X – PUBLICATION, SUCCESS STORY, SWTL, TECHNOLOGY WEEK AND DROUGHT MITIGATION

10. A. Literature Developed/Published (with full title, author & reference)

(A) KVK News Letter ((Date of start, Periodicity, number of copies distributed etc.)

Date of Start	Periodicity	No. of Copies distributed
English News Letters – January, 2003	Quarterly	2000
Krishi Darpana in Kannada language – October 2015	Quarterly	4000

(B) Literature developed/published

Item	Title	Authors name	Number
Research papers	Smart farming practices for mitigating agricultural drought in Gadag district of Karnataka State	Shri S.H.Adapur, SMS (Ag.Extension), Shri N.H.Bhandi, SMS (Soil Science) Dr.L.G.Hiregoudar Programme Coordinator and Head	1
Research papers	Vermicompost technology for sustainable crop productivity	Shri S.H.Adapur, SMS (Ag.Extension), Shri S.K.Mudlapur, SMS (Plant Protection)	1
Technical reports	Rainwater harvesting reports	Shri N.H.Bhandi, SMS (Soil Science)	1
Technical reports	Dairy project reports	Dr. B.M.Murgod Programme Assistant (Animal Science)	352
Technical reports	Sheep and goat project reports	Dr. B.M.Murgod Programme Assistant (Animal Science)	6
Technical reports	Poultry farming project reports	Dr. B.M.Murgod Programme Assistant (Animal Science)	2
News letters	Krishi Darpana	All staff	4000
Technical bulletins	Krishi Vigyan Patrike	All staff	10000
	CADA training manual	All staff	1500
Popular articles	“Roga mukta jeevanakkagi siridhanyagalu”	Dr. Sudha V. Mankani SMS (Home Science)	25000s
Popular articles	Contingent crop planning	Shri V.D.Vaikunthe SMS (Agronomy)	Approx. 15000
Popular articles	Successful Agri-technologies for drought mitigation	Shri N.H.Bhandi, SMS (Soil Science) & Shri V.D.Vaikunthe SMS (Agronomy)	Approx. 15000
Popular articles	Cattle feed mixture preparation to overcome fodder scarcity	Dr. B.M.Murgod Programme Assistant (Animal Science)	Approx. 15000
Popular articles	Improved cultivation practices in Rabi Sorghum crop	Shri V.D.Vaikunthe SMS (Agronomy)	Approx. 15000
Popular articles	Improved cultivation practices in Bengalgram crop	Shri V.D.Vaikunthe SMS (Agronomy) & Shri S.K.Mudlapur, SMS (Plant Protection)	Approx. 15000

Item	Title	Authors name	Number
Extension literature	Masala powder preparation	Dr. Sudha V. Mankani SMS (Home Science)	100
Extension literature	Use of green manure to increase soil fertility	Shri N.H.Bhandi, SMS (Soil Science)	1000
Extension literature	Vermicompost technology	Shri S.K.Mudlapur, SMS (Plant Protection)	1000
Extension literature	Use of organic inputs for getting good crop	Shri S.K.Mudlapur, SMS (Plant Protection)	1000
Extension literature	Fodder crops production technologies	Dr. B.M.Murgod Programme Assistant (Animal Science)	1000
Extension literature	ICT in agriculture	Mrs. Lalita S. Asuti Programme Assistant (Computers)	1000
Extension literature	Use of bio-fretilisers and their importance	Shri V.D.Vaikunthe SMS (Agronomy)	1000
Extension literature	Dryland horticulture	Shri K.T.Patil SMS (Horticulture)	1000
Extension literature	Soil and water conservation methods	Shri N.H.Bhandi, SMS (Soil Science)	1000
Extension literature	Soil sample collection methodology	Shri N.H.Bhandi, SMS (Soil Science)	350
Others (Pl. specify) **Document:**	District Level Strategy document on doubling of farmers income	KVK Staff	1
Extension Brochure	Smart Farming Practices for Mitigating Agriculture Drought in Gadag District	Shri S.H.Adapur, SMS (Ag.Extension), Shri N.H.Bhandi, SMS (Soil Science) & Dr.L.G.Hiregoudar, Programme Coordinator	2000
Article	Dryland Mango ensures income in drought prone areas **Published in:** Symbols of Success: Path ways to prosperity published by ICAR, New Delhi	Shri S.H.Adapur, SMS (Ag.Extension), Shri K.T.Patil, SMS (Horticulture), Shri S.K.Mudlapur, SMS (Plant Protection) & Dr.L.G.Hiregoudar, Programme Coordinator	1
TOTAL			**126315**

10.B. Details of Electronic Media Produced

Sl. No.	Type of media (CD / VCD / DVD/ Audio-Cassette)	Title of the programme	Number
1	Videos	i) Fourfold increase in farmers income through dryland Mango cultivation	50
		ii) Doubling of farmers income through dryland Cashewnut cultivation	50
		iii) Soil sample collection method	10
		iv) Vermicomposting	10
		v) Compartment bunding	10
2	Video Uploaded on Youtube	Spiral Separator	536
3	Video on uploaded on KVKwebsite	Functional clothing kit	350

10.C. Success Stories / Case studies

I. Harvesting Herbs for Profitability

Gadag district is known for recurring occurrence of agricultural droughts. The average rainfall of 612 mm which has been erratic is not sufficient to sustain the farming of conventional crops like Rabi Sorghum, Bengalgram, Sunflower and Desi Cotton during Rabi Season. The farming has become challenging for small farmers as they do not have sufficient resources, knowledge on profitable cropping systems and alternate source of income. This situation forces them to go for migration to Goa and other places in search of livelihood. This trend is more prevalent with small and marginal farmers.

During 2015-16, KVK has adopted Kuradagi cluster of villages in Ron block of the district. Kuradagi cluster of villages is known for frequent crop failures due to moisture stress situation. Browsing by deers is also a major menace in these cluster villages. Farming was not viable due to high cost of cultivation and dwindling net returns. This was more common for small and marginal farmers

In order to address the issue, KVK introduced Ashwagandha crop, (*Withania somnifera*) a medicinal herb known for its hardyness, requires less moisture but fetches higher returns and profitability.

Shri Maharudrappa Ramappa Gawari, aged 48 years is one of the 10 farmers participated in the Front Line Demonstrations on Ashwagandha crop. Being a small farmer, Mr.Gawari used to cultivate Bengalgram and Rabi Sorghum in his 4 acre rainfed farm. Owing to high cost of cultivation and frequent crop failures due to moisture stress, farming was never a profitable venture for him until he started cultivation of Ashwagandha crop.

He had sown 2 acres of Ashwagandha crop under guidance of KVK during 2015-16. He had also cultivated Bengalgram in his another 2 acres of land. It was a rain deficit year and the traditional crops viz., Bengalgram, Rabi Sorghum and Sunflower crops suffered from moisture stress situation. But Ashwagandha crop stood against all the climatic aberrations and the crop was established very well due to its deep root system.

Mr. Gawari harvested 3 quintals of Ashwagandha roots from 2 acres and supplied the produce to Gadag District Ashwagandha Farmers Forum at pre-negotiated price of Rs.14,000/- per quintal. Thus he earned Rs.42,000/- from sales of roots. He also earned Rs.10,000/- from sale of Ashwagandha seeds. He got subsidy of Rs.12,000/- from Department of Horticulture under National Horticulture Mission. Thus his net income from 2 acres was Rs.64,000/- and cost of cultivation of Ashwagandha crop for 2 acres was Rs.14,000/-. He got net profit of Rs.50,000/-.

On the other side, Mr. Gawari harvested 6 quintals of Bengalgram grown in another 2 acre land and got gross income of Rs.30,000/-. Total expenditure for Bengalgram cultivation was Rs.15,000/- for 2 acres. Net profit was

Rs.15,000/- for two acres. Mr.Gawari got Rs.35,000/- additional income from cultivation of Ashwagandha crop from 2 acres. Mr.Gawari says that, Ashwagandha crop does not require much moisture and has no pest and disease incidence and it has assured market price. He also says that, Ashwagandha crop is not browsed by the deer which is a major menace in the region.

Mr.Gawari continued to cultivate Ashwagandha crop during subsequent years which were also drought years and earned sustainable income for his family. He also sold Ashwagandha seeds to fellow farmers as well as farmers of other villages and motivated them to cultivate Ashwagandha crop.

II. Case Study on Doubling of Farmers Income through Redgram as intercrop in Maize under rainfed situation

Maize is cultivated as a sole crop in Gadag district over an area of 30,000 hectares under rainfed situation.

The crop has fetched good returns to farmers owing to good yield and less cost of cultivation. However, during the last decade the climate variability has severely affected the productivity. The crop is sown during the months of June-July. The last decade has witnessed severe climatic changes viz., delayed on-set of mansoon and long dry spells. This situation has affected the vegetative stage as well as tassel initiation stage resulting in poor productivity of crop. At present the district average productivity of Maize is 24 quintals per hectare. Average cost of cultivation is Rs.15,000/- per hectare. The farmer is left with only Rs.10,000/- to Rs.12,000/- income per hectare. This situation is alarming as Maize cultivation has become non-remunerative to the farmers under rainfed ecosystem.

To minimize the risk of sole cultivation of Maize, KVK introduced TS-3R variety of Redgram, a medium duration variety (140-150 days) as an intercrop in Maize. The crop is sown in ratio of 5:1. The redgram crop escapes the moisture stress situation during mid-season drought as the crop growth is steady in initial stage. During flowering, pod initiation and pod development stage, crop gets assured rains during the months of September and October.

KVK demonstrated Maize+Redgram intercropping system in 38 hectares area in 4 villages during last 3 years. Apart from introduction of TS-3R variety, KVK demonstrated Integrated Crop Management practices viz., seed priming with Calcium Chloride (20gms), seed treatment with Trichoderma @ 10gms/kg, Nipping at 50-60 days after sowing, foliar spray of Pulse Magic (a micronutrient mixture) @ 2.5 kg per hectare during flowering and pod initiation stage.

KVK conducted training programme for farmers and Extension Functionaries on Maize+Redgram intercropping system and ICM technologies. The exposure visits were arranged for the farmers to the demonstration fields.

Maize+Redgram based intercropping system has created big impact in terms of increased net income of farmers compared to farmers who have cultivated Maize as a sole crop. During the drought years of 2014-15 and 2015-16, the FLD farmers got average net returns of Rs.14,500/- per hectare compared to Rs.6,000/- from cultivation of Maize as a sole crop. The output has been achieved in drought year. During normal monsoon period, the net income would be many fold.

These demonstrations have created a huge impact in the demonstrated villages of Mahalingapur and Nabhapur in Gadag block and Kochalapur village in Ron block. The technologies were upscaled in the district through organising training programmes for Extension Personnel of State Department of Agriculture.

The sole crop of cultivation of Maize fetched gross income of Rs.34,500/- per hectare with total cost of cultivation of Rs.20,000/- per hectare. Farmers got an average net income of Rs.14,500/- per hectare. When Redgram was intercropped with Miaze, cost of cultivation was Rs.28,000/- per hectare with a gross income of Rs.60,000/- per hectare. The Net income was Rs.32,000/- per hectare. This income is more than double of the income obtained from sole cultivation of Maize crop. Difference of net income from intercropping system is Rs.18500/- per hectare.

The intercrop technologies have been spread in more than 500 hectares during 2016-17. Farmers got additional income of Rs.92.5 lakhs from intercropping system compared to sole crop of Maize.

III. Farm Pond based successful dairy unit of a youth

Every youth should learn from Mr. Basavaraj Giraddi of Belavanaki village in Ron taluk. Mr Basavaraj, studied upto 10^{th} standard is a successful dairy entrepreneur. He has an ancestral property of 12 acres. He used to cultivate field crops viz., Bengalgram, Jowar, Sunflower etc. Due to frequent occurrence of agricultural drought, income from the agriculture was not sufficient to meet his family needs. He had one HF Cow and was getting sustainable income from it. He thought of extending the dairy unit. But water was the main issue. During 2016, under Krishi Bhagya he dug 2 farm ponds of size 30'X30'X10' in his farm which is located 7 kms from his village. During the same year, he participated in the dairy training organised by KVK. He discussed with the Experts about his dream project of dairy. KVK provided him the necessary guidance and support. Mr.Basavaraj spent Rs.1.5 lakhs for construction of dairy shed and Rs.1.0 lakh for deepening of farm pond to harvest more water in it. He applied for loan of Rs.6.0 lakhs from Syndicate Bank, Belavanaki. First he purchased 4 pregnant Murrah Buffaloes from Mudalagi Animal Market in Belgaum district. After 5 months, he again purchased 1 more Murrah Buffalo and 3 HF Cows. He planted

Hybrid Napier Grass in 2 acres and also started cultivating fodder sorghum by utilising the water collected in the farm pond. During 2017, his daily milk collection was 80-85 litres. He sells the milk in the Milk Society of Belavanaki village. He says that, he get price of Rs.31.50 per litre for Buffalo milk including Rs.5/- incentives from KMF. He gets Rs.26.50/per litre for cow milk.

At present, his daily collection of milk is 69-70 litres. Monthly he spends Rs.10,000 towards purchase of animal feed, Rs.3,000 for transportation of milk from dairy farm to village. He repays monthly loan instalment of Rs.10,200/-. Total monthly expenditure is Rs.23,200/- including loan repayment. He says that all the dairy operations are done by him, his wife and his father. Further, he says that he get gross income of Rs.56,000/- from sale of milk per month and his net monthly income is around Rs.32,000/-. Apart from it, during 2017, he got 30 tractor load of cow dung worth of Rs.90,000/-. He utilized it for his own farm.

This is a classical example of how a youth plunged into dairy enterprise in drought prone area succeeded by utilising harvested rain water. When asked about his future plan, he says that he would extend the unit to 20 animals in next two years. This farm pond based dairy unit is the unique of it's kind in Gadag district and has drawn the attention of people.

10.D. Give details of innovative methodology or innovative technology of Transfer of Technology developed and used during the year

i) <u>AGRICULTURAL EXTENSION SERVICE PROVIDERS</u>:

KVK in collaboration with Agriculture Skill Council of India has developed 20 Agricultural Extension Service Providers in Gadag District. Twenty youths having required attitude to serve as Agricultural Extension Service Providers were selected and trained for 25 days (200 hours) in the domain related to agriculture and allied activities with emphasis on mechanisms of Extension Service, Communication Skills, Organisation Skills and Facilitation Skills. These youths are required to provide services to farmers of their villages with the support of KVK Scientists and Extension Officers of Department of Agriculture

ii) <u>TRANSFER OF TECHNOLOGY THROUGH AWARD WINNING PROGRESSIVE FARMERS TO OTHER FARMERS:</u>

KVK with the support from University of Agricultural Sciences, Dharwad and Department of Agriculture, Gadag organised an unique training programme involving Award Winning Progressive Farmers as Resource Persons for the training. KVK identified 8 Farmer Resource Persons who are expert in the area of organic farming, integrated farming system, crop diversification, dry land horticulture and fodder cultivation. These farmers trained 120 other farmers in four batches. The 3 days duration training programme involved 1 day for orientation on the innovative activities adopted by the award winning farmers. Then field visits were organised for 2 days to the farms of Progressive Farmers. This programme has helped the farmers to know the innovative farming methods adopted by the Progressive Farmers.

10.E. Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development (in detail with suitable photographs)

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK
1	Livestock	• Feeding of grinded coriander grains and garlic to cattle • 10 gms of grinded coriander and 10 gms of garlic paste is boiled in 200 ml of water and fed to cattle. The quantity is for 1 cattle	• The treatment is given to control fever in cattle. • The animals are fed 3-4 times in a day
2	Livestock	• Keeping of metal rod in mouth for mastication or feeding of 100 ml Safflower oil + lime fruit (10 Nos.) juice and baking soda (20 gms)	• The purpose of ITK is to reduce bloat problem in ruminants
3	Livestock	• Feeding of vibhuti in cattles	• The ITK is practiced to control diarrhoea in cattle
4	Livestock	• Cattles are fed with water solution prepared by squeezing of tamarind fruit	• The ITK is practiced for treating constipation in cattles
5	Livestock	• Cattles are fed with honey (200 ml)+ baking soda (2 spoon)+ Aizwan (10 gm)	• The ITK is practiced for deworming in ruminents

10.F. Indicate the specific training need analysis tools/methodology followed for

- **Farmers/Farm Women**: Apart from problem identification and prioritization through PRA process, training courses are also identified and organized based on the suggestions of SAC Members

- **Rural Youths**: Training need analysis of rural youths is done by discussion with Rural youths and Officers of Development Departments.

- **Extension Personnel**: Inservice Personnel training needs are identified by getting feedback from Extension Personnel

10.G. Field activities

i. Number of villages adopted : 14

ii. No. of farm families selected : 565

iii. No. of survey/PRA conducted : 5

10.H. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : 2005-06

1. Year of establishment : 01.07.2005
2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost
	A) Non-recurring contingency		
1	Spectrophotmeter	1	0.60
2	Flame photometer	1	0.50
3	pH meter	1	0.10
4	Conductivity bridge	1	0.10
5	Physical balance	1	0.10
6	Chemical balance	1	1.00
7	Water distillation still	1	1.00
8	Orbital shaker	2	0.60
9	Shaker	2	0.50
10	Refrigerator	1	0.20
11	Oven with optional attachments	1	0.15
12	Hot plate with all models	1	0.25
13	Grinder with motor	1	0.30
14	Laboratory set up (all basic facilities)		3.20
15	PUSHA STFR meter Kit	1	0.75
16	MRIDAPARIKSHA	1	0.903
	Total (A)		**10.253**
	A) Recurring contingency		
1	Chemical & glasswares		3.50
2	Miscellaneous items		0.20
3	Soil and plant sample processing and storage facility		0.50
	Total (B)		**4.20**
	Grand Total (A+B))		**14.453**

Details of samples analyzed so far since establishment of SWTL:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	6226	10482	292	285245
Water Samples	3370	3302	Same villages	196100
Plant samples	56	56	Same villages	4200
Manure samples	-	-	-	-
Others (specify)	-	-	-	-
Total	**9652**	**13840**	**292**	**485545**

Details of samples analyzed during the 2017-18 :

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	1205	3632	207	44500
Water Samples	724	715	Same villages	36600
Plant samples	-	-	-	-
Manure samples	-	-	-	-
Others (specify)	-	-	-	-
Total	**1929**	**4347**	**207**	**81100**

Details of soil health cards issued during the 2017-18 :

Date (s)	Farmers participated	No. of Samples analyzed	Soil health cards issued	No. of Villages	Public representatives participated	
					MLA/ Minister	Other Dignitaries/ Chief guests
05-12-2017 and other days during the reporting period	3632	1205	3632			Mrs. Roopa Angadi Vice President, Zilla Panchayat, Gadag
						Mr. S.P.Baligar Chairman, Standing Committee on Agriculture Zilla Panchayat, Gadag
						Mrs. Shankuntala Mulimani Member, Zilla Panchayat, Gadag
						Mr. Mohan Durgannavar Member, Taluk Panchayat, Gadag
						Mrs. Mallavva Yalishettar Vice President, Gram Panchat, Hulkoti
						Dr. P.L.Patil Professor and Head, Division of Soil Science and Chemistry, UAS, Dharwad

10.I. Technology Week celebration during 2017-18 Yes/No : Yes

Period of observing Technology Week **:** From 23-12-2017 to 29-12-2017
Total number of farmers visited **:** 10988
Total number of agencies involved **:** Four
Number of demonstrations visited by the farmers within KVK campus: 6

Other Details

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Gosthies	2	162	Livestock technology, Cashewnut
Lectures organized	8	317	Resource conservation, millet nutrition, fodder technology, livestock development, nutrition garden, FPOs
Exhibition	2	8250	Crop and livestock technologies
Film show	2	112	Mango and Cashewnut
Fair	1	30	Visit to UHS, Bagalkot (Horticulture Fair)
Farm Visit	3	117	Rabi crops, Livestock, Agricultural Machineries
Diagnostic Practicals	-	-	-
Supply of Literature (No.)	8	2000	Crop technology
Supply of Seed (q)	-	-	-
Supply of Planting materials (No.)	-	-	-
Bio Product supply (Kg)	-	-	-
Bio Fertilizers (q)	-	-	-
Supply of fingerlings	-	-	-
Supply of Livestock specimen (No.)	-	-	-
Total number of farmers visited the technology week	26	10988	-

10. J. Interventions on drought mitigation (if the KVK included in this special programme)

A. Introduction of alternate crops/varieties

State	Crops/cultivars	Area (ha)	Number of beneficiaries
Karnataka	Redgram – TS+3R	16	40
	Bengalgram – JAKI -9218	4	10
	Rabi Sorghum – SPV-2217	32	80
	Horse gram – GPM-6	2	5
	Cashew-Vengulra 7	2	5

B. Major area coverage under alternate crops/varieties

Crops	Area (ha)	Number of beneficiaries
Oilseeds		
Pulses	22	55
Cereals	32	80
Vegetable crops		
Tuber crops		
Total	**54**	**135**

C. Farmers-scientists interaction on livestock management

State	Livestock components	Number of interactions	No. of participants
Karnataka	Dairy animals	2	63
Total		**2**	**63**

D. Animal health camps organized

State	Number of camps	No.of animals	No.of farmers
Karnataka	1	46	35
Total	**1**	**46**	**35**

E. Seed distribution in drought hit states

State	Crops	Quantity (qtl)	Coverage of area (ha)	Number of farmers
Karnataka	Redgram (TS-3R)	1.2	16.0	40
	Rabi Sorghum (SPV-2217)	2.4	32.0	80
	Bengalgram (JAKI-9218)	2.0	4.0	10
	Horsegram (GPM-6)	0.5	2.0	5
Total		**5.1**	**54.0**	**135**

F. Large scale adoption of resource conservation technologies

State	Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers
Karnataka	Compartment bunding in Rabi Soghum	32	80
	Recharging of ground water through bore wells	12	12
Total		**44**	**92**

G. Awareness campaign

State	Meetings		Gosthies		Field days		Farmers fair		Exhibition		Film show	
	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers
Karnataka	13	487	0	0	4	189	0	0	1	27	0	0
Total	**13**	**487**	**0**	**0**	**4**	**189**	**0**	**0**	**1**	**27**	**0**	**0**

PART XI. IMPACT

11.A. Impact of KVK activities (Not restricted for reporting period).

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Use of PBNS-12 variety of Safflower along with ICM Practices	125	75	22000/ha	30,000/ha
Sucking Pest Management in Chilli (hybrid)	100	60	125000/ha	175000/ha
Maize+Redgram intercropping system	100	70	25000/ha	35000/ha
Use of DHft-109-03 variety of Foxtail Millet	60	50	18000/ha	24300/ha
Greengram+Redgram intercropping system	100	60	28000/ha	40000/ha
Feeding of green grass and azolla to CB Cows	250	40	Rs.42000/lactation /cow	Rs.52000/lactation /cow
Cultivation of Ashwagandha crop	50	30	35000/ha	52000/ha

11.B. Cases of large scale adoption
(Please furnish detailed information for each case with suitable photographs)

I) Increased Cashewnut area in Red Soil:

KVK continues to promote crop diversification technologies for bringing income security to the farmers. After successful promotion of mango cultivation, KVK has been promoting Cashewnut cultivation through organization of awareness camps, training programmes, facilitation of backward and forward linkages and extension programmes. KVK efforts paved the way in terms of expansion of area under Cashewnut in Gadag district. During 2017-18, 250 hectares of area has been brought under Cashewnut cultivation. Farmers having irrigation facilities adopted drip irrigation for Cashew Orchard. There has been 90 percent survival of plants in 250 hectares area. The Directorate of Cashewnut and Cocoa Development, Cochin has been supporting KVK for Cashewnut promotion in Gadag district.

II) Profitable intercropping system of Greengram + Redgram (5:1) for drylands:

Gadag is the drought prone district that comes under the agro-climatic zone of Northern Dry Zone-3 and Region-2 of Karnataka State. The climate of the district is semiarid and annual rainfall varies from 450-650 mm. Agricultural droughts are very common with probability of more than 70 percent. The rainfall is usually erratic and is characterised by long dry spells between two rains during Kharif season. This affects the successful crop production of major crops like maize, greengram, groundnut, onion, rabi sorghum etc in the district.

To address this climatic variation and in order to solve productivity constraint, KVK introduced intercropping system of Greengram + Redgram (5:1) in the year 2015-16 for 20 farmers in 20 Acre area in Nabhapur village of Gadag block. This intercropping demonstration has shown good impact on the farmers even in severe drought situation. The net returns obtained from Greengram sole crop (Local Check) was Rs.15000/ha and from Greengram+Redgram (5:1) intercropping system (Demonstration), it was Rs.29000/ha. The Greengram+Redgram (5:1) intercropping system has thus become economically viable than sole crop of Greengram in dry land situation characterised by long dry spells and erratic rains. KVK popularised this intercrop

technology through training programmes and extension activities. During 2016-17 there was large scale adoption of technology in Nabhapur cluster of villages in Gadag block and in Kochalapur cluster of villages in Ron block and 30 percent of farmers have adopted Greengram+Redgram (5:1) intercropping system.

11.C. Details of impact analysis of KVK activities carried out during the reporting period

IMPACT ANALYSIS OF INTERVENTIONS IN PULSE CROPS

Introduction:

Historically India is the largest producer and consumer of pulses. Although India has produced 19.78 MT pulses from 25.21 million hectares during 2013-14, still 20 per cent of local demand is met through import of pulses. Pulse cultivation is known to have several advantages. Their ability to fix atmospheric nitrogen improves soil fertility. These can be grown in limited moisture condition and low input requirement.

India accounts for 33 per cent of world area and 22 per cent of world pulse production. About 90 per cent of global pigeon pea, 65 per cent of chickpea and 37 per cent of lentil area falls in India, corresponding to 93 per cent, 68 per cent and 32 per cent of the global production respectively. Even though pulse production increased significantly during the last decade, but the production of pulses in India (694 kgs/ha) is lower than most of the pulse producing countries.

Karnataka is one of the major producer of pulses. Chickpea, Greengram and Pigeon Pea have the major share interms of area and production. Greengram is cultivated in an area of 5.28 lakh hectares in Karnataka with a productivity of 246 kgs per hectare. Bengalgram is cultivated in an area of 6.05 lakh hectares having average productivity of 750 kgs per hectare

Gadag in Karnataka State is the major pulse producing district. Greengram and Bengalgram account for 90 per cent of total pulse area. During the normal monsoon onset years, area under Greengram crosses 1 lakh hectares. It is being cultivated entirely in rainfed situation. The crop is followed by Rabi Sorghum/Sunflower in Rabi Season. Area under Bengalgram varies from 75000 hectares to 1.0 lakh hectares depending on the rainfall pattern of North-East monsoon. In Malaprabha Command Area of Naragund taluk, it is cultivated under protective irrigation after harvesting of Maize. In rest of the taluks viz., Gadag, Ron, Mundaragi, Gajendragada, Shirahatti and Laxmeshwar it is grown in rainfed situation. The average district productivity of Greengram and Bengalgram is 385 kgs/ha and 422 kgs/ha respectively.

Productivity Constraints and Problem Analysis:

Even though both the pulse crops are contributing significantly to the district economy, there are number of bottlenecks affecting the productivity of crops. Focus group discussion by KVK Scientists with pulse cultivators, reveals that there has been technological gaps with respect to use of improved varieties, abiotic stress management, management of pest and disease and the post harvest handling of the produce. The details of technological gaps identified by KVK are presented in chart-1:

Chart-1: Productivity Constraints in Greengram and Bengalgram

Greengram	Bengalgram
➢ Cultivation of local variety (Shining Moong)	➢ Cultivation of local variety (A-1)
➢ Moisture stress	➢ Incidence of pod borer
➢ Incidence of Apion Beetle	➢ Incidence of wilt
➢ Incidence of powdery mildew	➢ Incidence of rust
➢ Incidence of spodopteria	➢ Lack of technology on production technologies
➢ Incidence of yellow vein mosaic virus	➢ Non-availability of quality seeds
➢ Lack of knowledge on production technologies	➢ Unfavorable weather during growth period

KVKs INTERVENTIONS:

Based on the problem analysis and the subsequent identification of technology gaps, KVK made interventions mainly through Front Line Demonstrations, training programmes, extension activities and seed production activities. The details of technological interventions made by KVK during 2012-13 to 2016-17 is presented below:

1. **Organisation of Training Programmes**: Imparting knowledge and skill in production technologies in Greengram and Bengalgram was one of the major focus to address the technological gaps. Based on the identified thrust area, training module was developed for pulse growers and accordingly training programmes were conducted. Details of yearwise training programmes organised by KVK is presented in Table-1:

Table-1: Training programmes organised in Pulse Production Technology (2012-13 to 2016-17)

Sl. No	Title Training Module	No.of Programmes	No.of Participants
Greengram			
1	Resource Conservation Technologies	12	302
2	In-Situ Soil Moisture Conservation	18	501
3	Agronomic practices for higher productivity	15	411
4	Management of pod borer and powdery mildew	27	991
5	Post harvest management	9	283
	Sub-Total (a)	**81**	**2488**
Bengalgram			
1	Resource Conservation Technologies	10	310
2	Agronomic practices for higher productivity	24	752
3	Foliar nutrition	21	537
4	Management of pod borer-IPM practices	34	1084
5	Management of wilt disease	20	610
6	Post harvest management	11	322
	Sub-Total (a)	**120**	**3615**
	TOTAL (a+b)	**201**	**6103**

A total of 201 training courses were organised in Greengram and Bengalgram crops and 6103 farmers, farm women and Extension Personnel participated in the training programme.

2. **Organisation of Front Line Demonstrations**: Organisation of Front Line Demonstration is the major intervention of KVK wherein, viable and proven ICM technologies were demonstrated on farmers' fields along

with farmers practices as local check. Various technologies demonstrated in Greengram and Bengalgram crops is given in Chart-2

Chart-2: Technologies Demonstrated in Greengram and Bengalgram

Greengram	Bengalgram
➢ Introduction of BGS-9 and DGGV-2 varieties ➢ Seed priming with CaCl2 ➢ Use of Cycle Weeder ➢ Compartment Bunding for insitu moisture conservation ➢ Foliar spray of micro-nutrient mixture (1%) (Pulse Magic) ➢ Management of pod borer and powdery mildew ➢ Use of Spiral Separator for grading	➢ Introduction of JAKI-9218 variety ➢ Seed treatment with Trichoderma ➢ Application of bio-fertilizers ➢ Foliar spray of 2% urea ➢ Nipping ➢ Foliar spray of micro-nutrient mixture ➢ Management of pod borer and wilt ➢ Use of Spiral Separator for grading

Details of area demonstrated in Greengram and Bengalgram is presented in Table:-2

Table-2: Details of Front Line Demonstrations organised in Greengram and Bengalgram

Year	Crop	Area (Ha)	No. of farmers	No. of villages covered
2012-13	Greengram	10	25	3
	Bengalgram	10	25	3
2013-14	Greengram	4	10	2
	Bengalgram	100	260	6
2014-15	Greengram	100	250	6
	Bengalgram	100	250	6
2015-16	Greengram	108	220	7
	Bengalgram	20	50	1
2016-17	Greengram	20	50	2
	Bengalgram	120	300	2
TOTAL		**592**	**1440**	**38**

KVK organised Front Line Demonstrations in both Greengram and Bengalgram crops in an area of 592 hectares involving 1440 farmers belonging to 38 villages in the district. These demonstrations were supported by Indian Council of Agriculture Research and National Food Security Mission. The figures are also inclusive of demonstrations organised by KVK's host institution supported under NFSM through Department of Agriculture.

3. **Organisation of Extension Programmes**: KVK organised Extension Programmes in order to strengthen the technology dissemination process. Field days on demonstrated technologies, Farmers' Interactive Meetings, Crop Seminars, Farm Advisory Services, Mobile Messaging Services were rendered to popularise the pulse production technologies. The details of extension programmes organised by KVK is presented in Table:-3

Table-3: Extension Programmes conducted by KVK in Greengram and Bengalgram (2012-13 to 2016-17)

Sl. No	Name of Extension Activity	No.of Programmes	No.of Participants
1	Field days	12	691
2	Farmer's Interactive Meetings	18	554
3	Farm Advisory Services	385	385
4	Exposure visit to KVK Farm	22	612
5	Radio Programmes by KVK staff	10	10
6	Mobile Advisory Services	25	15200
	TOTAL	**472**	**17452**

KVK organised 472 Extension Programmes for 17442 farmers, farm women and Extension Personnel during the period from 2012-13 to 2016-17.

4. **Seed Production Activities of KVK**: Introduction of improved varieties of Greengram viz., BGS-9 and DGGV-2 and JAKI-9218 variety of Bengalgram has resulted in lot of demand for seeds. KVK started seed production of these varieties of in its Farm and started supplying seeds to farmers. Yearwise seed production takenup by KVK is presented in Table:-4

Table-4: Seed Production Activity of KVK

Year	Greengram		Bengalgram	
	Quantity produced (Qtl)	Supplied to number of farmers	Quantity produced (Qtl)	Supplied to number of farmers
2012-13	21.30	216	10.50	21
2013-14	12.50	114	-	-
2014-15	14.80	187	12.50	27
2015-16	27.51	285	6.70	11
2016-17	12.50	139	12.50	17
TOTAL	**88.61**	**941**	**42.2**	**76**

During the period from 2012-13 to 2016-17, KVK produced 88.61 quintals of improved varieties of Greengram (BGS-9 and DGGV-2) and supplied to 941 farmers. During the same period, KVK produced 42.2 quintals of JAKI-9218 variety of Bengalgram and supplied to 76 farmers.

Outcome and Impact

KVK has been addressing the productivity constraints in pulses especially in Greengram and Bengalgram crops through organisation of FLDs, training programmes, extension activities and seed production programmes. KVK interventions during last five years (2012-13 to 2016-17) have been systematically recorded and the data is analysed for impact assessment. The detail of impact analysis is presented below:

1) Economic Performance of FLD Programme:

i) FLD in Greengram:- KVK demonstrated improved varieties of Greengram viz., BGS-9 and DGGV-2 along with Integrated Crop Management practices under FLD programme. The analysis of 5 years data (Table:-5) reveals that KVK organised FLDs in 242 hectares of area belonging to 555 farmers of different cluster

villages of the district. It is found that there is 21.48 per cent average increase in yield for 5 years. Average Net returns of Rs.9594 per hectare is achieved under demonstration fields compared to farmers' practices of Rs.5324 per hectare. Over 5 years period, there has been a consistent performance of FLDs in terms of yield and net returns.

Table:-5 Economic Performance of Greengram under FLD

Year	Area (Ha)	No. of farmers	Yield (Qtl/ha)		% increase	Net Returns (Rs./ha)	
			Demo	Local		Demo	Local
2012-13	10	25	6.50	5.40	20.37	9605	5410
2013-14	4	10	6.80	5.60	21.42	9680	5219
2014-15	100	250	5.32	4.40	20.91	9514	5439
2015-16	108	220	6.10	4.90	24.48	9713	5216
2016-17	20	50	6.61	5.50	20.18	9462	5339
TOTAL	**242**	**555**	**6.26**	**5.16**	**21.48**	**9594.8**	**5324.6**

ii) FLD in Bengalgram: Under Front Line Demonstration, KVK promoted the technological components of improved varieties of JAKI-9218 along with Integrated Crop Management practices. The data presented in Table:6 reveals that KVK organised FLDs in 350 hectares of area covering 885 farmers. Further, the Table reveals that there has been an average increase in yield of 22.65 per cent over local check. Farmers got average net returns of Rs.16117/- per hectare compared to local check of Rs.10392/-. This indicates that FLD farmers were convinced about the utility of technologies they have adopted.

Table:-6 Economic Performance of Bengalgram under FLD

Year	Area (Ha)	No.of farmers	Yield (Qtl/ha)		% increase	Net Returns (Rs./ha)	
			Demo	Local		Demo	Local
2012-13	10	25	11.12	9.24	20.35	23662	17939
2013-14	100	260	12.18	9.50	28.21	15957	9957
2014-15	100	250	12.45	9.88	26.01	27692	18373
2015-16	20	50	9.05	7.65	18.39	10243	5461
2016-17	120	300	4.76	4.15	14.70	3069	231
TOTAL	**350**	**885**	**9.91**	**8.08**	**22.65**	**16117**	**10392**

2) Additional Net Returns: The perusal of data presented in Table:7 reveals that 555 farmers involved in FLD activities of Greengram have got 10.35 lakhs as an additional returns during the period from 2012-13 to 2016-17. This is one of the good indication for spreading the technology to other farmers.

Table:-7 Additional Returns from FLD-Greengram

Year	Area (Ha)	No. of farmers	Additional net returns (Rs./ha)	Total additional returns (Rs.)
2012-13	10	25	4195	41950
2013-14	4	10	4461	17844
2014-15	100	250	4075	407500
2015-16	108	220	4497	485676
2016-17	20	50	4123	82460
TOTAL	**242**	**555**	**-**	**1035430**

It is noticed from the analysis of Table:8 that, 885 FLD farmers of Bengalgram crop got additional returns of Rs.20.24 lakhs during five year period. These data are the success indicators for dissemination of technologies in Bengalgram.

Table:-8 Additional Returns from FLD-Bengalgram

Year	Area (Ha)	No. of farmers	Additional net returns (Rs./ha)	Total additional returns (Rs.)
2012-13	10	25	5683	56830
2013-14	100	260	6000	600000
2014-15	100	250	9319	931900
2015-16	20	50	4782	95640
2016-17	120	300	2838	340560
TOTAL	**350**	**885**	**-**	**2024930**

3) <u>Increased Area Under Improved Varieties</u>: Improved seed variety is playing a vital role in increasing the productivity of crops. KVK has been promoting improved varieties of Greengram and Bengalgram through FLDs and seed production programme. There has been spread of varieties from FLD farmers to other farmers. The details of area spread under improved varieties in Gadag district is presented in Table:-9

Table:-9 Details of Seed Produced and Area Coverage

Year	Greengram		Bengalgram		Total		Approximate area covered (Ha)	
	Quantity sold by KVK (Qtl)	Quantity sold by KVK FLD farmers (Qtl)	Quantity sold by KVK (Qtl)	Quantity sold by KVK FLD farmers (Qtl)	Green-gram (Qtl)	Bengal-gram (Qtl)	Green-gram	Bengal-gram
2012-13	21.3	15.0	10.5	25.0	36.3	35.5	480	70
2013-14	12.5	8.0	-	250	20.5	250	270	500
2014-15	14.8	100	12.5	30	114.8	144.8	1500	290
2015-16	27.51	150	6.7	200	177.5	206.7	2300	414
2016-17	12.5	30	12.5	25	42.5	37.5	560	74
Total	**88.61**	**303**	**42.2**	**530**	**391.61**	**572.2**	**5110**	**1348**

The data presented in Table:9 reveals that as a result of supply of 391 and 572 quintals of Greengram and Bengalgram seeds respectively, there has been spread of improved varieties of Greengram and Bengalgram through the seed production activities of KVK as well as supply of seed from FLD farmers to other farmers. Over the period of 5 years, approximately 5100 ha of area and 1350 hectares of area have been brought under improved varieties of Greengram and Bengalgram respectively.

4) <u>Spread of Improved Varieties Through RSKs</u>: There has been a wide spread impact of KVK interventions especially improved varieties. There was a huge demand for improved seed varieties. Karnataka State Seed Corporation has taken large scale seed production activities and supplied to farmers through Raitha Samparka Kendras of State Department of Agriculture. Yearwise and talukwise supply of seeds of Greengram and Bengalgram is presented in Table:10. The Table reveals that a total of 6313 quintals of Greengram and

111914 quintals of Bengalgram seeds were sold during last five years. It corresponds to approximate spread of 84173 ha and 223828 ha of area respectively under improved varieties of Greengram and Bengalgram.

TALUK	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Green gram	Bengal gram	Green gram	Bengal gram	Green gram	Bengal gram	Green gram	Bengalg ram	Green gram	Bengal gram	Green gram	Bengal gram
Gadag	226	3146	502	3063	66	3479	111	9034	145	4244	1051	22966
Mundargi	295	488	108	974	13	1148	64	2310	158	2419	638	7339
Naragaund	66	2545	197	766	40	1701	49	9196	281	4135	634	18341
Ron	322	5357	1044	8350	391	12390	302	19731	378	8318	2437	54146
Shirahatti	215	1326	438	1456	179	1848	181	2330	537	2159	155	9119
TOTAL	**1124**	**12862**	**2290**	**14609**	**691**	**20566**	**708**	**42602**	**1499**	**21275**	**6313**	**111914**

5) <u>Total area coverage under improved varieties</u>: KVK as a Front Line Extension system was able to convince the farmers about the utility of relevant technologies for increasing the yield through KVK's seed production programme and FLD programme. There has been horizontal spread of technologies especially improved seed variety among the pulse growers. The large demand was met by State Department of Agriculture through sales of seeds through Raitha Samparka Kendras. Total area coverage under improved varieties through the efforts of both KVK and Department of Agriculture is presented in Table:-11

Table:-11 Total area covered under improved varieties

Name of Organisation	Area covered under improved varieties (Ha)	
	Greengram	Bengalgram
Front Line Extension System (KVK)	5100	1350
Main Extension System (Department of Agriculture)	84173	223828
TOTAL	**89273**	**225178**

Approximately 89,000 ha area is covered in Greengram and 2.25 lakh ha area under Bengalgram during five year period

Summary: KVK as a Front Line Extension mechanism identified the constraints in productivity of Greengram and Bengalgram, and made viable interventions to enhance the pulse productivity. The interventions of KVK during last five year reveals that Front Line Demonstrations have really performed well and increased the productivity of Greengram and Bengalgram by 21.48 and 22.65 per cent respectively. KVK activities also led to spread of improved varieties of Greengram and Bengalgram. Based on the demand of improved seeds, State Department of Agriculture through Raitha Samparka Kendras (RSKs) sold 6300 and 111900 quintals of Greengram and Bengalgram seeds respectively.

Through the efforts of KVK and State Department of Agriculture more than 89,000 ha of Greengram and 2.25 lakh hectares of Bengalgram area have been brought under improved varieties of seeds during the period from 2012-13 to2016-17

PART XII - LINKAGES

12.A. Functional linkage with different organizations

Name of organization	Nature of linkage
Directorate of Cashewnut and Cocoa Development, Cochin	i) Awareness on Cashew promotion ii) Organisation of Seminar on Cashewnut crop iii) Training on production technology of Cashewnut iv) Study tour for farmers to cashew research station and progressive farmers' fields v) Advisory services for cashew farmers
Agriculture Skill Council of India	Organization of Skill Training on job role "Agriculture Extension Service Provider"
University of Agricultural Sciences, Dharwad	Organization of Innovative Farmers to Farmers training programme and technical backup for all staff
Indian Institute of Oilseed Research, Hyderabad	Organization of FLD on Safflower
Karnataka State Department of Agriculture	Training programmes & serving as Resource Persons in different schemes
Karnataka State Department of Horticulture	Capacity building of FPOs
Command Area Development Authority, Belagavi and Munirabad	Training of farmers in Malaprabha, Ghataprabha and Tungabhadra Command Area on Soil, Crop and Water Management

12.B. List special programmes undertaken by the KVK and operational now, which have been financed by State Govt./Other Agencies

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Capacity Building of FPOs	March, 2018	Karnataka State Department of Horticulture	3,00,000

12.C. Details of linkage with ATMA

a) Is ATMA implemented in your district : **Yes**

If yes, role of KVK in preparation of SREP of the district?

KVK provided input on problem identification , prioritization, researchable issues and strategies / technologies for different agro-eco systems in the district

Coordination activities between KVK and ATMA

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	**Meetings**	ATMA Steering Committee & GB Meetings	2	-	-
02	**Research projects**	-	-	-	-
03	**Training programmes**	Value addition in millet	-	2	-
04	**Demonstrations**	-	-	-	-
05	**Extension Programmes**				
	Kisan Mela	-	-	-	-

	Technology Week	-	-	-	Jointly organized with ATMA
	Exposure visit	-	-	-	-
	Exhibition	-	-	1	Jointly organized with ATMA
	Soil health camps	-	-	-	-
	Animal Health Campaigns	-	-	-	-
	Others (Pl. specify)	-	-	-	-
06	**Publications**				
	Video Films	-	-	-	-
	Books	-	-	-	-
	Extension Literature	-	-	-	-
	Pamphlets	-	-	-	-
	Others (Pl. specify)	-	-	-	-
07	**Other Activities (Pl. specify)**				
	Watershed approach	World Soil Health Day	-	1	Jointly organized with ATMA
	Integrated Farm Development	-	-	-	-
	Agri-preneurs development	-	-	-	-

12.D. Give details of programmes implemented under National Horticultural Mission

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Constraints if any

12.E. Nature of linkage with National Fisheries Development Board

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks

12.F. Details of linkage with RKVY

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks

12. G Kisan Mobile Advisory Services

Month	Message type (Text/Voice)	SMS/voice calls sent (No.)						Total SMS/ Voice calls sent (No.)	Farmers (No.)
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprises		
April 2017	**Text**	0	0	0	0	0	1	1	15073
May	**Text**	0	0	0	2	1	6	9	15078
June	**Text**	0	0	0	2	0	1	3	15085
July	**Text**	1	1	0	0	3	3	8	15091
August	**Text**	1	1	1	1	0	1	5	15091
September	**Text**	2	0	0	2	0	0	4	15091
October	**Text**	9	2	0	0	1	1	13	15095
November	**Text**	6	0	0	0	1	2	9	15095
December	**Text**	6	0	0	0	0	3	9	15095
January 2018	**Text**	2	1	0	1	1	1	6	15101
February	**Text**	0	0	0	2	1	0	3	15175
March	**Text**	0	1	0	0	1	2	4	15179
Total		**27**	**6**	**1**	**10**	**9**	**21**	**74**	

PART XIII- PERFORMANCE OF INFRASTRUCTURE IN KVK

13.A. Performance of demonstration units (other than instructional farm)

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Green House	2007	250 Sq. ft.	Alphonso Mangoes	Grafts	1000	4500	12000	
2	Green House	2007	250 Sq. ft.	Vegetable seedlings	Seedlings	50000	4000	15000	

13.B. Performance of instructional farm (Crops) including seed production

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals									
Rabi Sorghum	12.10.17	21.02.18	2.4	SPV-2217	Seeds	25.0	900	37500	
Rabi Sorghum	29.10.17	17.02.18	0.4	BJV-44	Seeds	3.5	150	5250	
Rabi Sorghum	12.10.17	18.02.18	2.0	M 35-1	Seeds	20.0	750	30000	
Foxtail millet	23.08.17	07.12.17	4.0	DHFt-109-3	Seeds	12.0	2000	18000	
Pulses									
Bengalgram	13.10.17	17.01.18	0.6	JAKI-9218	Seeds	5.0	3580	22500	
Bengalgram	25.10.17	09.02.18	1.0	BGD-111-01	Seeds	13.5	6050	60750	
Bengalgram	25.10.17	09.02.18	0.2	NBEG-3	Seeds	2.0	970	9000	
Oilseeds									
Safflower	25.10.17	02.03.18	1.2	PBNS-12	Seeds	8.1	600	28000	
Linseed	25.10.17	14.02.18	0.4	NL-260	Seeds	1.25	350	6250	
Fibers									
Cotton	13.09.17	26.03.18	1.2	DDHC-11	Lint	2.5	1500	12500	
Spices & Plantation crops									
Chilli	05.07.17	16.12.17	1.2	Byadagi dabbi	Fruit	6.0	10600	60000	

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Floriculture									
Fruits									
Tamarind			0.60	PKM-1 & DTS-1	Fruit	20.0		80000	
Amla			0.60	Krishna, Kanchan	Fruit	1.68		4200	
Mango			0.80	Alphanso	Fruit	14.0		140000	
Guava			1.00	Lucknow-49	Fruit	5.1		5100	
Sapota			1.00	Cricket ball	Fruit	5.3		5300	
Vegetables									
Onion	05.07.17	08.11.17	1.2	Arka Kalyan	Bulb	30.0	20140	36000	
Onion seed production	29.11.17	08.04.18	0.8	Arka Kalyan	Seeds	2.5	72300	225000	
Others (specify)									

13.C. Performance of production Units (bio-agents / bio pesticides/ bio fertilizers etc.,)

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	Vermicompost	85.0 Qtl	19850	25500	
2	Earthworms	0.88 Qtl	8000	26475	
3	Azolla	0.27 Qtl	1500	2700	

13.D. Performance of instructional farm (livestock and fisheries production)

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	Buffaloes	Local	Milk	2317 lit	116127	175771	
2	Sheep	Rambullet Local cross	Lamb	2 lamb	3000	13000	
3	Goat	Jamunapari local cross	Kid	2 kid	5000	10000	

13.E. Utilization of hostel facilities

Accommodation available (No. of beds) : 30

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 2017	146	20	-
May	575	21	-
June	486	14	-
July	25	440	-
August	397	18	-
September	540	18	-
October	457	14	-
November	579	26	-
December	866	28	-
January 2018	16	372	-
February	146	20	-
March	575	21	-

13.F. Database management

S. No	Database target	Database created
1	OFT	Already maintained
2	FLD	Already maintained
3	Training database	Already maintained
4	Seeds & planting material	Already maintained
5	All Extension activities	Already maintained
6	Farmers visiting to KVK	Already maintained
7	Field visits	Already maintained
8	District database	Already maintained
9	Soil & water test details	Already maintained
10	Database on KVK (i.e regarding KVK details, host institute details, staff information, KVK land information, KVK infrastructure, demo units, vehicle, office, lab, farm equipment & library)	Already maintained
11	HRD of KVK staff (i.e training/seminar/workshop attended by KVK staff)	Already maintained
12	Publications of KVK activities in news papers	Already maintained
13	Villages covered by KVK since inception	Already maintained
14	Kisan mobile advisory services – Subscribers and messages sent	Already maintained
15	Farm implements	Already maintained
16	Citizen's Client Charter	Already maintained

13.G. Details on Rain Water Harvesting Structure and micro-irrigation system

Amount sanction (Rs.)	Expenditure (Rs.)	Details of infrastructure created / micro irrigation system etc.		Activities conducted					Quantity of water harvested in '000 litres	Area irrigated / utilization pattern
				No. of Training programmes	No. of Demonstrations	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)		
100000	100000	Graded bund construction	5054.68 cm	8	12	0	236	28	160	2 ha
		Construction of waste weirs 1)1.52 feet crust length 2)1.83 feet crust length 3) 2.44 feet crust length 4) 2.74 feet crust length 5) 3.00 feet crust length	 5 Nos. 7 Nos. 4 Nos. 3 Nos. 3 Nos.							
		Farm pond	2 Nos.							
		Infiltration wells a) Infiltration Well b) Common tank	 9 Nos. 1 No.							
		Bore well recharge pit	1 No.							
		Sub surface dam	2 Nos.							
		Soak pits	147							
		Drip irrigation system for Dry land Horticulture	5 Ha.							
		Check dam	1							

PART XIV - FINANCIAL PERFORMANCE

14.A. Details of KVK Bank accounts

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute	-	-	-	-	-	-	-
With KVK	SBI	Gadag	0838	KHP KVK Hulkoti	10824829153	582002002	SBIN0000838

14.B. Utilization of KVK funds during the year 2017-2018 (Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	**Pay & Allowances**	15540000	15540000	15539996
2	**Traveling allowances**	175000	175000	174997
3	**Contingencies**			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	350000	350000	349996
B	POL, repair of vehicles, tractor and equipments	250000	250000	250000
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	100000	100000	100000
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	75000	75000	75000
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	325000	325000	325000
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	45000	45000	44996
G	Integrated Farming System	50000	50000	50000
H	Training of extension functionaries	25000	25000	25000
I	Extension activities	110000	110000	110000
H	Farmers' Field School	30000	30000	30000
I	EDP / Innovative activities	30000	30000	30000
J	Maintenance of buildings	352000	352000	352000
K	Establishment of Soil, Plant & Water Testing Laboratory	25000	25000	25000
L	Farmers' Conclave & KVK Conference	50000	50000	50000
M	Video production and HRD	110000	110000	110000
M	Library	5000	5000	5000
TOTAL (A)		**17647000**	**17647000**	**17646985**
B. Non-Recurring Contingencies				
1	**Works**	0	0	0
2	**Equipments including SWTL & Furniture**	0	0	0
3	**Vehicle** (Four wheeler/Two wheeler, please specify)	0	0	0
4	**Library** (Purchase of assets like books & journals)	0	0	0
TOTAL (B)		**0**	**0**	**0**
C. REVOLVING FUND		0	0	0
GRAND TOTAL (A+B+C)		**17647000**	**17647000**	**17646985**

14.C. Status of revolving fund (Rs. in lakh) for the three years

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
April 2015 to March 2016	1.235	48.260	47.220	2.275
April 2016 to March2017	2.275	53.619	49.807	6.087
April 2017 to March2018	6.087	37.325	42.071	1.341

15. Details of HRD activities attended by KVK staff

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Dr.L.G.Hiregoudar	Senior Scientist and Head	Hands on training on PFMS	ICAR-KVK, Gadag organized by ICAR-ATARI, Bengaluru	24-25, February 2018
Mr.S.K.Mudlapur	SMS (Plant Protection)	Orientation for new technology in organic farming	NBAIR, Bengaluru	05, February 2018
Mr.V.D.Vaikunthe	SMS (Agronomy)	Orientation on Sujala -III watershed project	NBSS & LUP Regional Center, Bengaluru	11-12, January 2018
		Training on HRD	NBSS & LUP Regional Center, Bengaluru	06, February 2018
Mr.K.T.Patil	SMS (Horticulture)	National training on Cashewnut	At Puttur sponsored by DCCD, Cochin	15-17, June 2017
		Orientation training on horticulture crops	IIHR, Bengaluru	09, February 2018
Mr.S.H.Adapur	SMS (Ag. Extension)	TOT training on skill development	IGKV, Raipur	4-6, January 2018
		National conference on applications of geo spatial applications and ICT tools for smart agriculture	UAS, Dharwad	23-24, January 2018
Dr. Sudha V. Mankani	SMS (Home Science)	National conference on Community Radio	UAS, Dharwad	12, January 2018
		Orientation training to Home Scientists	KVK, Tumkur	09,February 2018
Mr.N.H.Bhandi	SMS (Soil Science)	Agro Forestry Workshop	Department of Forestry, Gadag	28 April, 2017
		Workshop on Bio-fuel	SIT, Tumkur	26-09-2017
		Orientation on Sujala -III watershed project	NBSS & LUP Regional Center, Bengaluru	11-12, January 2018
		Orientation training on HRD	NBSS & LUP Regional Center, Bengaluru	06, February 2018
Dr.B.M.Murgod	Programme Assistant (Animal Science)	Latest and emerging technologies of NIANP	National Institute of Animal Nutrition and Physiology	06, February 2018

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Mrs. Lalita S. Asuti	Programme Assistant (Computers)	Computer Applications	IASRI, New Delhi	22-27, September 2017
		Orientation programme	UAS, Dharwad	11-13 December, 2017
		Hands on training on PFMS	ICAR-KVK, Gadag organized by ICAR-ATARI, Bengaluru	24-25, February 2018
Mr. S.L.Halemani	Farm Manager	National training on Cashewnut	At Puttur sponsored by DCCDA, Cochin	15-17, June 2017
Mr. M.B. Jakkanagoudra	Assistant	Hands on training on PFMS	ICAR-KVK, Gadag organized by ICAR-ATARI, Bengaluru	24-25, February 2018

16. Please include any other important and relevant information which has not been reflected above (write in detail).

A) FARMERS' FIELD SCHOOL IN BENGALGRAM

Crop : Greengram
Title : ICM in Greengram
No. of sessions : 7
Village : Papanasi
Block : Gadag
No. of farmers : 25
Farming situation : Rainfed
Season : 2017-18

Sl. No.	Sessions Conducted	Date of Programmes Conducted
1	Awareness programmes on FFS & soil and water conservation methods etc.	04-06-2017
2	Sowing time: Method demonstration of seed treatment with Trichoderma Rhizobium and PSB	21-06-2017
3	• Demonstration of management (uprooting & destroying of mosaic disease affected plants) of yellow mosaic disease • Demonstration of yellow sticky traps & blue sticky traps for sucking pest management in farmers' fields	03-07-2017
4	i) Field Study of Life cycle of sucking pest and pod borer and their management ii) Demonstration of cycle weeder	10-07-2017
5	INM through foliar spray of pulse magic	24-07-2017 31-07-2017
6	Identification of pod borer, powdery mildew disease and their timely management	
7	Field day celebration and collection of FFS feedback from farmers	25-08-2017

Farmers' learning from FFS

- Seed treatment with Trichoderma reduced the foliar disease by 45-50 percent compared to farmers' practice
- Seed treatment with Rhizobium and PSB increased the Nitrogen nodulation in the root zone
- DGV-2 Greengram variety pod length and number of seeds were more compared to local variety
- Timely uprooting of yellow mosaic affected plants helped to reduce the mosaic disease by 60%
- Timely Apion pod borer management reduced the incidence by 90% in ICM plot as compared to farmers' fields
- Optimum maintenance (30-35 nos. of plants per sq.mt area) of plant population enhanced the crop yield
- Repeated use of cycle weeder reduced the moisture stress to great extent
- Incidence of pod borer and powdery mildew were more during prolonged clouding condition
- Use of spiral separator for processing of grains increased the market price

B) INTEGRATED FARMING SYSTEM

i) INTEGRATED FARMING SYSTEM

KVK implemented Integrated Farming System module in 5 farmers' fields. Farmers' resources were studied and then KVK introduced IFS components to supplement the existing resources on the farm. The details of the farmers' components and the KVK components are detailed below.

Sl. No.	Name of farmer	Area (Ha)	Farmer's components	KVK's components
1	Mr. Sharanappa Bandakkanavar At: Kanavi Tq.: Gadag	1.2	Chrysanthemum, vegetables	Guava-20 (Seedlings) Drumstic-50 (Seedlings) Curry leaf-200 (Seedlings) Coconut-25 Rose-40
2	Mr. M.G.Neelappagouda At: Shagoti Tq.: Gadag	1.0	Mango, Papaya, Vermicompost, Dairy, Jeevamruta, Coconut & Azolla unit	Rose-400 Silage bag unit-2 Grass & fodder unit
3	Mr. Basavaraj Shantageri At: Hulkoti Tq.: Gadag	1.2	Mango & Cashewnut	Drumstic seedlings-30 Rose-205 Coconut-7
4	Mr. B.S.Madiwalar At: Hulkoti Tq.: Gadag	1.5	Mango & dairy	Curry leaf-40 Guvava-20 Sapota-10 Drumstic-35 Vermicompost unit
5	Mr. M.A.Hulkoti At: Hulkoti Tq.: Gadag	1.5	Mango & dairy	Rose-200 Curry leaf-100 Grass & fodder-4 Gunta Azolla-1 unit Silage-2 Nos.

Output from IFS Demonstrations

Sl. No.	Name of farmer	Output / Outcome
1	Mr. Sharanappa Bandakkanavar At: Kanavi Tq.: Gadag	➢ Guava, drumstics, curryleaf crops are established very well ➢ Vermicompost production – 2 tonns ➢ Enhanced income from vegetable cultivation by 30%
2	Mr. M.G.Neelappagoudar At: Shagoti Tq.: Gadag	➢ Rose is established well ➢ Vermicompost production – 3 tonns ➢ Dairy milk yield increased by 40%
3	Mr. Basavaraj Shantageri At: Hulkoti Tq.: Gadag	➢ Income from IFS ➢ Components yet to start
4	Mr. B.S.Madiwalar At: Hulkoti Tq.: Gadag	➢ All seedlings are established very well ➢ Vermicompost production – 2 tonns
5	Mr. M.A.Hulkoti At: Hulkoti Tq.: Gadag	➢ Rose is established very well ➢ Income yet to start from Mango crop ➢ Milk yield increased by 30%

ii) ENTREPRENEURSHIP DEVELOPMENT FOR MARKETING OF MANGO FRUITS

Through the concerted efforts of KVK, there has been a quality production of mango fruits in Hulkoti cluster of villages. Growers have been facing problems in marketing of fruits. Lack of entrepreneurial skills is the major problem of mango growers in marketing of fruits. In order to imbibe the marketing skills among mango growers, KVK implemented an innovative EDP programme during 2017-18 for enabling marketing of mango fruits by mango growers with the following objectives.

Objectives

- To produce high quality Mango produce
- To imbibe EDP skills in production & marketing for small farmers cultivating Mango
- To enhance returns from mango cultivation
- To expand marketing network for mango produce

Activities

- Identified 5 small farmers cultivating mango
- Trained them on high quality mango production & EDP skills in marketing
- Developed brand for mango produce
- Facilitating sale of quality mango fruits by KVK through setting up road side stalls by entrepreneurs

Expected output & outcome

- Enhanced marketing skills of mango grower
- Enhanced marketing awareness
- Enhanced returns from sale of mango produce
- Increased consumer contact for mango producers
- Enhanced demand for quality produce

The activity is under progress and output results will be submitted after completion of the activity.