Annual Progress Report 2012-13

Taralabalu Krishi Vigyan Kendra, Davanagere

Kadalivana, LIC Colony Layout, B.I.E.T. Road

Davanagere - 577 004

Phone: 08192-263462, Fax: 08192-260969

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Submitted to:

Zonal Project Director
Zonal Project Directorate, Zone-VIII
ICAR, MRS, Hebbal, Bangalore

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		
Taralabalu Krishi Vigyan Kendra Kadalivana, LIC Colony Layout, B.I.E.T. Road, Davanagere – 577 004	08192 – 263462	08192 – 260969	dvgtkvk@yahoo.com	www.taralabalukvk.com

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

Address	Telephone		E mail	Web Address
	Office	Fax		
Taralabalu Rural Development Foundation Sirigere – 577541 Chitradurga (Dist.)	08194 – 268829, 268842	08194 - 268847	trdf@taralabalu.org	www.taralabalu.org

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. Devaraja T.N.	--	094498 – 56876	tngdevaraja@yahoo.co.uk

1.4. Year of sanction: 2004

1.5. Staff Position (as on 31st March 2013)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	M/F	Discipline	Highest Qualification (for PC, SMS and Prog. Asstt.)
1	2	3	4	5	6	7
1	Programme Coordinator	Dr. Devaraja T.N.	Programme Coordinator	M	Fisheries	Ph.D. (Aquatic MicroBiology)
2	Subject Matter Specialist	Mr. Basavanagowda M.G	Subject Matter Specialist	M	Horticulture	M.Sc. (Hort.)
3	Subject Matter Specialist	Mr. Mallikarjuna B.O	Subject Matter Specialist	M	Agronomy	M.Sc. (Agri.)
4	Subject Matter Specialist	Dr. Jayadevappa G.K.	Subject Matter Specialist	M	Animal Science	M.V.Sc. (Animal Nutrition)
5	Subject Matter Specialist	Mr. Raghuraja J.	Subject Matter Specialist	M	Agricultural Extension	M.Sc. (Agri.)
6	Subject Matter Specialist	Mr. Prasananna Kumara N.	Subject Matter Specialist	M	Plant Protection (Patholgy)	M.Sc. (Agri.)
7	Subject Matter Specialist (Soil Sicence)	Vacant				
8	Programme Assistant (Lab Tech.)/T-4	Mr. Revanasiddappa G.B.P.	Programme Assistant (Lab Tech.)	M	Lab Technician	M.Sc. (Agri.)
9	Programme Assistant (Computer)/ T-4	Mr. Santhosh B.	Programme Assistant	M	Computer	B.Sc. (Computer Science)
10	Programme Assistant/ Farm Manager	Mr. Vijayakumar S.B.	Programme Assistant	M	Farm Manager	M.Sc. (Plant Breeding & genetics)
11	Assistant	Mr. Mallikarjuna S.Gudihindala	Assistant	M	Assistant	B.Com.
12	Stenographer-III	Mrs. Mamatha H. Melmalagi	Stenographer-III	F	Stenographer-III	B.Com. + Shorthand
13	Driver	Mr. Marulasiddaiah N.M.	Driver	M	Driver	BA
14	Driver	Mr. Shivakumara S.	Driver	M	Driver	S.S.L.C.
15	Supporting staff	Mr. Shivakumara B.	Supporting staff	M	Supporting staff	S.S.L.C.
16	Supporting staff	Mr. Shivakumara S.E.	Supporting staff	M	Supporting staff	S.S.L.C.

Name of the incumbent	Existing Pay band	Grade Pay	Date of joining KVK	Permanent /Temporary	Category (SC/ST/OBC/ Others)
3	8	9	10	11	12
Dr. Devaraja T.N.	37400-67000	9000	17-05-05	Permanent	Others
Mr. Basavanagowda M.G	15600-39100	5400	21-11-06	Permanent	Others
Mr. Mallikarjuna B.O	15600-39100	5400	09-01-08	Permanent	Others
Dr. Jayadevappa G.K.	15600-39100	5400	29-01-08	Permanent	Others
Mr. Raghuraja J.	15600-39100	5400	23-06-08	Permanent	Others
Mr. Prasananna Kumara N.	15600-39100	5400	24-06-08	Permanent	Others
Vacant					
Mr. Revanasiddappa G.B.P.	9300-34800	4200	11-04-12	Permanent	Others
Mr. Santhosh B.	9300-34800	4200	05-09-08	Permanent	Others
Mr. Vijayakumar S.B.	9300-34800	4200	23-06-08	Permanent	Others
Mr. Mallikarjuna S.Gudihindala	9300-34800	4200	01-06-05	Permanent	Others
Mrs. Mamatha H. Melmalagi	5200-20200	2400	26-06-05	Permanent	Others
Mr. Marulasiddaiah N.M.	5200-20200	2000	01-06-05	Permanent	Others
Mr. Shivakumara S.	5200-20200	2000	01-06-05	Permanent	Others
Mr. Shivakumara B.	5200-20200	1800	01-06-05	Permanent	Others
Mr. Shivakumara S.E.	5200-20200	1800	01-06-05	Permanent	Others

1.6. Total land with KVK (in ha) **:** 15 ha

S. No.	Item	Area (ha)
1	Under Buildings	1.75
2.	Under Demonstration Units	0.50
3.	Under Crops	7.25
4.	Orchard/Agro-forestry	5.0
5.	Others	0.5
	Total	**15**

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	04.01.2008	550	29.37			Completed
2.	Farmers Hostel	ICAR	04.01.2008	300	18,82,000.00			Completed
3	Plant Health Clinic	ICAR	01.04.2012		10,00,000.00			Completed
4.	Staff Quarters	ICAR	04.01.2008	400	19,40,000.00			Completed
	1. Programme Coordinator							
	2 .SMS (Animal Science)							
	3. SMS (Agri. Extension)							
	4. Farm Manager							
	5. Field Assistant							
	6. Driver (Jeep)							
5.	Demonstration Units							
	1. Dairy with modern facilities	ICAR	04.01.2008	160	6,41,000.00			Completed
	2. Shade Home	DBT	29.03.2013	1000	2,10,000.00			Completed
	3. Zero Energy Cool Chamber	DBT	1.12.2010	2.5	13,000.00			Completed
	4. Azolla bulk production unit	RF	2010	3	3,000.00			Completed
	5. Azolla production unit	NICRA	28.03.2013	3.53	20,000.00			Completed
	6. Ornamental fish breeding unit	DBT	2010	700	1,49,955.00			Completed
	7. Fish polyculture pond with horti integration	DBT	2010	600				Completed
	8.Portable Carp hatchery	ICAR	31-03-2011		2,25,000-00			Completed
	9.Fodder demo units	RF	2010	4000	41,428.00			Completed
	10. Erythrina standards for betelvine demo unit	RF	2010	300	1000.00			Completed
	11. Biogas unit	RF	2011	04	29920.00			Completed
	12. Fish cum paddy cultivation unit	RF	2011	421	13071.00			Completed
	13 Vermicomposting units	RF	2008	121	60000			Completed
	14 Vermicomposting unit	DBT	2010	60	15000			Completed
6.	Orchards and agro forestry							Completed
	1. Mango	RF	2000	12000	53215.00			Completed
	2. Sapota orchard	RF	2010	4000	44775.00			Completed
	3. Hexagonal and penta planting of coconut garden, Germ plasm coconut	RF	2009	4000	9035.00			Completed

	4. Arecanut garden	RF	2007	8000	72228.00			Completed
	5.Tarmarind garden, Medicinal plants	RF	2000	2000	-			Completed
	6.Curry leaf garden	RF	2007	500	-			Completed
	7. Agro forestry with biofuel plants	RF	2000	24000	13166.00			Completed
7.	Fencing	ICAR	31-03-2011	930 feet	11,0000-00			Completed
8.	Rain Water harvesting system	**-**	-	-	-	To be sanctioned	-	
9.	Threshing yard	ICAR	31-03-2011		2,00,000-00			Completed
10.	Farm Godown	ICAR	-	-	-	To be sanctioned	-	
11.	Bore wells (2 No.s)	ICAR	31-03-2011		3,00,000-00			Completed
12.	Irrigation system	ICAR	31-03-2011		1,00,000-00			Completed
13.	Borewell recharge unit	RF	01-06-2011		64,585-00			Completed

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run (31.03.2013)	Present status
Tractor and Trailer	2005	4,99,995/-	2480 hr	Good
Power tiller Funded by FLD cotton	2008	99400/-	-	Good
Power Tiller	2010	131500/-	-	Good
Tempo Cruiser	2005	4,99,250/-	154385	Good
Hero Honda CD Deluxe	2006	39,298/-	47611	Good
Yamaha Alba	2009	48,309/-	31304	Good

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Mixer	2005	3,300/-	Good
Xerox Machine	2006	73,840/-	Good
Digital Camera	2006	19,900/-	Not in working condition
Over Head Projector	2006	19,935/-	Good
TV with DVD Player (Funded by SHIMUL)	2006	11,350/-	Good
Refrigerator (LG)	2007	10,000/-	Good
Deep Freezer + Stabilizer (Funded by ATMA)	2013	16,650/-	Good
Computer +LCD	2007	1,00,103/-	Good
VRC System (Funded by UAS, Bangalore)	2008	--	Good
Fax (4 in one)	2009	15,000/-	Good
Generator	2011	100000/-	Good

1.8. Details SAC meeting conducted in 2012-13

Sl. No.	Date	Number of Participants	No. of Absentees	Salient Recommendations	Action taken
1.	**04-05-2012**	**22**	**6**	Suggested to select flagship programme on banana and to conduct programmes from planting to marketing.	In this season, KVK has produced and distributed 1388 kg of banana special to 206 banana growers. KVK specialist given technical support to Comprehensive Horticulture Development Programme implemented by Horticulture Department. Established G-9 & Yallakki varieties Banana demonstration units in instructional farm incorporating scientific practices.
				Suggested to conduct programmes to retain and attract youth towards agriculture.	To attract rural youth towards agriculture, KVK has conducted 12 trainings to rural youth. Special among them were 5 trainings to Bharath Nirman Youths (146 youths) in collaboration with Taluk Panchayath, Harihara.
				Frontline demonstration on mechanization in paddy transplanting to be conducted in collaboration with Agriculture Department and to collect scientific data.	Accordingly, the frontline demonstration on mechanization in paddy transplanting was conducted in collaboration with Agriculture Department (10 ha, 25 farmers) and collected scientific data.
				To conduct soil test in FLD farmers fields and to give recommendations based on soil test report.	Soil samples from 136 farmers coming under FLDs were analysed and recommendations were given based on soil test report.
				For large scale adaption of technologies, suggested KVK to write letter to development departments along with results.	Letter written to Department of Horticulture, Davanagere regarding results of FLD's on banana special and Arka Suvidha (French bean) for large scale adoption.
				Suggested to collect scientific information on benefits of azolla.	Scientific information on the benefits of Azolla were collected, analyzed. Based on the scientific information, advisory services given to 80 farmers.
				Suggested to grow seedlings in horticulture nursery in scientific method and distribute to farmers.	Horticulture seedlings were grown in shade home and maintained has demonstration unit for visiting farmers. This season Arecanut seedlings-555 No., Mango-375 No., Lemon-928 No., Sapota-220 No., Jack-23 No. and Drumstick-4090 No. were distributed to farmers.
				Suggested to popularize rainfed varieties of fodder along the bunds in Siddanuru villages.	Rainfed fodder variety styloxanthus (80 kg) along the bunds were distributed to farmers in Siddanuru village.
				Suggested to involve in District Comprehensive Horticulture Development programme	KVK specialists actively participated in the programme viz., field visits, selection of suckers of banana. Organized 3 workshops on 'Improved production technology in banana' for Davanagere and Harihara taluk banana growers coming under this programme.

2.	**16-01-2013**	**24**	**5**	Suggested to mention thrust areas by the KVK	Thrust areas are given accordingly.
				To arrange visit to NICRA village for all SAC members.	Visit to NICRA village was arranged on 5th February 2013. 8 Members attended the same.
				Suggested to carryout demand driven works	Need based works have been included in the action plan 2013-14.
				Suggested to cultivate different varieties of banana in KVK farm scientifically.	Planned accordingly.
				Suggested to prepare list of development department schemes for the benefit of the farmers.	On going.
				Suggested to work in collaboration with ATMA	On going.
				Suggested to obtain soil resource map from NBSS and LUP for Davanagere district.	Requisition has been sent to NBSS.
				Suggested to give importance for all taluks in KVK activities.	All six taluks have been given in the action plan 2013-14.
				Suggested to analyse impact of demonstrations for continued adoption.	On going.
				Suggested to introduce coloured broilers.	On going.
				To popularize poultry manure.	On going.
				Suggested use AIR effectively to popularize KVK activities.	On going.
				Popularize silage making technology	On going.
				To encourage farmers for annual fodder crops.	On going.
				Suggested to popularize use of bio pesticide.	On going.
				Suggested to conduct few impact studies on the trainings conducted.	On going.
				To work on market linkages.	On going.

PART II - DETAILS OF DISTRICT

2.1 Major farming systems/enterprises

Sl. No	Farming system
1	**Rainfed system**: Maize, Maize+Redgram, Ragi, Ragi+Horsegram, Greengram-Ragi, Minor millets, Jowar, Bengalgram , Redgram, Groundnut, Sunflower, Cotton, Mango.
2	**Irrigation** (33%) : Rice- Rice, Sugarcane, Arecanut, Banana, Coconut, Papaya, Vegetable crops, Fodder crops.
3	**Enterprises:** Poultry, Dairy, Sheep/ Goat rearing, Fisheries, Vegetable nursery, Nursery
4	**Cropping intensity**: 122%

Taralabalu Krishi Vigyan Kendra is situated in Davanagere district of Karnataka state. The district occupies a total geographical area of 5913.4 sq. km. It is spread over 6 taluks consisting 35 hoblies and 232 gram panchayaths. According to 2011 census, the district comprises total population is 19,46,905 with population density of 329 people /sq. km. The district is primarily agrarian in character and more than 75% of its population depending directly / indirectly on agriculture for their livelihood.

Davanagere district is at center of the state and lies in between latitude of 75^0.30' and 76^0.30' and longitude of 13^0.45' and 14^0.50' with MSL of 602.5 m. The annual average rainfall of the district is 656.9 mm (Actual 495.5 mm 2012),. The variety of soil is medium to deep black and red sandy loam (Details in section 2.2). The district is essentially Kharif region and majority Rabi crops will be taken up with the help of irrigation from lower Bhadra canal. The district comprises of three agro climatic zones of Karnataka as given in section 2.3.

2.2 Soil type

S. No	Soil type	Characteristics	Area in ha
1	Red Sandy Soil (Harihara, Channagiri, Jagalur, Davanagere Tq.)	Low water holding capacity Neutral pH Low Nitrogen content Medium in Phosphorus and Potash	1, 26,000
2	Deep to Medium Deep Black Soil (Jagalur, Davanagere, Harapanahalli)	High water holding capacity Neutral to Alkaline pH Medium in Nitrogen and Phosphorus High Potassium	54,000
3	Mixed Red and Black Soil (Honnali, Jagalur, Harapanahalli)	Medium water holding capacity Neutral pH Medium in Nitrogen, Phosphorus and Potassium content	1, 62,000
4	Sandy Loam Soil (Harapanahalli, Davanagere)	Poor water holding capacity Neutral pH Deficient in Nitrogen, Phosphorus and Potassium	18,000
		Total	**3, 60,000**

2.3 Description of Agro-climatic Zone & major agro ecological situations

S. No	Agro-climatic Zone	Characteristics
1	Northern Dry Zone (Zone III)	The zone comprises Harapanahalli Tq. Major soil types of the zone are black and red soils. The main crops growing in the zone are Ragi, Maize, Jowar, Onion, Chilli, Sunflower and Minner millets, Coconut, Mango and Pomegranate.
2	Central Dry Zone (Zone IV)	Jagalur, Harihara and Davanagere Taluks come under Zone IV. We find red sandy soil mixed with clayey soil land patches of black soil in the zone. Major crops include Maize, Rice, Jowar, Sunflower, Sugarcane, Ragi, Minor millets, Vegetables, Coconut, Arecanut, Beetlevine, Groundnut, and Pomegranate.
3	Southern transitional Zone (Zone VII)	Southern transitional zone includes Channagiri and Honnali taluks. The dominating soil types found are red sandy soil and black cotton soil. Major crops growing the zone are Maize, Rice, Ragi, Cotton, Chilli, Jowar, Groundnut, Arecanut, Coconut, Mango and other Commercial crops.

S. No	Agro ecological situation	Characteristics
1	Southern Plateau and Hills	Typical semi-arid zone; About 80 % of the area falls under rainfed farming; Cropping intensity is very low. Soils are shallow and medium, loamy red, Major crops are Rice, maize, sugarcane, Arecanut, coconut and millets.

2.4. a) Area, Production and Productivity of major crops cultivated in the district (2012-13)

S. No	Crop	Area (ha)	Production (Metric tons)	Productivity (kg /ha)
1	Rice	106200	468195	4563
2	Jowar	24500	51450	2100
3	Ragi	14200	33160	2335
4	Maize	170250	752925	4422
5	Bajra	1000	1288	1288
6	Wheat	900	1100	1222
7	M.Millets	1100	885	805
I	**Total Cereals:**	**314550**	**1309003**	**4162**
1	Tur	1200	13700	1142
2	Bengalgram	5500	5550	1009
3	Horsegram	1700	680	400
4	Blackgram	500	450	900
5	Greengram	800	640	800
6	Cowpea & other	4100	3770	920
7	Avare	2950	2455	832
8	Mothbean (madaki)	300	150	500
II	**Total Pulses:**	**27850**	**27395**	**984**
	Total Foodgrains:	**342400**	**1336398**	**3903**
1	Groundnut	27000	40600	1504
2	Sesamum	1800	810	450
3	Sunflower	15050	17545	1166
4	Castor	1500	1650	1100
5	Niger	1250	513	410
6	Mustard	650	310	477
7	Soyaben	200	220	1100
8	Safflower	500	350	700
9	Linseed	50	25	500
III	**Total Oilseeds:**	**48000**	**62023**	**1292**
IV	**Commercial Crops:**			
1	Cotton	40000	92824	395
2	Sugarcane Planted	3500	410000	117
2a	Sugarcane Ratoon	4500	465000	103
3	Tobacco (VFC)	600	2647	4412
3a	Tobacco (Beedi)	0	0	0
	GRAND TOTAL	**439000**		

(Source: Department of Agriculture, Davanagere. 2012-13)

b). Horticultural Crops (2011-12)

S. No	Crop	Area (ha)	Production (Metric tons)	Productivity (t /ha)
1	Mango	3602.04	33938.84	9.42
2	Banana	3573.24	76207.04	21.33
3	Lemon	115.71	1369.20	11.83
4	Sapota	895.97	8769.88	9.79
5	Tomato	3330	68966.5	20.71
6	Brinjal	203	3822	18.83
7	Beans	279	1993	7.14
8	Onion	3940	61052	15.50
9	Chilli	11.09	18057	16.28
10	Bendi	265	1657.5	6.25
11	Cabbage	103.5	2560	24.73
12	Radish	125	1440	11.52
13	Beetroot	58	898	15.48
14	Drumstick	75.60	341.2	4.51
15	Watermelon	241	5962.0	24.74
16	Bitterguard	97	749	7.72
17	Ridge gourd	115.5	967.63	8.38
18	Cucumber			
19	Coconut	12550	1752.77	0.1397
20	Arecanut	34008	66712	1.96
21	Betelvine	956.25	4459.40	4.66
22	Oil palm	774.4	5209.06	6.73
23	Turmeric	77	66	0.86
24	Cocoa	441.5	190.70	0.43
25	Jasmin	189.93	1159.45	6.10
26	Marigold	521	2857	5.48

(Source: Department of Horticulture: 2011-12)

2.5. Weather data

Month	Rainfall (mm) (2012)		Temperature ^{0} C(2011)		Relative Humidity (%) (2011)	
			Mean Maximum ^{o} C	Mean Minimum ^{o} C		
	Actual	Normal	Actual	Actual	Morning	Afternoon
January-2012	0.4	1.9	27.70	12.49	83.98	88.50
February -2012	0.0	1.3	29.12	13.99	87.25	87.07
March- 2012	0.4	4.1	30.16	19.26	90.89	94.91
April-2012	115.3	38.8	30.36	22.41	89.76	94.44
May-2012	17.7	84.2	31.47	23.10	88.59	91.93
Jun-2012	25.6	68.0	29.17	24.34	88.04	88.99
July-2012	52.8	98.1	29.25	23.14	89.94	92.10
August-2012	107.1	79.5	29.00	22.86	89.12	93.42
Septmber-2012	45.4	114.5	29.23	22.30	92.72	90.11
October-2012	25.3	119.3	--	--	--	--
November-2012	104.4	40.4	--	--	--	--
December-2012	1.1	7.0	--	--	--	--
Total	**495.5**	**656.9**				

* Source : Department of Agriculture, Davanagere

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district (2011-12)

Category	Population	Production	Productivity
Cattle			
Crossbred	292231		5-6 L/ day
Indigenous	57139		
Buffalo			
Sheep			
Crossbred	120		
Indigenous	204789		
Goats			
Pigs			
Crossbred	3100		
Indigenous			
Rabbits	102		

Category	Area (ha)	Production(tons)	Productivity
Poultry			
Hens	1520389		
Desi			
Improved			
Ducks			
Turkey and others			
Fish			
Marine			
Inland	10098	16000	1.5 t/ha
Prawn			
Scampi			
Shrimp			

(Source: Department of statistics, Davanagere)

2.7 District profile of 2012-13 has been updated and uploaded to KVK website: www.taralabalukvk.com

2.8 Details of operational Area/Villages

Sl. No.	Taluk	Blocks	Name of the villages	If existing How long the village is covered under operation area of the KVK from which year	Major crops and enterprises	Major problems identified	Identified thrust areas
1	Harihara	Kenchanahalli	Kenchanahalli	1 Year (2012-13)	Maize	• Closer spacing higher seed rate • Stem bores and Downey mildew • No micronutrient application ($ZNSO_4$) • Low yield • No intercropping	• ICM
2.	Harihara	Malebennur	Kumbalore	4 years 2008	Coconut	• Higher incidence of pest and diseases deu to lack of resistance in coconut palms.	• Integrated nutrient management
3	Harihara Davangere	Jigali Hosabelavanur	Jigali Yalvatti Gonivada	1 Year (2012-13)	Rice Rice	• Reduced number of seedling Sq.m • Higher seed rate • Non availability of Skilled	• Mechanization of rice transplanting

			Hosabelavanur	2 Years (2011-12)		labourers • No application of micronutrients ($ZnSO_4$)	
4	Channagiri	Garga	Garaga Bommenahalli	2 Years 2010	Ragi	• Use of local verities • No micronutrients usage • Low yield	ICM
		Santebennur Hedne	Doddabbigere Hedne	1 year 2011	Mango	• Incidence of mango stem borer	Integrated pest management
		Santhebennur	Santheennur Doddabbigere	3 years 2009	Mango	• Micronutrient deficiency. • Low yield	Integrated nutrient management.
5	Davanagere Harpanahalli	Yedne Anjigere	Yedne Bennihalli	1 year 2011 1 year 2011	Cotton	• Improper spacing • Leaf reddening and square drying • Sucking pest(Aphids, Mirid bugs)	• Use of high yield Bt hybrids • Spraying of micronutrients and grown regularly • Integrated pest management
6	Davanagere	Belavanur	Belavanur	2 years 2010	Rice	• Incidence of gundhi bug	• Integrated pest management
		Haluvarthy	Anagodu	2 years 2010	Redgram	• Use of local varieties • No seed treatment • Low yield due to pod borer incidence	• Integrated crop management

		Elebetur	Elebetur	1 year 2011	Sugarcane	• Incidence of early shoot borer	• Integrated pest management
7	Davanagere	Angodu	Angodu	1 year 2011	Tomato	• Fruit cracking • Improper nutrient management • Low yield	• ICM
		Kukkawada	Kukkawada	2 years 2010	Fisheries	• Stagnating net profit from rice and less crop diversity.	• Integrated farming system
		Maykonda	Maykonda	3 years 2009	French bean	• Use of local varieties • Low yield	• Popularization HYV
		Maykonda	Maykonda	3 years 2009	Cowpea	• Use of local varieties . • Low yield	• Popularization of HYV
		Tholahunse	Tholahunse Hebbal	5 years 2008	Arecanut	• Low soil fertility. • Dropping of premature nuts	• Integrated nutrient management

8	Harpanahalli	Kambathalli	Kambathalli Nandikumba Hutchangidurga Hunsekatte Punabgatte Daggibasapura	1 year 2011	• Cattle and Buffalo rearing • Sheep and Goat rearing • Rearing local poultry birds	• Repeat breeding and uterine prolapse. • Lower body weight gain. • Lower body weight gain.	• Nutritional deficiencies • Nutritional and worms problem • Breeding
		Bennihalli	Bennehalli Kadakola	1 year 2011	• Bengalgram	• Use of local varieties • No seed and soil treatment with trichoderma • Incidence of wilt and pod borer	• Integrated pest and disease management
				1 year 2011	Foxtail millet	• Use of local varieties • No seed treatment • Low yield	• ICM
9	Harihara	Holesirigere	Holesirigere	1 year 2011	Rice	• Incidence of root knot nematode	• Integrated pest management

2.9 Priority thrust areas

S. No	Identified problems
1.	Mechanization in paddy production system
2.	Use of micro and macro nutrients is cotton.
3.	High yielding variety in Ragi for higher yield.
4.	Intercropping with redgram in maize.
5.	IPM against sucking pests in cotton.
6.	Nutritional deficiencies in cross bred cattle and buffalo.
7.	Diseases and worms problem in sheep goats
8.	Breeding dairy cows
9.	Integrated pest management in rice
10.	Integrated pest management against early shoot borer in sugarcane and stem borer in mango
11.	Integrated crop management in redgram and in bengalgram
12.	Integrated crop management in Foxtail millet and Tomato
13.	Integrated fish farming
14.	Integrated nutrient management in arecanut and coconut, mango.
15.	Use of local varieties and low yield in French bean, cowpea

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
04	04	25	25	22	19 (2012-13) 1 (2011-12)= 20	330	277

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
154	102	2565	2868	119	159	-	-

Seed Production (q)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
10.1	7.91	Sugarcane sets-	115 q.
		Banana suckers-	1500 No.s
		Azolla – 40 kg	92.5 kg
		Fodder- 72500	43856 No.s

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
Cows-3 No.s	03 No.s	Trichoderma-300 kg	571 kg
Sheep- 20 No.s	15 No.s		
Fish fingerlings	3500 no.s		
Ornamental fishes – 10000 No.s	4306 No.s		
Food fishes-200 kg	416 kg		

3.B1. Abstract of interventions undertaken based on thrust areas identified for the district

Sl. 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 (Q.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products	
													No.	Kg
1.	Mechanisation in rice production system	Rice	• Non availability of skilled labourers • Reduced number of seedling /sqm. • Low yield		Mechanization in rice transplanting	2	-	-	04	-	-	-	-	-
2.	Integrated pest management	Rice	• Incidence of root knot nematode • Incidence of gundhi bug	Testing efficacy of different molecules for management of gundhi bug in rice	Integrated management of root knot nematode in rice	02	-		09	-	-	-	PSB-15 kg	
3.	Intercropping of redgram in maize. Integrated crop management in maize	Maize	• Higher seedrate • Closer spacing • Stem borer • Poor soil fertility • No intercropping		Integrated crop management for improving the maize producting	3	-	-	02	NAH-1137-0.75 q BRG-2: 0.45 q.				
4	Integrated crop management in ragi	Ragi	• Use of local varieties • No seed treatment with bio fertilizers • Low yield		Integrated crop management in HYV GPU-28 of ragi-	02	-		03	GPU-28 – 1.5 q	-	-	-	-

5	Integrated crop management	Foxtail millet	• Use of local varieties • No seed treatment • Low yield	-	Integrated crop management in HYV HMT-100-1of foxtail millet	01	-	-	08	-	-	-	-	-
6	Integrated crop management	Redgram	• Use of local varieties • Incidence of pod borer • No seed treatment	-	Integrated crop management in HYV BRG-2 of red gram	02	-	-	09	BRG-2 1.15 q	-	-	-	-
7	Integrated crop management	Bengal gram	• Use of local varieties • Pod borer wilt	-	Integrated crop management in Bengalgram	03	-	-	10	JG-11 4.375 q	-	-	Trichoderma : 0.7 q	
8	Integrated crop management	Cotton	• Close spacing • Sucking pest (Aphid, mealy bug, mirid bug) • Leaf reddening square drying • Reduced boll number and size		Integrated management of sucking pest in cotton	06			02	-	-	-	-	-
9	Integrated pest management	Sugarcane	• Incidence early shoot borer	-	Integrated management of early shoot borer in sugarcane	01	-	-	10	-	-	-	-	-
10	Integrated pest management	Mango	• Stem borer incidence	-	Integrated management of stem borer in mango	01	-	-	07					

11.	Integrated crop management	Tomato	• Fruit cracking • Improper nutrient management • Low yield		Integrated crop management in tomato	03	-	-	10	-	-	-	-	-
12	Nutritional deficiencies	Cattle and Buffalo	• Uterine prolapse and repeat breeding	Balanced Nutrition in cross bred dairy animals	-	1 (20)	-	-	Health camps (2 no.)	-	-	-	Animal feeds & feed supplement	
				Balanced nutrition and complete deworming in small ruminants	Production of HYV of DHN-6 fodder crops			1 (20)			20,000 rootslips	-		
13	Diseases and worms problem	Sheep and Goats	• Lower body weight gain due to worm infestation	-	Use of broad spectrum Anthelmentics in small ruminants for better performance	1 (20)	-	-	Health Camp (1)	-	-	-	Anthelmentics given	
14	Clean milk production	Dairy Animals	• Un-hygienic milk production	-	Use of Rubber mats for better performance in dairy animals	16 (745)	-	-	Method Demonstration	-	-	-	-	
15	Breeding	Poultry birds	• Lower body weight gain in local birds	-	Rearing Swarnadhara in backyard	1 (15)	-	-	-	-	-	50 birds	-	
16.	Integrated fish farming	Fisheries	• Stagnating net profit from rice and less crop diversity.	-	Rice cum fish culture in rice growing plots (2011-12)	03	-	01	10	-	-	-	-	

17	Integrated nutrient management	Coconut	• Higher incidence of pest and disease due to lack of resistance in coconut palm	Assessment of TNAU tonic to strengthen the coconut palms		03			04	-	-	-	-
18.	Popularization of HYV	French bean	• Low yield • Use of local varieties		Popularization of HYV Arka suvidha in French bean	01			04				
19.	Popularization of HYV	Cowpea	• Use of local varieties • Low yield		Popularization of HYV Arka suman in cowpea	01			02				
20	Integrated nutrient management	Arecanut	• Low soil fertility • Dropping of pre-mature nuts		Velvet beans as green manur crop in arecanut	03			04				
21.	Integrated nutrient management	Mango	• Micro nutrient difficiency		Foliar application of mango special	02			04				

3.B2. Details of technology used during reporting period

1. Rice

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Mechanization in rice transplanting	CIAE Bhopal	Rice	-	√	03	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	20	05	28	11	-	-	-	-	-	-	-	-

2. Rice

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Integrated management of root knot nematode in rice	UAS, Bengaluru	Rice	-	√	02	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	07	-	03	-	15	-	8	-	-	-	-	-

3. Rice

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Testing efficacy of different molecules for gundhi bug in rice	UAS, Bengaluru	Rice	√	-	01	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
07	03	-	-	-	-	-	-	-	-	-	-	-	-	-	-

4. Maize

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Integrated crop management for improving the maize productivity	UAS, Benglauru	Maize Redgram	-	√	03	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	15	-	50	28	-	-	-	-	-	-	-	-

5. Ragi

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Integrated crop management in HYV in Ragi	UAS, Benglauru	Ragi	-	√	03	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	19	02	21	10	-	-	-	-	-	-	-	-

6.Foxtail millet

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Integrated crop management in HYV HMT-100-1 of foxtail millet	UAS, D	Foxtail millet	-	01	01	1. Field visit 2. Field day 3. Paper coverage

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	10	-	2	-	14	-	14	-	-	-	-	-

7. Redgram

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Integrated crop management in redgram	UAS, Benglauru	Redgram	-	√	02	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	03	-	10	10	8	-	13	10	-	-	-	-

8 Bengalgram

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Integrated crop management in Bengalgram	UAS, Benglauru	Bengalgam	-	√	03	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	06	-	05	-	37	-	11	-	-	-	-	-

9. Cotton

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Integrated management of sucking pest in cotton	UAS, Benglauru	Cotton	-	√	06	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	19	16	92	61	-	-	-	-	-	-	-	-

10. Coconut

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Assessment of TNAU coconut tonic to strengthen the coconut palm	TNAU	Coconut	1	-	03	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
05	-	-	-	-	-	-	-	16	06	08	03	-	-	-	-

11. French bean

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Popularization of HYV arka suvidha in French bean	IIHR, Bengaluru	French bean	-	01	01	Group meeting Field visit Training Field day

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	06	01	03	-	-	-	-	-	-	-	-	-

12. Cowpea

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Popularization of HYV Arka suman in cowpea	IIHR, Bengaluru	Cowpea		01	01	Field visits Group meeting

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	06	-	2	2	-	-	-	-	-	-	-	-

13. Arecanut

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Velvet beans as green manur crop in arecanut	IIHR, Bengaluru	Arecanut		01	03	Group meeting Media coverage Field day

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	07	-	03	-	75	18	25	14	-	-	-	-

14. Sugarcane

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Integrated management of early shoot borer in Sugarcane	UAS, Benglauru	Sugarcane	-	√	01	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	10	-	07	-	11	-	-	-	-	-	-	-

15. Mango

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Integrated management of stem borer in mango	UAS, Benglauru	Mango	-	√	01	Workshop-1

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	03	-	02	-	03	02	-	-	-	-	-	-

16. Mango

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1.	Folior application of mango special	IIHR, Bengaluru	Mango	-	01	02	Group meeting Field visit Media coverage

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	04	-	01	-	30	-	08	-	-	-	-	-

17. Tomato

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
2	Integrated crop management in tomato	IIHR, Bangalore	Tomato	-	01	03	1. Group meeting 2. Field visit 3. Paper coverage

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-			8	7		-	26	21	-	-	-	-

18. Cattle

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Use of area specific mineral mixture	NIANP, Bengaluru	Cattle	02	-	-	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
1	-	2	2	-	-	4	1	1	-	16	3	-	-	-	-

19. Cattle Fodder

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Use of HYV of DHN-6 Fodder crop (Sampoorna)	IGFRI, Dharwar	Cattle Fodder	-	01	-	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	5	-	-	-	13	02	01	04	-	-	-	-

20. Dairy Animals

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Use of cow mats for CMP	KVAFSU, Bidar	Dairy Animals	-	01	-	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-

21. Dairy Animals

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Balanced cattle feed	KVAFSU, Bidar	Dairy Animals	01	-	-	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
7	-	3	-	-	-	-	-	15	-	5	-	-	-	-	-

22. Poultry

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Use of Swarnadhara poultry birds in backyard	KVAFSU, Bidar	Poultry	-	01	-	-

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	1	-	0	4	16	-	1	3	-	-	-	-

23. Fisheries

S.No	Title of Technology	Source of technology	Crop/enterprise	No.of programmes conducted			
				OFT	FLD	Training	Others
1.	2	3	4	5	6	7	8
1	Rice cum fish culture in rice growing plots.	UAS, Bengaluru	Fisheries	-	01	03	05

No. of farmers covered															
OFT				FLD				Training				Others			
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
-	-	-	-	1	-	-	-	35	10	8	3	-	-	-	-

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								01		01
Varietal Evaluation										
Integrated Pest Management	01									01
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.A2. Abstract on the number of technologies refined in respect of crops

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

Thematic areas	Cattle	Sheep and Goat	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds							
Nutrition Management	01	01					02
Disease Management							
Value Addition							
Production and Management							
Feed and Fodder							
Small Scale income generating enterprises							
TOTAL	**01**	**01**					**02**

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

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	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
Intercropping					
Weed management					
Integrated pest management	Rice	Technology option 1: No spraying			
		Technology option 2 : Spraying with malathion- 2 ml/l	10	10	0.1
		Technology option 3: Spray with nimbicidine 3 ml /l 2 sprays, 15 days interval			
Integrated Nutrient Management	Coconut	Assessment of TNAU coconut tonic to strengthen the coconut palms	05	05	1.0 ha
Total					

4.B.2. Technologies Refined under various Crops - Nil

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

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds	-	-	-	-
Nutrition management	Cattle	Use of area specific mineral mixture	5	5
Disease management	Sheep and Goat	Cattle feed and ASMM	5	5
Value addition	-	-	-	-
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Total			10	10

4.B.4. Technologies Refined under Livestock and other enterprises - Nil

4.C1. Results of Technologies Assessed

Results of On Farm Trial

1. Rice

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Rice	Irrigated	• Higher incidence of gundhi bug	Testing efficacy of different molecules for management of gundhi bug in rice	10	**Farmers practice:** No spraying	• Yield • Incidence of gundhi bug • B:C ratio	• 33.20 • 30 % • 1.32	Spray with malathion and nimbicidine recorded almost on par yield	Farmers felt that spraying with nimbicidine is ecofriendly management practice that the residual effect of it in rice is minimum	-	-
					Technology option: 2 Spray with malathion	• Yield • Incidence of gundhi bug • B:C ratio	• 48.40 • 13 % • 1.64				
					Technology potion: **3** Spray with nimbicidine 3 ml /l. 2 sprays at 15 days interval	• Yield • Incidence of gundhi bug • B:C ratio	• 48.90 • 4 % • 1.68				

Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs./ha	BC Ratio
13	14	15	16	17	
Technology option 1 (Farmer's practice : No spraying	-	33.20	Q/ha	11330	1.32
Technology option -2: Spray with Malathion 2 ml / l	UAS, Bengaluru	48.40	Q/ha	26510	1.64
Technology option -3: Spray with nimbicidine 3ml /l 2 sprays, 15 days interval	UAS, Dharwad	48.90	Q/ha	27710	1.68

2. Coconut

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Coconut	Irrigated	• Higher incidence of pest and diseases due to lack of resistance in coconut palms	Assessment of TNAU coconut tonic to strengthen the coconut palms	05	TNAU coconut tonic **T_1:** Non use of organic and inorganic fertilizers at regular intervals **T_2:** FYM-50 kg/palm/year NPK-500: 320: 1200g /Palm/Year Neem cake-5.0 kg/palm/year Borax-50 g/ palm/year Econeem plus-10ml/palm 3 times per year **T3**: TNAU coconut tonic- 200 ml/palm-twice a year at 6 months interval	• Percent mites infestation • Percent coconut Black Headed Caterpillar (CBHC) damage • Percent nut drop	T1- 73 % T2-59% T3-28% T1- 64 % T2-44% T3-21% T1- 43 % T2-37% T3-18%	Root feeding the TNAU tonic helps in developing the resistance in coconut palms. It was observed in the trials that, per cent mites infestation, per cent CBHC and percent fruit drop was decreases in the demonstrated trials.	Palms with tonic treatment were found to be more productive as compared to non treated ones.	-	-

Contd..

Technology Assessed	Source of Technology	Production (q/ha.)	Please give the unit (kg/ha, q/ha, lit/day/ animal)	Net Return (Profit) in Rs./ha	BC Ratio
13	14	15	16	17	
Technology option 1 (Farmer's practice : Non use of organic and inorganic fertilizers at regular intervals	-	45	Nuts/palm/year	2600/-	3.6
Technology option -2: FYM-50 kg/palm/year NPK-500: 320: 1200g /Palm/Year Neem cake- 5.0 kg/palm/year Borax-50 g/ palm/year Econeem plus- 10ml/palm 3 times per year	UAS Bengaluru	52	Nuts/palm/year	3060/-	3.78
Technology option -3: TNAU coconut tonic- 200 ml/palm-twice a year at 6 months interval	TNAU Coimbatore	84	Nuts/palm/year	5020/-	3.96

3. Dairy Farming

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Dairy Farming	Semi Scientific Dairy Farming	• Repeat breeding and uterine prolapse in crossbred cattle due to under nutrition	Balanced nutrition in cross bred dairy cows to alleviate reproductive problems	05	**Farmers practice:** Feeding cakes / brans with roughages	• Heat symptoms • Conception rate • Milk yield	• No increase in milk yield • Anoestrus problem	No symptoms of uterine prolapse. Placenta expelled normally, milk yield more	Farmers are convinced by feeding balanced cattle feed and use of area specific mineral mixture	-	-
					Technology option: 2 Cattle feed along with roughages	•Conception rate •Heat symptoms •Milk yield	• 10-15 % more milk. • Heat symptoms not prominent				
					Technology potion: Cattle feed with roughages + ASMM+ Dewormer	• Repeat breeding •Uterine prolapse • Retention of placenta	• 25-30 % more milk parturition normal • No ROP • No prolapse				

Contd..

Technology Assessed	Source of Technology	Production	Please give the	Net Return (Profit) in Rs./ha	BC Ratio
13	14	15	16	17	
Technology option 1 (Farmer's practice Feeding cakes / brans with roughages	-	-	-	-	-
Technology option -2: Cattle feed along with roughages	KVAFSU, Bidar	-	-	-	-
Technology option -3: Cattle feed with roughages + ASMM+ Dewormer	NIANP, Bengaluru	-	-	-	-

4. Sheep Farming

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Sheep Farming	Stall feeding	Lower body weight gain due to lack of nutrition	Balanced nutrition and complete deworming in small ruminants	05	**Farmers Practice:** Normal grazing	Body weight gain	1.8 kg / month	Daily body weight gain : 140 g Monthly body weight gain : 4.2 kg Cost of meat production : Rs. 38 / kg	Better body weight gain is observed in stall feeding. No disease incidence observed	-	-
					Technology Option-1 Normal grazing + concentrate feed		3.0 kg / month				
					Technology Option-2 Stall feeding + concentrates + ASMM+ Dewormer		4.2 kg / month				

Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice) Normal grazing	-	1.8 Meat	kg weight gain /month	423 / month/ sheep	3.6
Technology option 2 Normal grazing + concentrate feed	KVAFSU, Bidar	3.0 Meat	kg weight gain /month	760 / month/ sheep	5.5
Technology option 3 Stall feeding + concentrates + ASMM+ Dewormer	NIANP, Bengaluru	4.2 Meat	kg weight gain /month	1100 / month/ sheep	6.8

4.C2. Details of each On Farm Trial for assessment:

1.

1 **Title of Technology Assessed:** Testing efficacy of different molecules for management of gundhi bug in rice.

2 **Problem Definition :** Gundhi bug becoming serious pests during grain filling stage in rice. So spray with chemical will not control effectively and also remain in the seeds for longer time.

3 Details of technologies selected for assessment:

Technology options	Details of technology
Technology Option – 1	No spraying
Technology Option – 2	Spray with malathion 2 ml /l
Technology Option – 3	Spray with nimbicidine 3 ml / l , 2 sprays, 15 days interval

4 Source of technology:

Technology options	
Technology Option – 1	Farmers Practice
Technology Option – 2	UAS, Bengaluru
Technology Option – 3	UAS, Dharwad

5 Production system and thematic area: Irrigated and Integrated pest management

6. Performance of the Technology with performance indicators:

Technology options	
Technology Option – 1 No spraying	Yield (qt / ha) : 33.20 % incidence of gundhi bug : 30 % B:C ratio : 1.32
Technology Option – 2	Yield (qt / ha) :48.40 % incidence of gundhi bug : 13 % B:C ratio : 1.64
Technology Option – 3	Yield (qt / ha) : 48.90 % incidence of gundhi bug : 4 % B:C ratio : 1.68

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: -

Farmer feels that spray with nimbicidine effectively controls gudhi bug in rice

8 Final recommendation for micro level situation: Spray with nimbicidine is ecofriendly management practices control gudhi bug effectively in rice.

9 Constraints identified and feedback for research: Nil

10 Process of farmers participation and their reaction: Group discussion. Farmers expressed that nimbicidine spray will not remain in rice seed for longer time and it is ecofriendly practice that can be used for management of gundhi bug in rice.

2.

1 **Title of Technology Assessed:** Balanced nutrition in crossbred dairy cows to allivate reproductive problems.

2 **Problem Definition :** Farmers are not feeding their dairy cattle based in the nutrients requirement. Just they are feeding what ever is available to them. This is resulting in deficiencies of both major and micro nutrients resulting in productive problems especially reproductive problems like repeat breeding, uterine prolapse etc.

3 Details of technologies selected for assessment:
Feeding dairy animals with concentrate animal feeds based on the recommendation of NRC and using the area specific mineral mixture for better performance.

4 Source of technology: NIANP, Bengaluru

5 Production system and thematic area: Mixed Dairy Farming and Nutrition management.

6 Performance of the Technology with performance indicators:

Parturition was normal. Retention of placemta was not observed . No prolapse of uterus. Increase in milk yield (25-30%) observed.

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: -

Farmers are convened about the use of balanced feeds and ASMM. Availability of these item in the near by area at reasonable prices need to be ensured.

8 Final recommendation for micro level situation: Farmers who are rearing high yielding animals should feed their animals with balanced concentrate feeds as per NRC recommendation.

9 Constraints identified and feedback for research: Nil

10 Process of farmers participation and their reaction: Group meeting / Group discussion. Farmers are convinced with feeding good quality concentrates and use of mineral supplements in avoiding reproductive problems.

3.

1 **Title of Technology Assessed:** Balanced nutrition and complete deworming in small ruminants.

2 **Problem Definition :** Sheep are normally grazed outside. Animal has struggle a lot to get the daily dietary requirements. The body weight gain obtained is very less. But when these animals are stall feed with NRC recommendation and dewormed periodically gain better body weight in less time.

3 **Details of technologies selected for assessment:**
Concentrate feeds, area specific mineral mixture and broad spectrum anthelmentics.

4 **Source of technology:** KVAFSU, Bidar and NIANP, Bengaluru.

5 **Production system and thematic area:** Stall feeding and nutrition and disease management.

6 **Performance of the Technology with performance indicators:** Good body weight gain observed (4.2 kg / month) in stall feeding method.

7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: -**

Farmers are interested in stall feeding methods. They want suitable breeds for this prupose.

8 **Final recommendation for micro level situation:** Farmers should be provided with hybrid varieties of sheep for better profit margin.

9 **Constraints identified and feedback for research:** We need to spend more money on feeding. Therefore good sheep breeds should be supplied for better results.

10 **Process of farmers participation and their reaction:** Demonstration with individual farmers. Group discussion / Group meeting. They are lking this method of sheep rearing as it is less labour intensive and free from disease problems.

4.

1. Title of Technology Assessed: Assessment of TNAU coconut tonic to strengthen the coconut palms

2 Problem Definition: Higher incidence of pest and diseases due to lack of resistance in coconut palms

3 Details of technologies selected for assessment: TNAU coconut tonic @ 200 ml per palm per year. Root feeding at 6 months interval.

4 Source of technology: TNAU, Coimbatore

5 Production system and thematic area: Irrigated, Integrated nutrient Management (INM)

6 Performance of the Technology with performance indicators:
Percent nut drop: T1- 43 %, T2- 37%, T3- 18%
Number of nuts/ palm: T1-45, T2- 52, T3-84

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques

8 Final recommendation for micro level situation: use of nutrient supplement helps in imparting the resistance to the palms. It is better to make the plants more resistant to attack of pest and diseases than controlling the same.

9 Constraints identified and feedback for research: it is very difficult to convince the farmer to adopt all the three technologies in a single farm.

10 Process of farmers participation and their reaction: Noticed very good participation and good response for the technology.

PART V-FRONTLINE DEMONSTRATIONS

5.A. Summary of FLDs implemented during 2012-13

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)	No. of farmers/ demonstration				Reasons for shortfall in achievement
									Proposed	Actual	SC/ST	Others	Total	
1.	**Oilseeds**													
2.	**Pulses**	Rainfed	Kharif 2012	Redgram	BRG-2	-	ICM	• Use of BRG-2. Seed @ 15 kg / ha. • $ZnSO_4$ application @ 15 kg / ha. • Spray with profenophos and quinolphos @ 2 ml /l	7.5	7.5	20	03	23	
		Rainfed	Rabi 2012	Bengalgram	JG -11	-	ICM	• Use of JG-11 seeds 62.5 kg / ha. • Seed treatment and soil application with *Trichoderma*. • Use of maize / jowar as a trap crop • Spray with profenophos @ 2 ml / l	7.0	7.0	7.0	10	17	

3.	**Cereals**	Irrigated	Kharif 2012	Rice	Bpt Sona	-	Mechanization	• Use of transplanter • Raising the seedling in nursery • 10 kg / acre • 55-60 seedling per sqm.	10	10	05	20	25	
					Bpt Sona	-	IPM	• Nursery bed seedling dip in Pseudomonas *flurescence* solution. • Seedling dipin carbosulfon solution for 10 minutes • Application of carbofuron 3 G @ 20 kg / ha	5.0	5.0	3	07	10	
		Rainfed	Kharif 2012	Maize + Redgram	BRG-2	NAH 1137	ICM	• Intercropping with redram • Application of $ZnSO_4$ @ 5kg / acre • RDF	05	6.4	-	15	15	-
		Rainfed	Kharif -2012	Foxtail millet	HMT100-1	-	ICM	• Integrated crop management in foxtail millet	5	5	2	10	12	
4.	**Millets**	Rainfed	Kharif 2012	Ragi	GPU-28	-	ICM	• Use of HYV • Seed treatment with bio fertilizers	10	10	02	19	21	

5.	**Vegetables**													
	French bean	Irrigated	Kahrif 2012-13	French bean	Arka Suvidha	-	HYV demonstration	Arka Suvidha	2.0	2.0	03	07	10	
	Cow pea	Irrigated	Kahrif 2012-13	Cow pea	Arka Suman	-	HYV demonstration	Arka Suman	2.0	2.0	02	08	10	
	Dolichos bean	Irrigated	Rabi 2012-13	Dolichos bean	Arka Samrudhi	-	HYV demonstration	Arka Samrudhi	2.0	--	--	--	--	Non availability of seeds
	Tomato	Irrigated	Kharif -2012	Tomato	Arka Ananya	-	ICM	Integrated crop management in tomato	3	3	15	-	15	

6	Commercial	Rainfed	Kharif 2012	Cotton	-	MRC	IPM	• Wider spacing • Spraying against sucking pest • Use of micro and macro nutrient	10	14	16	19	35	
		Irrigated	Kharif 2012	Sugarcane	CO 86032	-	IPM	• Soil application of carbofuron 3 g @ 10 kg / ha • Earthing up operation after 6^{th} + 10^{th} week after planting. • Removal + burning of affected shoots • Spray with chlorpyriphos @ 2 ml /l	10.0	10.0	05	06	11	
7	Plantation crops													
		Arecanut	Irrigated	Kharif 2012-13	Velvet beans	Local	Integrated nutrient management	Velvet beans as green manure crop	04	04	03	07	10	
8	Fruits	Rainfed	Rabi-2012	Mango	Alfanso	-	IPM	• Application of DDVP in holes • Rejuvenation of cambium by using healer cum sealer	-	-	02	03	05	
		Rainfed	Rabi 2012-13	Mango	Alphanso	-	Integrated nutrient management	Mango Special	2.0	2.0	1	04	05	

9.	Dairy	Stall feeding	Nov-12	Dairy cows	HFX	-	Clean milk production	Use of cow mats for better performance in dairy cattle	05	05	5			-
10	Fodder	Irrigated	Kharif 2012	Napier	DHN-6	-	Fodder scarcity	Production of HYV of DHN-6 fodder crop	1 ha	1 ha	0.2 ha x 5 no.s			-
11	Poultry	Backyard rearing	Oct. 2012	Poultry Birds	Swarnadhara	-	-	Rearing Swarnadhara poultry birds in backyard	5	5	10 birds x 5 no.s			-
12	Sheep and Goat	Free range	Sept 2012	Sheep	Local	-	-	Use of broad spectrum Anthelmatics in small ruminants	05	05	5 sheep x 5 farmers			-
13	Fisheries	Irrigated	Kharif 2011-12	Fisheries	JGL (Rice) *Catla, Rohu and Common Carp*	-	Integrated fish farming	Rice cum fish culture in rice growing plots.	4.21 guntas	4.21 guntas	-	01	01	Crop was vitiated in one farmer's field due to water shortage

5.A.1. Soil fertility status of FLDs plots during 2012-13

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.	Cereals	Irrigated	Kharif 2012	Rice	Bpt Sona	-	IPM	Integrated management of root knot nematode in rice	2012	L	M	M	Rice
		Irrigated	Kharif 2012	Rice	Bpt Sona	-	Mechanization	Mechanization in rice transplanting	2012	L	M	M	Rice
		Rainfed	Kharif - 2012	Maize	-	NAH-1137	ICM	Integrated crop management in maize	Kharif -2012	M	L	M	Maize
2.	Millets	Rainfed	Kharif - 2012	Ragi	GPU-28	-	ICM	Integrated crop management in Ragi	Kharif -2012	M	L	M	Maize
		Rainfed	Kharif - 2012	Foxtail millet	HMT100-1	-	ICM	Integrated crop management in foxtail millet	Kharif -2012	M	L	M	Ragi
3.	Pulses	Rainfed	Kharif 2012	Redgram	BRG-2		ICM	Integrated crop management in redgram	2012	M	M	M	Redgram
		Rainfed	Rabi 2012	Bengalgam	JG-11		ICM	Integrated crop management in bengalgram	2012	L	M	M	Maize
4	Oilseeds												

5	Commercial	Irrigated	Kharif 2012	Sugarcane	CO 86032		IPM	Integrated management of early shoot borer in sugarcane	2012	M	M	M	Sugarcane
		Irrigated	Kharif 2012	Cotton	-	Bt Private hybrid	ICM	Integrated management of sucking pests in cotton	Kharif-2012	M	M	M	Maize
6.	Vegetables												
		Irrigated	Kahrif 2012-13	French bean	Arka Suvidha	-	HYV demonstration	Arka Suvidha	Kharif 2012-13	L	M	M	Maize
		Irrigated	Kahrif 2012-13	Cow pea	Arka Suman	-	HYV demonstration	Arka Suman	Kharif 2012-13	M	M	M	Areca nut
		Irrigated	Kharif - 2012	Tomato	Arka Ananya	-	ICM	Integrated crop management in tomato	Kharif -2012	M	L	M	Tomato
7.	Fruit	Rainfed	Rabi 2012	Mango	Alphanso	-	IPM	Integrated management of stem borer in mango	2012	L	M	M	Mango
		Rainfed	Rabi 2012-13	Mango	Alphanso	-	Integrated nutrient Management	Mango Special	Rabi 2012-13	M	M	M	Mango
8	Plantation crop Arecanut												
		Irrigated	Kharif 2012-13	Velvet beans	Local	-	Integrated nutrient Management	Velvet beans as green manure crop	Kharif 2012-13	M	M	M	Banana

Note: L=Low, M= Medium

5.B. Results of Frontline Demonstrations

5.B.1. Crops

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	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																			
Rice	Mechanization in rice transplanting	Bpt Sona	-	Irrigation	25	10	65.25	60.80	61.25	55.75	9.86	33460	88813	55353	2.65	37250	80837	43587	2.17
	Integrated management of root knot nematode in rice	Bpt Sona	-	Irrigated	10	05	58.45	43.25	55.25	46.75	18.18	40300	82875	42575	2.05	44750	65450	20700	1.46
Maize	Integrated crop management for improving maize productivity	BRG-2`	NAH-1137	Rainfed	16	6.4	59.4	56.3	57.0	50.7	12.42	31000	65550	34550	2.11	32500	58305	25805	1.79
Millets																			
Ragi	ICM in HYV ragi	GPU-28	-	Rainfed	21	10	21.30	16.80	18.50	14.80	25.00	15800	33300	17500	2.10	15800	26640	10840	1.68
Foxtail millet	Integrated crop management in foxtail millet	HMT 100-1	-	Rainfed	12	05	10.4	10.0	10.2	7.8	30.76	4500	11220	6720	2.49	4200	8580	4380	2.04

Redgram	Integrated crop management in redgram	BRG-2	-	Rainfed	23	7.5	8.30	4.90	8.10	5.80	39.65	9500	24900	15400	2.62	8100	17400	9300	2.14
Bengalgram	Integrated crop management in bengalgram	JG-11	-	Rainfed	17	7.0	10.30	6.80	9.10	6.70	35.82	10800	29120	18320	2.69	9400	21440	12040	2.28
Oilseeds																			
Plantation crop																			
Arecanut	Velvet beans as intercrop in arecanut	Mcuna spp.		Irrigated	10	04	23.63	17.83	22.43	16.32	37.43	61372	224300	162928	3.65	54382	178300	123918	3.27
Vegetables																			
French bean	HYV	Arka Suvidha	-	Irrigated	10	2.0	159	134	148.7	113.4	31.12	62489	148700	86211	2.37	56824	90720	33896	1.59
Cow pea	HYV	Arka Suman	-	Irrigated	10	2.0	156	132	146	102	43.13	42,239	1.16,800	74,561	2.76	32.833	81,600	48,767	2.48
Tomato	ICM in Tomato		Arka Ananya	Irrigated	15	03	366	338	352	244	44.26	45500	123200	77700	2.7	41300	85400	44100	2.06
Fruit																			
Mango	Integrated management of stem borer in mango	-	Alphanso	Irrigated	05	-	It is in progress.												
	Foliar application of Mango Special	-	Alphanso	Irrigated	05	02	153.4	132.2	147.8	113.3	30.45	34289	147800	113511	4.31	31437	113300	81863	3.60
Sugarcane	Integrated management of early shoot borer in sugarcane	CO 86032	-	Irrigated	11	10.0	10 month old crop												

Data on additional parameters other than yield (viz., reduction of percentage in weed/pest/ diseases etc.)

Crop	Data on other parameters in relation to technology demonstrated		
	Parameter with unit	Demo	Check
Rice	No. of seedling / sqm	55	31
	No. of tillers / hill	46	33
	Cost of weed management / ha (Rs.)	1000	2500
Rice	% incidence of root knot nematode	4.0	20.0
Maize	Plant height (cm)	169.2	167.9
	No. of rows / cob	13.8	13.1
Ragi	Plant height (cm)	82.6	77.5
	No. of ear head / plant	3.9	3.5
	No. of fingers / head	5.2	4.6
Redgram	No. of pods / plant	61.3	47.4
	% pod borer incidence	5.0	25.0
Bengalgram	% pod borer incidence	5.0	22
	% Wilt incidence	4.0	18
French bean	Av.Plant height(cm)	50.52	41.6
	Av.No. of branches /plant	5.5	4.1
	Av.Pod length (cm)	17.01	13.4
	Av.Green pod yield (q/ha)	148.7	113.4
Cow pea	Av.Plant height(cm)	69.3	52.1
	Av.No. of pods/plant	32.9	28.7
	Av.Pod length (cm)	14.47	13.3
	Av.Green pod yield (q/ha)	146	102
Foxtail millet	Av. Plant height (cm)	90.20	83.1
Mango	Number of fruits/tree	683	627
Tomato	Av. Plant height (cm)	83.88	65.00
	Av. No. of fruits / plant	42.6	31.2
Arecanut	Number of inflorescence / palm	4.5	2.4
	Percent nut drop	23.4	42.9
	Percent Hidimundige	16.3	43.2

5. B.2. Livestock and related enterprises

1. Dairy Farming

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield (q/ha)				% 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	AV										
Dairy Farming	Use of cow mats for better performance in dairy cattle	-	05	05	-	-	-	-	-	-	-	-	-	-	-	-	-

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	**Demo**	**Check if any**
• Incidence of wound	Nil	More
• Construction cost	30 % less	More
• Slipping problems	Nil	More
• Time taken for cleaning	50 % less	More
• Water consumption	50 % less	More
• Milk yield	10-15 % more	-

2. Poultry Rearing

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield (q/ha)				% 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	AV										
Poultry Rearing	Rearing Swarnadhara birds in backyard	Swarnadhara Hybrid	05	05 (10 no)	2.5 kg in 8 weeks	2.1 kg in 8 weeks	2.3 kg in 8 weeks	0.8 kg in 8 weeks	187.5	50	184	134	3.68	30	64	34	2.13

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	**Demo**	**Check if any**

3. Fodder

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield units				% 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	AV										
Fodder	Production of HYV of DHN-6 Fodder crop	Hybrid	05	05	230 tons / ha	190 tons / ha	210 tons / ha	150 tons / ha	40	25000	90000	65000	3.6	20000	55000	35000	2.75

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	**Demo**	**Check if any**
• Palatability	High	Less
• Voluntary intake	More	Less
• Serration on the leaf blades	Less	More

4. Sheep and Goat

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Yield				% 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	AV										
Sheep Farming	Use of broad spectrum anthelmentic in small ruminants	Bellary cross	05	05	3.2 kg per month	2.8 kg per month	3.0 kg per month	1.8 kg per month	66.6	138	900	762	6.52	117.0	540	423	4.61

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	**Demo**	**Check if any**
-	-	-

5. B.3. Fishries

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield				% 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	AV										
Fisheries	Rice cum fish culture in rice growing plots.	*JGL* *Catla, Rohu and Common carp*	-	Irrigated	01	4.21 guntas	-	-	51.08 q, Rice 13.08 q. fish	78.14 q. rice	-	91102.00	136900.00	45798.00	1.5	66462.00	109350.00	42888.00	1.64

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**
Body weight gain in g.	Average body weight of fish in FLD ponds 1200 g		-
Average height of rice plant	75 cm		-
	Before	**After**	
N kg / acre	67.7	87.8	
P kg / acre	8.75	9.8	
K kg/acre	124	133	

5.B.4. Other enterprises

Cotton

Summary of demonstrations conducted under FLD cotton

Sl. No.	Category	Technology Demonstrated	Hybrid	Season and year	Area (ha)		No. of farmers/ demonstration		
					Proposed	Actual	SC/ST	Others	Total
1.	Cotton	Management of sucking pest in cotton	Private	Kharif 2012	10	14	16	19	35

Performance of demonstrations

Farming situation	Technology Demonstrated	Area (ha)	No.of demo.	Hybrid	Yield (q/ha)		% Increase	Economics of demonstration (Rs./ha)				Economics of local check (Rs./ha)			
					Demo	Local		Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
Rainfed	Management of sucking pest in cotton	14	35	Private	13.75	10.25	34.14	31250	57063	25813	1.82	33000	42538	9538	1.28

Performance of Bt hybrids, Desi hybrids, non-Bt hybrids and Varieties in Front Line Demonstrations in cotton during 2012-13

Category	Farming situation	Technology Demonstrated	Area (ha)	No.of demo.	Variety	Hybrid	Yield (q/ha)		% Increase	Economics of demonstration (Rs./ha)				Economics of local check (Rs./ha)			
							Demo	Local		Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
Commercial	Rainfed	Management of sucking pest in cotton	14	35	-	Private	13.75	10.25	34.14	31250	57063	25813	1.82	33000	42538	9538	1.28

Extension Programmes organized in Cotton Demonstration Plots

Cotton

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Group discussion	02	55	Preliminary selection of farmer along with Department of Agriculture officer(. Bennehalli and Yedne)
2	Training	06	146	Soil sampling and sowing of cotton , role of growth regulators, Use of micronutrient and Macronutrient Sprays in cotton , Management of Sucking pests in cotton.
3	Field visit to FLD plots	05	-	• Soil sampling and collected the soil samples for analysis • Sucking pests incidence and suggested suitable measures • Leaf reddening and suggested for spraying of the MgSO4 • Flower and Squared drying and suggested for Planofix • Spraying of the KNO3 to increase the boll size
4	Method demonstration	04	70	• Preparation of the spray solution against the sucking pests and planofix solution • Preparation of the solution of MgSO4 and KNO3.
5.	Media Coverage – E-TV, Annadatha	06	-	• Tv programme-3 • News paper coverage-2 • Article in Annadata-1
6.	Field day	01	64	Conducted in collaboration with KSAMB, Bangalore

Data on additional parameters in relation to technology demonstrated:

Data on other parameters in relation to technology demonstrated		
Parameter with unit	**Demo**	**Local**
Sucking pest incidence (%)	10	35

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	Savings in labour (Rs./ha)	*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

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**	**Local**

Technical Feedback on the demonstrated technologies on all crops / enterprise

S. No	Crop / Enterprise	Name of the technology demonstrated	Feed Back
1	Rice	Mechanization in rice transplanting	• Cost of machine should be low.
2	Maize	Integrated crop management in maize + Redgram	• Short duration redgram varieties seeds should be made available to farmers through RSK.
3.	Foxtail millet	Integrated crop management in foxtail millet	• Seed should be made available through RSK.
4.	Cotton	Management of sucking pests	• Integrated pest management module should be developed.
5.	Tomato	Integrated crop management in tomato	• Need to make vegetable special available at RSK level.
6.	French bean	Popularization of Arka Suvidha	• Very good yield potential observed in demonstration plot
7.	Cow pea	Popularization of Arka Suman	• Availability of quality seeds should be ensured.
8.	Velvet beans	Intercropping in arecanut	• Pre and post soil testing need to be initiated.
9.	Mango	Use of Mango Special	• Availability of Mango Special at critical stages of crop growth.
10.			•
11.	Sheep Farming	Use of broad spectrum anthelmentic in small ruminants	• Anthelmentic should be blended with concentrate feed.
12.	Poultry Rearing	Rearing Swarnadhara birds in backyard	• Availability of birds is to be ensured.
13.	Fodder	Production of HYV of DHN-6 Fodder crop	• Fodder is highly succulent and liked by the cattle.
14.	Dairy Farming	Use of cow mats for better performance in dairy cattle	• Durability of the mat is to be ensured.
15.	Fisheries	Rice cum fish culture in rice growing plots	• Stocking of bigger size fingerlings will allow farmer to harvest a higher quality of fish in short period. • Soil health will become better in combination system as seen in soil analysis

Farmers' reactions on specific technologies

S. No	Crop / Enterprise	Name of the technology demonstrated	Feed Back
1	Rice	Mechanization of rice transplanting	• Mechanized transplanting saves 20-30 % labourers. • Higher yield (15 % increase) from the normal method of transplanting. • 15-20 % water can be saved.
2.	Maize	Integrated crop management in maize	• Inter cropping with redgram is beneficial. • Under low rainfall the cobs were completely filled.
3.	Ragi	Integrated crop management in ragi	• Higher yield than the local variety.
4.	Rice	Integrated management of root knot nematode in rice	• Farmers feels that application of biofertilizer and seedling dip in bio fertilizer pseudomonas fluroscence and carbofuron application results in reduced nematode population.
5.	Foxtail millet	Integrated crop management in foxtail millet	• Gives more yield compared to local variety.
6.	Redgam	Integrated crop management in redgram	• Farmers feels that integrated crop management practices are very useful for getting sustainable yield.
7.	Tomato	Integrated crop management in Tomato	• High yielding and reduced fruit splitting.
8.	French bean	Popularization of Arka Suvidha	• High yielding and fetches very good price in the market.
9.	Cow pea	Popularization of Arka Suman	• Improvement in soil nutrient status.
10.	Velvet beans	Intercropping in arecanut	• Enriched soil fertility with increase in arecanut yield.
11.	Mango	Use of Mango Special	• Good quality mango fruits with reduced incidence of fruit drop.
12.	Bengalgram	Integrated crop management in Bengalgram	• Trap crop jawar helps in reduction of pod borer incidence.
13.	Sugarcane	Integrated management of early shoot borer	• Earthing up and release of bioagent helps in reduced incidence of early shoot borer.
14.	Mango	Integrated management of stem borer in mango	• Healer cum sealer should be available at RSK and KVK level.
15.	Sheep Farming	Use of broad spectrum anthelmentic in small ruminants	• Body weight gain is improved.
16.	Poultry Rearing	Rearing Swarnadhara birds in backyard	• Good adoptability and better body weight gain.
17.	Fodder	Production of HYV of DHN-6 Fodder crop	• Palatability is more. Voluntary in take is good.
18.	Dairy Farming	Use of cow mats for better performance in dairy cattle	• Time and water consumption is less. Less wound incidence.
19.	Fisheries	Rice cum fish culture in rice growing plots	• Appreciated the impact of integrating rice with fish culture in an ecofriendly manner.

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

1. Rice

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Group discussion	03	40	Selection of the farmers for the FLD (Belavnur ,Jigli, Yelavati and Goniwada)
2.	Farmers training	02	45	Nursery techniques in mechanised transplanting, nutrient management in Paddy, Use of conoweeder in weeding
3.	Method demonstration	03	60	Mechanized Sowing of seeds in the trays , Transplanting of rice using walk behind transplanter. Use of conoweeder, Use of Power sprayers and preparation of spray solution.
4.	Field Visits	05	42	Attended the sowing of the seeds in trays, transplanting, use of conoweeder, power sprayer, Topdressing of fertilizers and Harvesting
5.	Media Coverage – E-TV, Annadatha	-	-	Etv – 3no. DD Chandan 1 Janathavani, Prajavani
6.	Field day	01	65	Conducted in collaboration with KSAMB, Bangalore at Belavanuru.

2. Maize

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Group discussion	01	20	Preliminary selection of farmer
2	Training	03	48	Soil sampling and fertilizer management, Topdressing and use of micronutrient application. I ntegrated pest management
3	Field visit to FLD plots	06	-	• Soil sampling and collected the soil samples for analysis • Attended the sowing of maize and redgram • Field visit to FLD plots for observation of germination • FLD plots stem borer incidence and suggested for application of furudon @10kg/acre • No rainfall for last 15 days. Crop is wilting, suggested not to apply fertilizers and go for protective irrigation. • Filed visit –seed/cob filling stage and seeds were completed filled and redgram was also in good condition
4	Method demonstration	01	34	• Application of the fertilizers and seeds in seed cum fertilizer drill.
5.	Media Coverage – E-TV, Annadatha	06	-	• Tv programme-4 • News paper coverage-2 • Article in Annadata-1
6.	Field day	01	120	Organized field day in collaboration with Line departments, ATMA on eve of technology week celebration

3. Ragi

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Group discussion	01	35	Preliminary selection of farmers
2	Training	02	37	Selection of HYV of ragi, Fertiliser management in ragi,
3	Field visit to FLD plots	03	-	• Observed the germination of the seeds • Irrigation with Sprinkler during the dry spells • Harvesting of the crops for the seed purpose.
4	Method demonstration	01	25	• Seed treatment with Bioferlisers(Azospirillum)
5.	Media Coverage – E-TV, Annadatha	03	-	• Tv programme-1 • News paper coverage-2

4.Rice

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Group Discussion	01	13	Preliminary visit for selection of farmers
2	Farmers training	02	20	Integrated management of root knot nematode in rice
3	Field Visit	04	39	Diagnostic visit, nursery bed treatment seedlings clip in bioagent
4	Method demonstration	02	23	Seedling drip and carbofuran application
5	Training for extension functionaries	-	-	-
6	Field day	01	21	Sharing experience of farmer
7	Paper coverage	01	-	Vijaya Karnataka

5.Bengalgram

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Group Discussion	01	15	Preliminary visit for farmer selection
2	Farmers training	03	48	IPDM in bengalgram
3	Field Visit	05	37	Diagnostic visit, seed treatment and trap crop usage
4	Method demonstration	02	26	Seed treatment + soil application of *Trichoderma*
5	Training for extension functionaries	01	12	Eeffect of trap crop in managing pod borer
6	Field day	01	22	Sharing experience of farmer
7	Paper coverage	01	-	Vijaya Karnataka

6. Mango

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Group Discussion	01	27	Preliminary visit for farmer selection
2	Farmers training	01	09	Integrated management of stem borer in mango
3	Field Visit	03	31	Diagnostic field visit
4	Method demonstration	02	19	Application healer cum sealer
5	Training for extension functionaries	01	11	IPDM in mango
6	Field day	-	-	-
7	Paper coverage	01	-	Vijaya Karnataka

7. Redgram

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Group Discussion	01	15	Preliminary visit for farmer selection
2	Farmers training	02	31	Integrated crop management in redgram
3	Field Visit	05	52	Diagnostic visit, pest identification
4	Method demonstration	02	27	$ZnSO_4$ application and spraying
5	Training for extension functionaries	01	18	ICM in redgram
6	Field day	-	-	-
7	Paper coverage	01	-	Kannada prabha

8. Sugarcane

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Group Discussion	01	14	Preliminary visit for farmer selection
2	Farmers training	01	11	Integrated management of early shoot borer
3	Field Visit	06	49	Diagnostic visit, application of chemical
4	Method demonstration	02	23	Earthing up and bio agent release
5	Training for extension functionaries	-	-	-
6	Field day	-	-	-
7	Paper coverage	01	-	Vijaya Karnataka

9. French bean

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	01	68	To disseminate the results of the demonstration
2	Farmers Training	01	08	Conducted on campus training on production technology of French bean
3	Media coverage	03	--	

10. Cow pea

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	01	23	To disseminate the results of the demonstration
2	Farmers Training	01	08	Conducted on campus training on production technology of Cow pea
3	Media coverage	01	--	

11. Mango

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	01	30	To disseminate the results of the demonstration
2	Farmers Training	02	38	Conducted on campus training on production technology of Mango
3	Media coverage	03	--	

12. Arecanut

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	01	114	To disseminate the results of the demonstration
2	Farmers Training	03	132	Conducted on campus training on production technology of Arecanut
3	Media coverage	03	--	

13. Foxtail millet

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Group meeting	1	35	Farmers Selection
2	Training	1	28	Integrated crop management in foxtail millet
3	Field visits	3	55	23-07-2012. 22-08-2012. 04-10-2012.
4	Media coverage	2		04-07-2012, Janathavani. 04-07-2012, Prajavani
5	Field day	1	43	

14. Tomato

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Group meeting	1	21	Farmers Selection
2	Training	3	38	Tomato cultivation practices, Integrated nutrient management in tomato. Role of micronutrients in tomato.
3	Field visits	4	65	
4	Media coverage	1		
5	Field day	1	33	

15.Dairy

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Training Programmes	02	40	-
2	Field Visits	03	-	To collect data on the demonstration
3	TV Programme	01	-	Interview given to Annadata TV by the farmer

16.Sheep

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Training Programmes	02	40	-
2	Field Visits	03	-	To collect data on the demonstration
3	TV Programme	01	-	Interview given to Annadata TV by the farmer

17.Poultry

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Training Programmes	02	40	-
2	Field Visits	03	-	To collect data on the demonstration
3	TV Programme	01	-	Interview given to Annadata TV by the farmer

18.Fodder

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Training Programmes	02	40	-
2	Field Visits	03	-	To collect data on the demonstration
3	TV Programme	01	-	Interview given to Annadata TV by the farmer

19.Fisheries

Sl.No.	Activity	No. of activities organized	Date	Remarks
1	Farmers Training	2	5-7-11 22-7-11	Farmers and site selection
		1	"Preparation of farm made fish feeds"	CIFA (RO-Bangalore) sponsored training programme
2	Group discussion	1	11-7-11	Celebrated National Fish Farmers Day at Nagarakatte.
		1	1-8-11	Planning.
		1	14-10-11	Fish fingerlings stocking in paddy blocks;
		1	17-10-11	Celebrated World Food Day; Prepared and distributed a hand out on 'Fish as food for all' during the occasion.
		1	10-7-12	Celebrated National Fish Farmers Day at Dept of Fisheries, Davanagere
3	Field visit to FLD plots	1	18-8-11	Paddy transplanting
		1	20-12-11	Harvesting of paddy
		1	30-1-12	Paddy transplanting
		1	9-2-12	Follow up visit
		1	24-5-12	Paddy harvested
		1	4-7-12	Fish harvested

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																	
Maize	Integrated crop management for improving maize productivity	NAH-1137	16	6.4	59.4	56.3	57.0	50.7	12.42	31000	65660	34550	2.11	32500	58305	25805	1.79
Oilseeds																	
Vegetables	Integrated crop management in Tomato	Arka Anaya	15	03	366	338	352	244	44.26	123200	45500	77700	2.7	41300	85400	44100	2.06
Commercial crops																	
Cotton	Management of sucking pest in cotton	MRC-7918	35	14	--	-	13.75	10.25	34.14	31250	57063	25813	1.82	33000	42438	9538	1.28

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	--	--	--	--	--	--	--	--	--	--
Cropping Systems	--	--	--	--	--	--	--	--	--	--
Seed production	--	--	--	--	--	--	--	--	--	--
Integrated Crop Management	3	35	4	**39**	37	2	**39**	72	6	**78**
Soil and Water Conservation	1	9	--	**9**	3	--	**12**	12	--	**12**
Integrated Nutrient Management	--	--	--	--	--	--	--	--	--	--
Seed treatment	1	16	-	**16**	--	--	--	16	--	**16**
Environment Management	--	--	--	--	--	--	--	--	--	--
Water Management	--	--	--	--	--	--	--	--	--	--
Horticulture	--	--	--	--	--	--	--	--	--	--
a) Vegetable Crops	--	--	--	--	--	--	--	--	--	--
Protective cultivation	1	8	--	**8**	--	--	--	8	--	**8**
b) Fruits	--	--	--	--	--	--	--	--	--	--
Cultivation of Fruit	1	3	--	**3**	8	--	**8**	11	--	**11**
Others	--	--	--	--	--	--	--	--	--	--
Integrated Nutrient Management	--	--	--	--	--	--	--	--	--	--
Nutritive Value	--	--	--	--	--	--	--	--	--	--
c) Ornamental Plants	--	--	--	--	--	--	--	--	--	--
d) Plantation crops	--	--	--	--	--	--	--	--	--	--
Production and Management technology	1	7		**7**	1		**1**	8		**8**

Others	--	--	--	--	--	--	--	--	--	--
e) Tuber crops	--	--	--	--	--	--	--	--	--	--
f) Spices	--	--	--	--	--	--	--	--	--	--
g) Medicinal and Aromatic Plants	--	--	--	--	--	--	--	--	--	--
Soil Health and Fertility Management	--	--	--	--	--	--	--	--	--	--
Integrated nutrient management	3	1	13	**14**	13	16	**29**	26	30	**56**
Livestock Production and Management	--	--	--	--	--	--	--	--	--	--
Dairy Management	2	26	4	**30**	2	2	**4**	28	6	**34**
Home Science/Women empowerment	--	--	--	--	--	--	--	--	--	--
Agril. Engineering	--	--	--	--	--	--	--	--	--	--
Plant Protection	--	--	--	--	--	--	--	--	--	--
Integrated Pest Management	3	28	--	**28**	12	--	**12**	40	--	**40**
Integrated Disease Management	2	20	--	**20**	5	--	**5**	25	--	**25**
Fisheries	--	--	--	--	--	--	--	--	--	--
Integrated fish farming	2	9	25	**34**	1	23	**24**	10	48	**58**
Others	--	--	--	--	--	--	--	--	--	--
Fish polyculture	1	29	--	**29**	21	--	**21**	40	--	**40**
Production of Inputs at site	--	--	--	--	--	--	--	--	--	--
Capacity Building and Group Dynamics	3	20	21	**41**	13	9	**22**	**33**	**30**	**63**
Agro-forestry	--	--	--	--	--	--	--	--	--	--
TOTAL	**24**	**211**	**67**	**278**	**116**	**52**	**177**	**329**	**120**	**449**

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	--	--	--	--	--	--	--	--	--	--
Integrated Crop Management	4	36		**36**	35	--	**35**	71	--	**71**
Integrated Nutrient Management	4	67	10	**77**	7	--	--	--	--	
Water Management	1	8		**8**	4	--	**4**	12	--	**12**
Production of organic inputs	2	19		**19**	7	--	**7**	26	--	**26**
Others	--	--	--	--	--	--	--	--	--	--
Mechanization in rice and other crops	4	80	-	**80**	4		**4**	84		**84**
Seed treatment	4	41	11	**52**	7	1	**8**	48	12	**60**
Land preparation techniques for rain water harvest	1	9	--	**9**	4	--	**4**	13	--	**13**
Intercropping in Maize	1	15	--	**15**	3	--	**3**	18	--	**18**
Horticulture	--	--	--	--	--	--	--	--	--	--
a) Vegetable Crops	--	--	--	--	--	--	--	--	--	--
Others	--	--	--	--	--	--	--	--	--	--
b) Fruits	--	--	--	--	--	--	--	--	--	--
Cultivation of Fruit	1	30	--	**30**	--	--	--	30	--	**30**
Banana suckers selection and their treatment	1	22	--	**22**	--	--	--	22	--	**22**
Integrated Nutrient Management	2	49	--	**49**	--	--	--	49	--	**49**
c) Ornamental Plants	--	--	--	--	--	--	--	--	--	--
d) Plantation crops	--	--	--	--	--	--	--	--	--	--
Production and Management technology	3	53	10	**63**	24	4	**28**	77	14	**91**
e) Tuber crops	--	--	--	--	--	--	--	--	--	--
f) Spices	--	--	--	--	--	--	--	--	--	--
g) Medicinal and Aromatic Plants	--	--	--	--	--	--	--	--	--	--

Soil Health and Fertility Management	--	--	--	--	--	--	--	--	--	--
Integrated nutrient management	--	--	--	--	--	--	--	--	--	--
Micro nutrient deficiency in crops	--	--	--	--	--	--	--	--	--	--
Balanced use of fertilizers	--	--	--	--	--	--	--	--	--	--
Livestock Production and Management	2	21	--	**21**	13	--	**13**	34	--	**34**
Home Science/Women empowerment	--	--	--	--	--	--	--	--	--	--
Others	--	--	--	--	--	--	--	--	--	--
Post harvest technology	--	--	--	--	--	--	--	--	--	--
Agril. Engineering	--	--	--	--	--	--	--	--	--	--
Plant Protection	--	--	--	--	--	--	--	--	--	--
Integrated Pest Management	1	13	--	**13**	3	--	**3**	16	--	**16**
Integrated Disease Management	**2**	27	--	**27**	15	--	**15**	42	--	**42**
Fisheries	1	9	--	**9**	1	--	**1**	10	--	**10**
Production of Inputs at site	--	--	--	--	--	--	--	--	--	--
Capacity Building and Group Dynamics	--	--	--	--	--	--	--	--	--	--
Others (pl.specify):	--	--	--	--	--	--	--	--	--	--
Economics of organic and inorganic rice production	--	--	--	--	--	--	--	--	--	--
Marketing of organic paddy	--	--	--	--	--	--	--	--	--	--
Agro-forestry	--	--	--	--	--	--	--	--	--	--
TOTAL	**34**	**499**	**31**	**530**	**127**	**5**	**125**	**552**	**26**	**578**

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
Any other										
1. Soil and water testing	1	--	11	**11**		2	**2**	--	13	**13**
2. Production and use of organic in puts.	1	8	--	**8**	4	--	**4**	12	--	**12**
3. Importance of medicinal plants	1	--	--		2	3	**5**	2	3	**5**
4. Renewable energy sources with emphasis on biofuel	1	1	2	**3**	4	--	**4**	5	2	**7**
5. Environmental economics	1	--	20	**20**	--	10	**10**	--	30	**30**
6)Coconut climbing and plant protection	3	41	1	**42**	20		**20**	61	1	**62**
TOTAL	**8**	**50**	**34**	**84**	**30**	**15**	**45**	**80**	**49**	**129**

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

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
1. Role of NGO personnel in bio-fuel production	1	40	11	51	14	13	27	54	24	78
2. Breeding in milch animals	1	31	--	31	19	--	19	50	--	50
Total	**2**	**71**	**11**	**82**	**33**	**13**	**46**	**104**	**24**	**128**

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
1. Bharat Nirman Youth Training	5	67	22	89	39	18	57	106	40	146
Total	**5**	**67**	**22**	**89**	**39**	**18**	**57**	**106**	**40**	**146**

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	14	--	**14**	16	--	**16**	30	--	**30**
2	**Production and value addition**	--	--	--	--	--	--	--	--	--	--
3	**Soil health and fertility management**	--	--	--	--	--	--	--	--	--	--
4	**Production of Inputs at site**	--	--	--	--	--	--	--	--	--	--
5	**Methods of protective cultivation**	--	--	--	--	--	--	--	--	--	--
6	**Others**	--	--	--	--	--	--	--	--	--	--
	a) Nutrient management in banana	4	170	1	**171**	27	1	**28**	197	2	**199**
	b) Production technology in arecanut	1	119	--	**119**	6	6	**12**	125	6	**131**
	c) Production technology in vegetables	2	47	--	**47**	4	--	**4**	51		**51**
	d) Floriculture	1	87	20	**107**	9	--	**9**	96	20	**106**
	e) Coconut climbing and plant protection	3	41	1	**42**	20	--	**20**	61	1	**62**
7	**Post harvest technology and value addition**	--	--	--	--	--	--	--	--	--	--
7a	**Others**	--	--	--	--	--	--	--	--	--	--
	Home made medicines for diabeties	1	17	14	**31**	--	--	--	17	14	**31**
8	**Farm machinery**	--	--	--	--	--	--	--	--	--	--
9	**Livestock and fisheries**	--	--	--	--	--	--	--	--	--	--
10	**Livestock production and management**	--	--	--	--	--	--	--	--	--	--
10.a.	Animal Nutrition Management	--	--	--	--	--	--	--	--	--	--
10.b	Fisheries	1	--	32	**32**		32	**32**	--	64	**64**
10.c.	Others :Integrated Dairy management and vermicompost production	16	5	431	**436**		328	**328**	5	759	**764**
11.	**Home Science**	--	--	--	--	--	--	--	--	--	--
12.	**Agricultural Extension**	30	--	--	--	--	--	--	--	--	--
	Total	**29**	**500**	**499**	**999**	**82**	**367**	**449**	**582**	**866**	**1438**

Details of sponsoring agencies involved

1. Department of Horticulture, Davanagere
2. CBTMPCS, UAS (Bengaluru).
3. CDB, Bengaluru.
4. Karnataka State Agricultural Marketing Board, Bengaluru
5. Zilla Panchayath, Davanagere
6. MCF Ltd. Davanagere

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Coconut climbing and plant protection	3	41	1	42	20	--	20	51	1	52
Total	**3**	**41**	**1**	**42**	**20**	**--**	**20**	**51**	**1**	**52**

Part-VIII. Extension Programmes

Activities	No. of Programmes	No. of Farmers	No. of Extension Personnel	Total
Scientific field visit	98	--	--	--
Farmers visit to KVK	939	1051	4	1055
Method Demonstration	4	83	5	88
News paper coverage	48	--	--	--
Field day	14	642	25	667
Guest lectures	41	1297	95	1392
Radio programmes	20	--	--	--
TV programmes	37	--	--	--
Film shows	34	1007	--	1007
Extension literature distributed	44	1650	8	1658
Bi monthly meeting	6	--	312	312
Exhibition	5	3850	--	3850
Workshops	3	250	23	273
Parthenium awareness week	1	15	--	15
Agriculture technology week	1	619	36	655
Popular articles	8	--	--	--
Diagnostic field visits	46	--	--	--
Exposure visits	2	40	-	40
Group meetings	6	162	21	183
Literature developed	6	--	--	--
vKVK	27	5400	--	5400
Davangere Dairy Farmers Association Meeting	12	342	--	342
Animal health campaign	2	230 Animals treated		
Agri- camp	2	117	18	135
Farmers scientist interaction	1	29	--	129
International Women’s Day	1	60	--	60
World Water day and World meteorological day	1	64	--	64
Women in agriculture day	1	50	--	50

World environmental day	1	600	--	600
National Fish farmers day	1	50	5	55
World Food day	1	84	45	129
Kissan Summan Diwas	1	47	--	47
News letter	4	--	--	
Total	**1417**	**17464**	**597**	**18161**

PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIALS

9.A. Production of seeds by the KVKs

Crop category	Name of the crop	Variety	Quantity of seed (Q)	Value (Rs)	Number of farmers to whom provided
Cereals	Foxtail millet (Seed)	HMT 100-1	1.65	3,274	1
Pulses	Redgram(Seed)	BRG-2	2.00	8,035	2
Commercial crops	Sugarcane (Setts)	Co 86032 & COVC-2003/165	115.00	1,87,449	2
Spices & Plantation crops	Banana (Suckers)	Yelakki & G-9	450 nos.	900	2
Total				**1,99,658**	**7**

9.B. Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Number	Value (Rs.)	Number of farmers to whom provided
Vegetable seedlings	Curryleaf	Local	4	40-00	1
	Drumstick	PKM-1	4090	35040-00	59
Fruits	Mango	Alphanso	498	15845-00	31
	Jack fruit	Local	23	230-00	11
	Sapota	Local	220	9305-00	15
	Lemon	Local	940	6588-00	61
Plantation	Arecanut	Local	555	8325-00	6
Fodder crops	Fodder Slips	DHN-6	43856	19660-00	19
	Azolla culture	*Azolla pinnata*	92.5 kg	1850-00	38
Total				**96893-00**	**261**

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	Trichoderma	571	26050-00	127
Others	Vermicompost	13691	68455-00	84
	Earthworms	176.5	44187.50	39
	Banana special	4697	704550-00	542
	Mango special	68	13024-00	29
	Vegetable special	14	1920-00	6
Total		**19217.5**	**858186.50**	**827**

9.D. Production of livestock materials

Particulars of Live stock	Name of the breed	Unit	Value (Rs.)	Number of farmers to whom provided
Dairy animals				
Others	Milk	9004.25 L	213648-00	40
Poultry				
Piggery				
Others - Sheep	Bellary Deccani X	15 No.	40000-00	3
Fisheries				
Advanced Fingerlings	Catla, Rohu, Common carps	3500 No.	15500-00	12
Ornamental Fishes:	Guppies, Mollies, Sword tails	4306 No.	25785-00	251
Food fishes	*Rohu and Common Carps, Catla, pangus*	416 Kg	21318-00	56
Total			**316251-00**	**362**

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:

Name: Taralabalu Krishi Sinchana, Quarterly, Started in October 2008

Periodicity:

Sl.No.	Quarterly (2012-13)	Volume	Issue
1.	April – June	5	3
2.	July- September	5	4
3.	October- December	6	1
4.	January- March (2013)	6	2

No. of copies: 500/ issue

(B) Literature developed/published

Item	Title	Authors name	Number
News letters	Taralabalu Krishi Sinchana	Programme Coordinator	2000/ year
Popular articles	Importance of Fruits in Health and Diet	Sri. Basavanagowda M.G. Dr. Devaraja T.N.	'Asmitha' Souvenior Horticulture Department, Davangere.
	Improved Production Practices in Banana	Dr. Devaraja T.N. Sri. Basavanagowda M.G. Sri. Prasannakumara N. Dr. Pradeep H.M.	'Asmitha' Souvenior Horticulture Department, Davangere.

Popular articles	Integrated Nutrient Management in Cotton	Sri. Mallikarjuna B.O. Dr. Pradeep H.M.	Annadatha, Augu.-2012
	Production of Millets in Delayed Monsoon	Sri. Mallikarjuna B.O. Dr. Devaraja T.N.	Annadatha, Augu.-2012
	Integrated Pest Management in Maize	Sri. Prasannakumara N. Sri. Mallikarjuna B.O.	Annadatha, July.-2012
	Fish Farming by Organic Farmers	Dr. Devaraja T.N. Sri. Basavanagowda M.G.	Sirisamruddi, Nov.-2012
	Role of Silage in Dairying	Dr. Shashidar M.D. Sri. Mallikarjuna B.O.	Annadatha, Nov.-2012
	Coconut Climbing Instruments	Sri. Basavanagowda M.G. Dr. Devaraja T.N.	Janathavani, Feb. 2013
Extension literature (Folders)	A glance at our KVK 2005-2012	Dr. Devaraja T.N. Sri. Raghuraja J.	1000
	Taralabalu Banana Special	Dr. Devaraja T.N. Sri. Basavanagowda M.G.	1000
Radio Talk	Hitech dairy and its efficacy	Dr. Jayadevappa G.K	--
	Oraganic manures and pesticides	Sri. Vijayakumar S.B.	--
	Seed selection, land preparation and fertilizer management in Cotton	Sri. Mallikarjuna B.O.	--
	Improved production practices in maize	Sri. Mallikarjuna B.O.	--
	Importance of green manure crops	Dr. Pradeep H.M.	--
	Integrated management of hidimundige in arecanut	Sri. Prasanna Kumara N.	--
	Fish farming – a boon to dryland farmers	Dr. Devaraja T.N.	--
	Integrated fish farming	Dr. Devaraja T.N.	--
	Fish farming – a boon to rainfed farmers	Dr. Devaraja T.N.	--
	Integrated crop management in maize	Sri. Mallikarjuna B.O.	--
	Nutrient management practices in delayed mansoon	Dr. Pradeep H.M.	--
	Transplanting in redgram	Sri. Revanasiddappa G.B.P.	--

Radio Talk	Improved animal rearing practices	Dr. Jayadevappa G.K.	--
	Integrated horticulture	Sri.Basavanagowda M.G.	--
	Integrated pest management in crops	Sri. Prasannakumara N.	--
	Integrated pest and disease management in banana	Sri. Prasannakumara N.	--
	Role of Taralabalu KVK in ATMA	Dr. Devaraja T.N.	--
	Management of pest and disease in arecanut	Sri. Prasannakumara N.	--
	Integration of fisheries with agriculture	Dr. Devaraja T.N.	--
	Soil and water conservation methods in dryland	Sri. Mallikarjuna B.O.	--
T.V. Programmes	Management of shoot and fruit borer in brinjal	Sri. Prasannakumara N.	--
	Soil sample collection and recommendation based on soil test report	Dr. Pradeep H.M.	--
	Use of agriculture implements in NICRA project	Sri. Mallikarjuna B.O.	--
	Mechanization in farming	Sri. Mallikarjuna B.O.	--
	Scientific dariying	Dr. Jayadevappa G.K.	--
	Selection of hybrids, sowing and fertilizer management in maize	Sri. Mallikarjuna B.O.	--
	Management of blight and leaf curl in Tomato	Sri. Prasannakumara N.	--
	Micronutrient management in BT Cotton	Sri. Mallikarjuna B.O.	--
	Custom hiring center in Siddanuru	Dr. Devaraja T.N.	--
	Farm practices in late monsoon condition	Sri. Mallikarjuna B.O.	--
	Management of leaf reddening in Cotton	Sri. Mallikarjuna B.O.	--
	Selection of seed setts in sugarcane	Sri. Mallikarjuna B.O.	--
	Land preparation and nursery for mechanized transplanting	Sri. Mallikarjuna B.O.	--
	Wilt and stem borer management in banana	Sri. Prasannakumara N.	--
	Management of leaf curl in papaya	Sri. Prasannakumara N.	--
	Use of rubber mats in scientific dairy management	Dr. Jayadevappa G.K.	--

T.V. Programmes	Use of green manuring in horticulture crops	Sri. Basavanagowda M.G.	--
	Inter cropping of red gram in maize	Sri. Mallikarjuna B.O.	--
	Benifits of mechanized transplanting in rice	Sri. Mallikarjuna B.O.	--
	Benifits of mechanized transplanting in rice	Sri. Mallikarjuna B.O.	--
	Production practices in banana	Sri. Basavanagowda M.G.	--
	Clean milk production	Dr. Jayadevappa G. K	--
	Weed management in paddy	Sri. Mallikarjuna B.O.	--
	Management of thrips and leaf minor in onion	Sri. Prasannakumara N.	--
	Firtilizer management in rice	Sri. Mallikarjuna B.O.	--
	Improved production practices in sunflower	Sri. Mallikarjuna B.O.	--
	Nutrient management in Arecanut	Sri. Basavanagowda M.G.	--
	Thrash management in sugarcane	Sri. Mallikarjuna B.O.	--
	Coconut palm climbing by using instrument	Sri. Basavanagowda M.G.	--
	Management of pod borer in Redgram	Sri. Prasannakumara N.	--
	Management of sunscorching in arecanut	Sri. Basavanagowda M.G.	--
	Pest management in paddy nursery	Sri. Prasannakumara N.	--
	Role of KVK in comprehensive horticulture development programme	Sri. Basavanagowda M.G.	--
	Method of nursery preparation for the mechanized transaplanting in rice	Sri. Mallikarjuna B.O.	--
	Fertilizer management, seed treatment in rice nursery for transplanting	Sri. Mallikarjuna B.O.	--
	Making compost through sugercane thrash – vermicomposting	Sri. Mallikarjuna B.O.	--
	Weed management in rice	Sri. Mallikarjuna B.O.	--

10.B. Details of Electronic Media Produced

S. No.	Type of media (CD / VCD / DVD/ Audio-Cassette)	Title of the programme	Number
1.	CD	NICRA activities in Siddanur	01
2.	CD	FOCT trainings	01
3.	CD	SGSY trainings	01

10.C. Success Stories / Case studies:

Case study – 1 : Mulching Wins Bonus Crops in Drylands

- **Sri. Mallikarjuna B.O. and Dr. Devaraja T.N.**

Taralabalu KVK, Davanagere is working in Siddanuru village from past two years under NICRA project. Siddanuru village is located 15 kms away from KVK. The average annual rainfall of this village is 500mm, but the annual rainfall during 2011 (350mm) and 2012 (300 mm).The major crops are Maize, Redgram, Cotton, Vegetables, Pomegranate , Sugarcane and Arecanut.

The area under sugarcane in this village is nearly 10 acres, grown under borewell irrigation. Usual practice by the farmers after the harvest of the sugarcane to burn the trash earlier to our intervention.

a) Our Interventions:- Mulching /Intercropping

In recent years, farmers are growing the arecanut crops in dryland conditions under bore well irrigation. From last two years the rainfall has been very low (<350 mm). During the year 2011-12, KVK conducted the off campus training programme for Siddanuru farmers on the use of live mulching and intercropping in the gardens/plantations to avoid excess use of bore well water for irrigation. Then, we selected the farmers and provided them velvet beans, avare as intercrops in young arecanut plantations. Mr. Karibasappa, a young farmer whose garden aged about 5 years old had not grown any intercrops and cost of cultivation was also high for weed management. But, after our intervention under NICRA, suggested avare as intercrop in arecanut and had fetched the net income of around Rs.30,000/- for 2 acres from intercrop alone.

Mr. Raju, another progressive farmer interacted with KVK scientists and as per the suggestion of the Agronomist, planned for sugarcane mulching in arecanut garden aged about 15 years old. The mulching material was brought from the neighbouring farmer, who had planned to burn the trash. Around 6 tons of trash was spread on the ground in the month of September, 2012. Other farmers laughed at him saying that there is no meaning in doing this and it is waste of labour, time and money. But, Mr Raju was determined to follow the suggestion given by KVK experts.

b) Practicing Farmer's Experience-Mr. Raju

"After the NICRA intervention on mulching sugarcane trash in my garden for last two years, I **have not ploughed my land, no usage of weedicides, no fertilizer application and increased irrigation intervals.** Nearly, 50-60% of water had been saved by using the sprinkler irrigation method (Implement hired from our Custom Hiring Center). Now I am taking additional crops like tomato, brinjal and cotton during the summer season. Utilizing the saved water in the year December, 2012 rabi /summer cotton crop was taken up and farmer harvested nearly 10q from 1.5 acre. An additional income of around Rs.30,000 from cotton was obtained and arecanut yield had been improved compared to previous years. For cotton crop, we have practiced alternative furrow irrigation and sprinkler irrigation methods which helped in fetching additional yield and income. After the mulching practice, the net income from arecanut has reached Rs.60,000/- from 2 acre mainly owing to reduced cost of production".

c) Impact

By looking at this method of mulching with sugarcane trash, two farmers have started this practice in their arecanut gardens. The sugarcane farmers have started to charge for the trash @ Rs.2000/ tractor load. From our intervention, the burning of trash had stopped and eco friendly activities like mulching, water saving, composting have now come into practice.

Case study – 2: Impact study on spread of GPBD-4 variety of Groundnut in Alur village of Jagalur

-Raghuraja J., SMS (Agri.Extension) and Dr. Devaraja T.N., Programme coordinator

Introduction: Groundnut is the important oil seed crop of the district and it is grown in rainfed condition in Jagalur and Harapanahalli taluks. Nearly 90% of the area comes in kharif season and 10 % area in summer. Groundnut growing farmers are facing problems like low yield, incidence of pest and diseases, uncertain prices in market and labour problem etc. Since longtime TMV-2 variety was found in majority of the area.

Year wise distribution of area under groundnut in the district:

Year	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Area (ha)	18580	19290	19190	20750	26070	13190	19150	16850	21430	15290	21224	17000

It is clear from above table that area under groundnut in the district for the last 12 years are sustained (17000 ha in 2012-13).

Krishi Vigyan Kendra Interventions:

Vast majority of area under groundnut is under TMV-2 and other local varieties. Taralabalu KVK during 2007-08 kharif season had taken up Frontline Demonstration on 'Integrated Crop Management in groundnut' and introduced GPBD-4 variety for the first time in the district. The demonstration was conducted in Aluru village of Jagalur taluk. The village has approximately 200 ha under groundnut with 150 growers. The GPBD-4 variety was introduced in 5 ha (12 farmers) in kharif 2007-08. Necessary trainings, seed treatment and field visits were conducted.

Survey was conducted in Alur village in 2012 to find the spread of GPBD-4 variety reveals that 65 hectare area was under GPBD-4 variety with 40 farmers (32.5 % area). The GPBD-4 variety growing farmers observed that it is more resistant to Tikka leaf spot disease, high fodder yield (due to its greenness even at the time of harvest where as leaves are completely dried in case of TMV-2), seeds are medium sized and bold and average yield is 25 q/ha (18 to 20 q / ha in case of TMV-2). In addition, farmer used to get an average Rs. 250-00/ q more market price when compared to TMV-2.

Farmers in Alur village who are growing GPBD-4 variety in place of TMV-2 are convinced that GPBD-4 variety has more advantages on several parameters and expressed concern that seeds should be made available in RSK's because after 2-3 years farmers need to change seeds and many farmers expressed that they would like to take seeds from authorized source than from fellow farmer. The issue was brought to the attention of the Dept. of Agriculture, Davanagere and seed production was encouraged.

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

Farmers Field School: Banana is one of the most important horticulture crop of the district. The district has 2,167.2 ha. area under banana with total production of 60075 t. and average productivity of the district is 27.72 t/ha. Farmers are facing problems like wilt, leaf spot, rhizome weevil and pseudostem borer and micronutrient deficiency. So farmers field school is an important tool gather farmers together from sowing to harvest for providing information regarding above mentioned problems. This year FFS was conducted in Kenchanahalli village of Harihara taluk

Radio Talks: Subject Matter Specialists of the KVK gave Radio talks on the problems prevailing in the district. Through this we have reached large number of farmers in a short span of time.

T.V. Programmes: The technical interventions for burning problems of the major crops are disseminated through T.V. shows by the scientists. So these technologies will be tried by the large number of farmers in the district and other areas.

Sales Counter in TKVK: A Sale counter in KVK has established, where in seeds, planting materials, other inputs and publications produced by KVK are sold to farmers at nominal cost.

10.E. Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development

Indigenous technology practiced by the farmers:

1. Innovative intercropping and marketing of turmeric:

Name and Address: Sri Shankara Murthy
Lingadhalli, Nallur-post
Channagiri tq., Davanagere dist.
Mob.: 9686563061

Age: 48 years
Education: SSLC
Land Holding: 11.75 acres
Crops grown: Maize, Ragi, Redgram, Field bean, Niger, mustard, arecanut, coconut, turmeric, rose, marigold, mango, sapota, jack.
Livestock: 5 sheeps and 5 goats
Social recognition: Winner “Krishi Pandith award”, GoK , 2012

Description of Innovation: Sri Shankaramurthy has been engaged in agriculture since his childhood. Highly innovative in nature and ready to venture in to new areas of agriculture. He brought *surabhi* variety of turmeric from Tamil Nadu and grown as intercrop in arecanut in 3 acres. Turmeric was new crop in the district. For the first time he conceptualized the idea during exposure visit to Krishimela organized at UAS, Bengaluru.

Practical Utility of innovation:

Normal practice of the farmer in the district in case of intercrop in arecanut is to go for banana or betel vine or sole crop. Sri Shankar Murthy introduced turmeric as intercrop in arecanut in his 3 acre plantation. In all he obtained 900 q. of turmeric sold as planting material and earned Rs. 27.00 laksh (Rs. 3000/ q), since turmeric is new crop in this area he sold entire produce as planting material to farmers of the district.

2. Conservation of rice varieties and millets:

Name and Address: Sri A.N. Anjaneya
Kumbalore –post
Harihar – tq.
Davanagere – dist.
Mo.: 9972088929
Age: 35 years
Education: PUC
Land Holding: 7.50 acres
Crops grown: Rice, ragi, coconut, arecanut, black gram, green manur crops,
Livestock: 4 cows.
Social recognition: President, Sharana Muddana Savayava Krishikara balaga, Kumbaluru. Krishi Pandith award, GoK, 2010-11. 'Krishi Rathan' award, Karnataka Samskruthika academy, Bengalure-2011

Description of Innovation: Sri Anjeneya A.N. has developed unique interest in conserving traditional varieties of rice since past 8 years. He has grown and preserved 150 traditional varieties, out of these he has produced 60 traditional varieties in large quantity and sold for seed and consumption purpose. All these varieties are grown organically without the application of fertilizers and pesticides. Every year he has sold nearly 5 q of rice for seeds purpose pricing Rs. 10 more than that of other varieties.
Examples of conserved varieties: *Local Basumathi, Rajamudi, Chinnaponni, Rathnachudi, Navara, Selem sanna, Bangara sanna, Navile bhatha, Sugandha bhatha, Raja bhoga, Gandha saale, Andra basumathi, Siddasaale, Padma rekha, Gouri bhatha,*

Sl. No.	Crop	ITK Practiced	Purpose of ITK
3	Coconut	Paired and pentagonal planting of coconut to increase number of palms per unit area	For dissemination of information on increased coconut palms per unit area.

Part I : Personal Details of the farmer

1. **Full Name :** Sri. Renukarya M.K.
2. **Date of Birth :** Age 73 Yrs.
3. **Correspondence Address :** Mr. Renukarya M.K.
   Durga Darshini Farm
   U. Kallahalli
   Chetnahalli (P)
   Harapanahalli tq., Davanagere-dist.
4. **Contact Details:** Landline - 08192-221947 /Mobile - +91 9900110947
5. **Education :** B.Sc (Agri.)
6. **Trainings :** i) work experience as Farm Manager at Agriculture Research Station, UAS, Kathallagere .
   ii) Participated in many workshops and seminars and as resource person in many farmers trainings in Taralabalu Krishi Vigyan Kendra, Davanagere.
7. **Exposure Visits:** Attended several Krishi Melas organized by UAS. Bangalore and Dharwad.
8. **Association:**
   1. Member of Scientific Advisory Committee, Taralabalu KVK
   2. Member of Savayava Krishi Mission, Davanagere.
9. **Family Background :** Total Members : 4, Male : 2 Female : 2
10. **Other Source of Income:** Pension
11. **Social Status:**
    1. Member Governing Council of TRDF, Sirigere
    2. Member local advantgage committee, RuDSETI, Canara bank, Davanagere.
    3. President of Zilla Pragathipara Raithara Vedike, Davanagere.
    4. Vice President of IAT, Davanagere

5. Honorary President, Taluk Savayava Krishikara Balaga, Harapanahalli.

12. References / Mentor:

i) Dr. G. Eshwarappa, Programme Coordinator, CBTMPCS, UAS-B.

ii) Dr. Devaraja T.N., Programme Coordinator, Taralabalu KVK, Davanagere.

iii) Dr. R.G. Gollar, Joint Director of Agriculture, Davanagere dist.

13. Assets : Land Owned : 13 acres, Land Leased : 0

Total Land : 13 acres, Irrigated Land : 0

Source of Irrigation : Borewell

14. Crops grown :

Field crops : Maize, Ragi, Cowpea, Beans,
Horticultural Crops : Arecanut, Coconut, Sapota, Banana, Lemon, Jackfruit, Pomegranate,
Next Time: Fodder / Other Crops : Guinea Grass, Co-3, Lucern, Glyricidya, Teak**,** Pongamia pinneta, Silver oak, Survey, Raintree.

15. Special Interests :

Multi-storied cropping system in Horticulture crops. Innovative method of planting system in Horticulture crops which accounts for 50 acres plant population in 13 acres of land.

Part II : Innovation Details

1. Name of Innovation : Paired and pentagonal planting of coconut to increase number of palmes per unit area.

2. Background behind innovation :

In recent years coconut is gaining less importance, because of its uneconomical crop output and also problems like eriophid mite and BHC. In view of this no new plantation is coming up and on the contrary existing crop is removed for introducing other crops. Hence, by planting system manipulation it is thought to make the coconut plantation not a burden to farmer in its occupation of space, interference with inter crops etc.

3. Objective :

To increase number of coconut palms per unit area in order to get maximum income.

4. Inspiration behind the activity :

Dr. Renukarya M.K. who worked as Farm Manager at Agriculture Research Station, UAS, Kathallagere for 30 years wanted to put his experience in his own land which is drought prone and unfertile land to demonstrate cropping pattern in dryland Horticulture.

5. Critical steps in innovation :

Normally coconut plantation is done in three methods namely rectangular, square or quintex system. Further, if it is chosen for border planting single planting at closer or wider distance. In some situation double hedge method of planting is also practiced. In this case in order to better utilize the available land, border planting of coconut is thought of, but with an innovative idea of paired and pentagonal planting (cluster planting).

In paired system, the interspace within pair is very much compressed to 6 feet and between two pairs to 33 feet. In pentagonal type of planting 4 plants are placed, one plant is planted in centre and four plants at 8 feet distance are placed in all four directions. A single basin comprising of all 5 plants is prepared for application of inputs like water, manure etc. Four trenches are dug in between two plants with measurement of 4 feet length, 2 feet width and 1 ½ feet depth. These will act as micro catchment for collecting rain water. Organic wastes are dumped in these pits and they act as vermicomposting sites. The whole basin is covered with fallen coconut fronds and other organic wastes there by rendering zero cultivation practices.

In paired planting, two plants are planted in the pits of 3 cubic feet pits (Filled with coconut husk, compost, red earth tank silt etc) dug at 6 feet distance. A common basin is prepared for this pair. Two trenches across the slope are dug 8 feet away from the base of plant with trench size of 8 feet length, 2 feet width and 1 ½ feet depth. These trenches act as microcatchment for arresting rain runoff and also sink for dumping organic wastes, to build required biological and chemical activity in the site. The entire basin is covered with fallen coconut fronds and other available organic wastes of farm. In between two pairs, 7 arecanut plants are planted in cluster. Fodder grass and legumes are planted on basin bunds both for consolidating the basin bunds and also generate valuable fodder to cattle maintained as one of components of IFS.

6. Technical Feasibility:

The system has got very good adoptability, sustainability, gender friendliness, economical viability and adoptable by single man, as it requires least post planting management. The B: C ratio is significantly high because the cost of cultivation is reduced to insignificant level in comparison with conventional method. Paired and pentagonal planting of coconut has almost doubled the palm population when compared to conventional method of coconut planting (25'x 25').

***7.* Economic Benefits of the innovation :**

Since Paired and pentagonal planting of coconut has increased palm population when compared to conventional coconut planting, yields are increased to maximum extent (50% more) and also Paired and pentagonal planting reduces difficulties in management practices to considerable extent.

8. Cost of the innovation :

When compared to conventional method, Paired and pentagonal planting of coconut requires more numbers of coconut palms initial cost of coconut planting is little more but the management practices almost remains same but the yields are one and half time more compared to conventional method (Income: Rs.30,000/ in conventional method. Rs.40,000/ in Paired and pentagonal planting).

9. Support / External Assistance :

Basically it is learned experience throughout working period as Farm Manager was put in to practice after his retirement. However, Sri. Renukarya has studied the coconut planting system adopted in CPCRI, Kasaragod.

10. Validation of innovation :

a) Field Demonstrations : Inspired by Sri. M.K. Renukarya's Paired and pentagonal planting of coconut, 10 farmers adopted this technology till now. This technology gaining popularity as thousands of farmers of near by villages and exposure visit by Horticulture, Agriculture, CADA, KVK and other Departments arranged to his farm.

b) Testing : Yet be done. Demonstration on pentagonal planting method is taken in Taralabalu KVK, Davanagere.

11. Social Acceptability / Adoptability :

Paired row of planting has already been taken to farmers field and feed back of these farmers is giving sufficient hopes to other co farmers. The officials of Horticulture, Agriculture, KVK and UAS visited the farm including voluntary agencies and have appreciated the system and spreading the innovative idea to other farmers.

12. Constraints:

As such no direct constraints are encountered by the farmer. However, the idea thought by deep situational studies made the farmer go for paired planting in coconut garden and worked well. Next, further steps were taken to cluster planting for better utilization of resources and reduce cultivation expenses.

13. Publicity :

Bangalore Dooradarshan has telecasted the system in Chandana TV programme. It is still required to be presented in Newspapers and Radio talk. The Taralabalu KVK, Davanagere. has documented and proposed to the UAS, Bangalore for "District best farmer award". The UAS, Bangalore has awarded the honour in the Krishimela organized in 2006.

14. Any other information :

Multi-storied cropping system in Horticulture crops in accommodated plant population required for 50 acres in only 13 acres. The farmer has digged 5 farm ponds and fisheries component by Taralabalu KVK in the form of FLD. These farm ponds help in groundwater recharge there by enough water lifted through borwells not only in his farm and also nearby farmers fields. The farmer also introduced dairy and Vermicompost units and planned to introduce poultry and sheep rearing units in future days.

15. Suggestions:

Sri. Renukarya M.K. has suggested to utilize and manage water resources in efficient way in critical areas. Multi-storied cropping system in Horticulture crops for better utilization of aerial space and for better yields. Suggested to rearing of few cats in the farm where rodents and snakes problems is persisted. Meticulous farm planning is the basic tool to maximize farm income.

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Sl. No.	Crop	ITK Practiced	Purpose of ITK
4	Arecanut	ZERO CULTIVATION IN ARECANUT PLANTATION	Problems weed menace, indiscriminate use of weedicides fertilizers and labour problem faced by the arecanut growers

Part I : Personal Details of the farmer

1. **Full Name :** Sri K.S. Prabhudeva
2. **Date of Birth** 05 / 06 / 1975 Age 36 Yrs.
3. **Correspondence Address :** Sri K.S. Prabhudeva, Kathalagere,
   Kathalagere-post,
   Channagiri-tq., Davanagere-dist.
   PIN : 577 219
4. **Contact Details :** Mobile - +91 9480767064
5. **Education :** B.Sc
6. **Trainings :** Attended the following trainings:
   i) "Organic Farming in Horticulture Crops" Organized by KVK, Davanagere.
   ii) " Organic Farming in Spices" Organized by Spice Board, Shimoga.

7. Exposure Visits: Visited the following progressive farmers fields:

Farmers Name	Place	Crops
Sri A.P. Chandrashekar	Kalalawadi, Mysore	Arecanut, Coconut, Banana, Cocoa, Paddy
Sri Ramesh Raju	Mandya –Dist.	Organic Farming in Sugarcane, Cowpea and Banana
Sri Hegde	Sagar, Shimoga-Dist.	Arecanut, Horticulture Nursery, Drip Irrigation Implements Industry
Dr. Devangi Prafullachandra	Shimoga	Arecanut and its harvesting implements, paddy
Krishimela	UAS, Bangalore and Dharwad	

8. Association : i) Taralabalu Krishi Vigyan Kendra, Davanagere for trainings and information.
ii) Department of Agriculture and Horticulture for Training and Information

9. Family Background : Total Members : 7 Male : 4 Female : 3

10. Other Source of Income: Nil

11. Social Status : Associated with following organizations:

i. Secretary, District Organic Farmers Association, Davanagere.
ii. Member, Karnataka Pradesh Krishik Samaja, Davanagere-Dist.
iii. Bharathiya Krishik Samaja, New Delhi. Davanagere-Dist. Forum
iv. Member, All India Paddy Growers forum, Davanagere
v. Secretary, Centre for Bharthiya Rural Development, Davanagere (NGO)
vi. Secretary, NGO’s Association, Davanagere-Dist.

12. References / Mentor :

i. Dr. Devaraja T.N., Programme Coordinator, Taralabalu KVK, Davanagere.

ii. Prof. Chandrappa, Agriculture Research Station, Kathalagere, Channagiri-tq., Davanagere-dist.

iii. Sri Kamalanaik, Assistant Director of Agriculture, Channagiri tq., Davanagere-dist.

iv. Dr. R.G. Gollar, Joint Director of Agriculture, Davanagere dist.

13. Assets : Land Owned :11 acres, Land Leased : 0

Total Land: 11 acres, Irrigated Land : 11 acres

Source of Irrigation: Canal

14. Crops grown :

Field crops : Paddy

Horticultural Crops : Arecanut, Coconut, Cocoa, Banana, Lemon, Jackfruit, Jamboo, Pomegranate, Custard Apple.

Fodder / Other Crops : Guinea Grass, Co-1, Co-2, Velvet beans, Mulberry, Glyricidia, Teak**.**

15. Special Interests :

Organic Farming: Practicing 'organic farming' in 2 acres arecanut plantation other than 'zero cultivation'.

Part II : Innovation Details

1. Name of Innovation: Zero Cultivation In Arecanut Plantation

2. Background behind innovation : High cost of maintenance, Scarcity of labour, Indiscriminate use of fertilizers in arecanut leads to diseases and reduced yields in longer period etc. these are all some of the problems faced by arecanut growers in the district. To over come these problems and to minimize the maintenance cost of arecant plantation Sri. K.S. Prabhudeva adopted Zero Cultivation in arecanut plantation

3. Objective: Improvement of soil fertility, To increase moisture holding capacity of soil and to use weeds as source of nutrients.

4. Inspiration behind the activity : Inspired by reading book " Ondu hullina Kranthi" and visit to Sri Pushothama Rao's farm with Arecanut, coconut, vanilla in zero cultivation and organic practice. Visit to 'Vasundara farm', B.G. Kere, Molakalmuru tq. of Sri. Veerabhadrappa who is growing coconut, mulberry, sandal wood plantation, tamarind garden in "Zero Cultivation Technology".

5. Critical steps in innovation :

Weeds Management: Erratic weeds in the initial stages became problematic by obsorbing nutrients and posed difficulties in Arecanut harvesting. Therefore he has started growing velvet beans and Glyricidia in the garden. These selective plants suppress the other weeds through their vigorous growth

Management of Rodents: Earlier Rodents affected Arecanut yields by feeding on tender nuts. For this zero cultivation produced answer in the way increased number of predators and availability of other fruits for feeding.

Use of Lantana juice for inflorescence Koleroga of arecanut: For inflorescence Koleroga Sri. K.S. Prabhudeva through his earlier knowledge developed indigenously prepared 'Lantana juice' for the management of the disease. **Preparation of Lantana Juice:** 1 kg Lantana leaf boiled in 2 ltr. of water to get 1 ltr. solution and mixed with 10 % cow urine and 10 % traditional cows milk. This prepared lantana juice is sprayed to arecanut against inflorescence Koleroga. With in a year Sri. K.S. Prabhudeva controlled inflorescence Koleroga in his arecanut plantation.

Sustainable yield of arecanut with less cost : It is observed in case of Sri K.S. Prabhudeva that near equal yields of arecanuts harvested compared to other conventional arecanut growers who are spending considerable amount for inputs like Farm Yard Manure, Chemical Fertilizers and Pesticides, Herbicides. Sri K.S. Prabhudeva in his arecanut farm by practicing zero cultivation saved expenditures on above said inputs, and getting sustained yield for the last 15 years.

6. Technical Feasibility:

i. Low cost of production because of Zero Cultivation. No chemical fertilizer or pesticides application.
ii. Soil Health: Soil fertility increased due to growth of green manuring crops like Glyricidia, Mimosa pudica, Drumstick, Honge, Velvet beans, Shanka pusha, and other leguminious crops, Hybrid pudina is grown for insites green manuring. All these green manuring crops incorporated into soil and increased the moisture holding capacity of soils.
iii. Increased microbial activity results in good aeration in soil.
iv. It is observed in case of Sri K.S. Prabhudeva that near equal yields of arecanut compared to other conventional arecanut growers who are spending considerable amount for inputs like Farm Yard Manure, Chemical Fertilizers and Pesticides. Sri K.S. Prabhudeva in his arecanut farm by practicing zero cultivation saved expenditures on above said inputs.

7. Economic Benefits of the innovation :

Average expenses to maintained 1 acre arecanut garden is around Rs. 20,000/- where as Sri. K.S. Prabhudeva by practicing zero cultivation incurring Rs. 3000/ per acre. This is achieved because expensive inputs like fertilizer, organic manure are not used.

8. Cost of the innovation : Initial cost of purchase of seeds like velvet beans etc. which is very minimum and operational and maintenance cost like summer irrigation, trimming which accounts for Rs. 3000/ per annum/ acre of arecanut which is less when compared to other farmers.

9. Support / External Assistance :

After getting first hand information by visiting Mr. Purushothama Rao's farm on zero cultivation, Mr. Prabhudeva's family supported zero cultivation practices in his arecanut garden whole heartedly. Mr. Prabhudeva remembers the support he has got from educated friends in the village and relatives for this new venture "Zero Cultivation in Arecanut".

10. Validation of innovation:

a) Field Demonstrations : Inspired by Mr. Prabhudeva's Zero Cultivation Technology in arecanut, Mr. Sridhara and Mr. Manjunatha of Kathalagere village adopted this technology in their 4 acre and 2 acre arecanut gardens respectively.

b) Testing : yet to be done

11. Social Acceptability / Adoptability :

Fellow farmers who adopted zero cultivation technology in arecanut gardens are of the opinion that expenses incurred for maintenance of arecanut gardens are reduced considerably. Weight of arecanut increased by 10 % and premature dropage of nuts reduced and generally arecanut palms are free from diseases by practicing this technology.

12. Constraints :

i) Since green vegetation is maintained throughout the year, stray animals is a problem and labourers are hesitant to work in the garden because of snakes.

ii) Requires more labour for harvesting: Normally requires 4 labours to harvest 1 acre of a arecanut but in case of zero cultivation gardens, 6 labours are required because of green vegetation in the garden.

13. Publicity : Nil

14. Any other information :

For squirrel and rodent problem which feeds on tender arecanut, to manage this problem Mr. Prabhudeva has grown Guava, Cocoa fruits without harvesting as a trap crop. Mulberry is planted in the border to invite birds which feeds on insects in the garden.

15. Suggestions :

Mr. Prabhudeva has suggested to his fellow farmers that environmental friendly agriculture should be practiced without doing much damage to nature and also advised to reduce the cost of production of agricultural produce as it is important way of maximizing the income.

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Sl. No.	Crop	ITK Practiced	Purpose of ITK
5	Coconut	'Simplifying the farming system by Natural Farming'	Farmers in the district are cutting coconut trees due to incidence of mites and black headed caterpillar headed. The cost of cultivation of coconut in general are high when compare to market prices.

Part I: Personal Details

1. **Full Name:** RAGHAVA
   Father's Name: V. RAMAKRISHNA
2. **Date of Birth** 10 /11 /1975 Age 36 Yrs.
3. **Correspondence Address:** Aikanthika, #2815/392, G 3rd Main, 1st Cross,
   SS Layout, B Block,
   Davanagere
   PIN : 577 004
4. **Contact Details:** **Mobile** - +91 9448923773
   Email - aikanthika@gmail.com
5. **Education :** MBA
6. **Trainings :**
   - Seminar on 'Vanilla and Natural Farming', by Sri Purushothama Rayaru and Sri Balekai Shivanjaiah, at Davanagere, July 1996.
   - Training on 'Modern Cattle and Poultry management', Animal Husbandry and Veterinary Science Department, Davanagere, 17-22 February, 2003.
   - Training on 'Sustainable Integrated Inland Fish Farming' by Dr. Devaraj T.N., at Taralabalu KVK, Davanagere, 11-13 February 2008.
   - Working on 'Agriculture technique and training technique', by Sri Ardhendhu Chatterjee, organized by ICRA, Bengaluru, 2-6 November, 2004.
   - Working on 'Samapathali Besaya' by Subash Sharma, Maharashtra. 'Bio-dynamic farming' by Peter Procter, New Zealand. 'Zero-budget Farming', by Subash Palekar, Maharashtra. 'Organic Farming', organized by ICRA, Bangalore, 2005.
   - Workshop on 'Natural Farming' by Sri Raju Titus, organized by OFAI-K & ICRA, at Taralabalu KVK, Davanagere, 29-31 July, 2010.
   - Workshop on 'Permaculture' OFAI-K & ICRA, Bengaluru, 22-26 June, 2011
   - Workshop on 'Participatory Guarantee system (PGS) Organic certification' by Sri Miguel Briganza, organized by OFAI-K, Kottur, Bellary district, 2011.
   - 'Farm Inspectors' training, OFAI, Goa, November, 2005.

- As a resource person on topic 'Way to Sustainable Agriculture' in 'Raitha Siri Habba' at Sirigere, Chitradurga district organized by Taralabalu Krishi Vigyan Kendra, Davangere,
  Savayava Krishi Parivara and Agricultural Department, Chitradurga and Davanagere, 26 March 2011.
- As a resource person on topic 'Permaculture', for Assistant Horticulture Officers, NGO's and Farmers at TKVK, Davanagere, 13 August 2011.

7. Exposure Visits:

a) Kisan Mela, Bangalore, 1997
b) Dr. Devangi Prafulla Chandra farm, Shimoga
c) Sri A.P. Chandrashekhar, Indraprastha farm, Kalalavadi, Mysore
d) Smt. Julie kariappa, Down a Krock Farm, H.D. Kote, Mysore district.
e) Sri. Purushothama Rayaru farm, Thirthahalli, Shimoga district.
f) Sri. Nandish Farm, Churchigundi, Shikaripura taluk. Shimoga district, December 2004.
g) Sri. Kailashmurthy, Academy of Natural Farming, Doddinwadi, Kollegala, Chamrajanagara district, May 2011.
h) Krishi Mela, ARS, Kathalagere, 1999.
i) Organic Farming Association of India Meet, Mysore, 2004. (This Meeting laid Foundation for Karnataka Government's 'Organic Farming Policy').
j) 2nd Beeja Jaathre, by Green Foundation, at KVK, Hulkote, Gadag, 2003.
k) 3rd Beeja Jaathre, by Green Foundation, at Kannada University, Hampi, Hospet, Bellary District., 2004
l) Karnataka State Steering Committee Meetings, Organic Farming Association of India (OFAI), 2004 – 2011.
m) National Steering Committee Meetings, Organic Farming Association of India (OFAI), 2010 – 2011.
n) 'Konkan Fruit Festival', Panaji, Goa, 2011.
o) 3rd Biennual convention of Organic Farming Association of India. Anand, Gujarat & farm visits. Bhai Kaka Krishi Kendra, Anand and Dinesh patil's 'Sardar Farm' near Ahmadabad, December 2010.

8. Association: National Steering Committee Member – Organic Farming Association of India (OFAI), Mapusa, Goa.

9. Family Background : Total Members: 06, Male : 03, Female : 03

10. Other Source of Income (Other than Agriculture): Nil

11. Social Status:

12. References / Mentor:

1. Sri. Babu P., Institute for Cultural Research & Anion (ICRA), Bengaluru.
2. Dr. Devaraja T.N., Programme Coordinator, Taralabalu KVK, Davanagere

13. Assets : Land Owned: 20 acre, Land Leased : Nil,
Total Land: 20 acre, Irrigated Land: 20 acre
Source of Irrigation: Canal Water from Bhadra Dam

14. Crops grown :

- **Field crops:** Rice (*Oryza sativa*)
- **Spices & aromatic crops:** Vanilla *(Vanilla palnigohia),* Curry leaf, Nutmeg *(Myaristica fragrans),* Cinnamon *(Cinnamon zeylanicum),* **Masala ele,** Allspice *(Pimenta dioeca),* Clove *(Syzygium aromaticum),* Black Pepper *(Piper nigrum).*
- **Medicinal crops:** Tulasi, **Amruthballi, Nela nelli,** Aloe vira, Lemon grass
- **Ornamental crops: Kakada mallige, Mandare, Kanakambara,** Hibiscus, Expecia bicolour, **Thomsonpe red, Pundisoppu, Balli basale, Dundumallige,** Bouganvilia, Eliquernia.
- **Fruits:** Mango *(Mangifera indica),* Guava *(Psidium guajava),* Papaya *(Carica papaya),* Jackfruit *(Artocarpus heterophyllus),* Amla, Sapota *(Manilkara achras),* Mosambi, Orange *(Citru sinensis),* Lemon *(Citrus limon),* Lime *(Citrus aurantifolia),* Banana *(Musa paradisiacal),* Indian Goosberry, Ber *(Zizyphus spp.),* Starfruit, Custard Apple *(Annona squamosa),* Jamun *(Syzgium jambos),* **Dwarahunase, Pannerale, Durian (Ramphala), Laxmanphala, Hanumanphala, Ramsitaphala, Anjura, Kanchikayi,** Cashew nut, Rose apple, Pummelo *(Citrus grandis),* Egg fruit, Pomegranate *(Punica granatum),* Cherry, Surinam cherry, Plum, Kino, Mangosteen, Malaya apple, Loquat, Butter fruit *(Persea Americana),* Bread fruit, Pear, Peach *(Prunus persica),* Rambutan, Litchi *(Litchi chinensis),* Kiwi, Dates, Fumaria, Water apple, Black pepper, Wood apple, Pineapple, Singapur cherry
- **Vegetables:** Drumstick *(Moringa oleifera),* **Ceylon basale, Bacilus, Sambekayi, Katthi avare, Chapparada avare,** Pumpkin, Bitter gourd, Snake gourd, Ridge gourd, Sponge gourd, Bottle gourd, Ladies finger, Redgram, Tomato, Amaranthus, Beans, Cowpea, Pundisoppu.
- **Tubers: Kesavugedde,** Ginger *(Zingiber officinale),* Turmeric *(Curcuma longa),* Elephant yam, Sweet potato *(Ipomoe batatus).*
- **Trees:** Coconut *(Cocos nucifera),* Cocoa *(Theobroma cacao),* Lawsania alba, Neem tree, Pupile tree, **(Hippe mara) , Kadu challe,** Honge *(Pongamia pinneta),* Glyricedia *(Glyricedia sepium),* Honne *(Pterocarpus marsupium),* **Attihannu,** Sesbania grandiflora, Erythrina spp., Rain tree, Subabul, Teak *(Tectona grandis),* Rosewood *(Dalbergia latifolia),* Sandal wood, Acacia, Silver oak, Neem *(Azadiracta indica),* Bage *(Albizia lebeck),* Acasia nilotica, Silk cotton *(Bombax malabarica)* and Tamarind *(Tamarindus indica).*
- **Fodder / Other Crops:** Velvet beans [*Mucuna utilis* (white seeded), *Mucuna pruriens* (Black seeded)], Soap nut, **Gulaganji, Shanka pushpa, Pilli pesaru,** Sunhemp

15. Special Interests :

- Natural farming.
- Water conservation: Live mulching with velvet beans, pueriria etc for conservation of moisture. Live mulching makes greenish floor in the field which reduces water requirement during summer.
- Value addition: Oil extraction from coconut, processing of cocoa and vanilla.
- Simplifying Farming.
- Permaculture.
- Simplifying life.

Part II: Innovation Details

1. Name of Innovation:

'Simplifying the farming system by Natural Farming'

- Velvet beans – The magic creeper
- Nature's Coconut garden
- Water conservation – Row trench system,
  – water ways cleaning
- Planting saplings – Circular trench,
  – Tri – Sticks around the seedling to give support in the initial stages
- Vegetable creepers - live plants support for climbers.

2. Background Behind Innovation:

By the time Mr. Raghava started farming, the existing crop coconut, performed averagely. The farm was under chemical fertilizer application like in conventional farming and maize, groundnut or banana as intercrops. The irrigation source was canal water and method of irrigation was flooding.

In 1996, the year Mr. Raghava started farming, he also attended 'Natural Farming' seminar and was inspired by it. Understood the ill effect of chemical fertilizers and pesticides and attracted towards alternative farming methods.

3. Objective :

'Simplifying the way of farming'.

4. Inspiration behind the activity:

Inspired by attending seminar on natural farming at Davanagere by Sri Balekai Shivananjaiah and understood ill effects of chemical fertilizers and pesticides and attracted towards alternative farming system. Foreseen the reduction in expenses for inputs to agriculture and influenced to go for natural farming.

Natural farming method was founded by Masanobu Fukouka, Japan. The 4 principles of natural farming are

a) No cultivation
b) No fertilizers
c) No pesticides
d) No weeding

Natural farming system is nearer to nature system and it is the easiest way of farming.

Critical steps in innovation :

a) Stopped cultivation
b) Tried to increase plant diversity in the initial stages but failed due to poor management practices.
c) Acquiring knowledge through training, attending workshops, visiting farms and reading books, magazines and news papers.
d) After gaining knowledge, opened trenches, introduced nitrogen fixing crops, started increasing plant diversity.

5. Technical Feasibility :

- The system presents a sustainable land use model in which coconut and other crops exist in perfect harmony with each other yielding more output from the same operational unit and to which the contribution of labour is minimum. Increased biological diversity leads to more production stability and reduced risk of failure. Generating multiple sources of food and income with the integration of variety of useful plants in the coconut holding, the availability of nutritious foods, fodder, fire wood, timber and medicines and net income per unit area and time get increased.
- Due to non usage of chemical fertilizers and pesticides and increase in soil biomass, soil is conditioned and soil microbes are increased. By growing cover crops, increasing plant diversity and trench irrigation, soil erosion is reduced. The population of diverse plant species of different stature which support climate change mitigation and adoption through carbon sequestration is present in this farm.
- Velvet beans can be sown / broadcasted in the existing weeds cover without cultivation.
- Velvet beans can be used for fodder, fertilizer, weed control, pest control, temperature minimizing, wasteland, fallow, saline and barren lands rejuvenation, drought tolerance, soil conservator, bio-mass, live mulching, soil conditioning, water conservation (makes the soil absorb water and retain moisture) and prevents sun scorching in Arecanut.

6. Economic Benefits of the innovation:

- Reduction in total cost of production. (No cultivation, No Fertilizer and No pesticides).
- Reduction on labour.
- Increase in the yield

7. Cost of the innovation :

Adoption of natural farming components incurred minimum cost. Cost incurring operations such as purchase of seeds and saplings, trench opening, labour for maintenance of farm throughout the year, trimming/harvesting, tractor rent for transportation comes to around 1 lakh rupees per annum.

8. Support / External Assistance :

Gained knowledge by reading the book titled ‘The Natural Way of Farming’ by Masanobu Fukuoka.

9. Validation of innovation:

a) Field Demonstrations: Farmers from more than 22 districts and other states have visited Sri Raghava's Aikanthika farm. This farm was selected for the field visit of farmers in the (first of its kind) state level workshop held at Taralabalu KVK during 28-30 July 2010 in collaboration with OFAI and ICRA.

- Mr. Kumaraswamy, Kadakolla, Kudligi taluk, Bellary district visited this farm and got inspiration to take up natural farming in 12 acres with crops such as, pomegranate, guava, banana, mango, lime, sapota and other crops.
- Velvet beans was distributed to farmers of Davanagere, Belguam, Dharwad, Tumkur and Haveri districts
  - Mr. Ramakrishna N., Mallanayakanahalli, Harihara taluk
  - Smt. Saroja Patil, Nittur, Harihara taluk
  - Mr. Mallesh, Pavagada, Tumkur district
  - Taralabalu Krishi Vigyan Kendra (TKVK) farm, Davanagere and inturn TKVK distributed seeds to various farmers

b) Testing:

Velvet beans seeds produced by Sri Raghava were demonstrated in KVK Davanagere instructional farm and in the fields of KVK contact farmers.

10. Social Acceptability / Adoptability :

Velvet bean seeds growing farmers are of the opinion that expenses on fertilizers are reduced due to biomass produced and incorporated into soil. In general soil health condition improved resulting in increased yields especially in Coconut and Arecanut gardens.

Velvet bean grows well in almost all soils. Best suited for cover crop in Coconut, Arecanut, Banana, Mango and Sapota. It is good fodder for cattle and other domestic animals, since velvet beans is rich in proteins.

The farmers and persons from various institutions / organizations who have visited the Aikanthika farm have responded their opinions orally and by filling the 'visitor's feedback forms'.

11. Constraints :

Labourers and other farmers are having constraints in accepting Natural Farming due to fear of snakes and other small creatures possibly present under the ground cover of vegetation. The villagers and outside visitors mindset is not yet prepared for this. They are not able to appreciate the ground cover of vegetation (green culture), as they are used to 'clean culture'.

Although the farmers appreciate the benefits of Natural Farming System, there are gaps in their knowledge which impede the practice of the system on a wider scale. Information on appropriate Natural Farming models under diverse crop, soil and climatic conditions is presently scanty.

12. Publicity :

Radio – AIR, Bhadravathi, Date: 05-09-2010 radio documentary

– AIR, Bhadravathi, Date:28-06-2011 radio documentary and repeat telecast on 24-07-2011

Magazine:

Date	Magazine	Title
March-April, 2010	Sahaja Saguvali	Nisargika Krishige Ekasutravilla
May-June, 2010	Sahaja Saguvali	Nisargika Krishige Ekasutravilla
July-August, 2010	Sahaja Saguvali	Fukuokara Sahaja Krishi – Thathva mathu prayoga
September-October, 2010	Sahaja Saguvali	Fukuokara Sahaja Krishi – Thathva mathu prayoga
May-June,2011	Sahaja Saguvali	Naati Beeja Vinimaya Jaathre

Book: Velvet beans – Thengina jothe balliya sarasa

13. Any other information :

- Conservation and distribution of local variety seeds of various crops is another passion of this farmer.
- The recent incidences of intruding wild animals into domesticated areas are an appalling development. Elephants, leopards, tigers etc are facing challenges to survive as the intrusion of humans into their domain of forests is increasing. These disturbing responses of wild animals may be a signal of what worst is to come in future. Therefore, efforts of Natural farming must be heartwarming developments and provide a ray of hope at the other end of the tunnel. Balanced ecosystem with economy is the key feature in Natural Farming. There should not be any further delay in promoting natural farming from all the citizens of the world. Particularly, the policy makers, scientists, thinkers and the farmers must give priority to natural farming and its practices. It is needless to say that the danger of climate change can be handled to a greater extent through natural farming. Living close to nature will always reduce the friction and burden of life as evident in case of fishes and trees. So, let's all say in voice – NATURAL FARMING JAI HO.
- Lakhs of hectares of coconut farms are under monocropping resulting in increased pest and disease problems, reduced production and productivity. Unlike this, Raghava has left his coconut farm to nature since ten years and the results are in the offing. This farm may be called 'nature's coconut farm' as there is absolutely no intervention by the farmer (even watering through trenches in summer is stopped now).
    - Maintenance cost of this farm is ZERO.
    - Crop diversity in this farm is no less to any good forest.
    - All that the farmer does is to harvest healthy, big nuts on a regular basis with minimum disturbance to the forest features.
    - No pest and disease problems and big and healthy nuts in good number are the main features of this nature's coconut farm.
- Lakhs of hectares of horticultural gardens in our country can be made economically highly viable through velvet beans. This magic bean creeper has rejuvenated Raghava's ill prone coconut garden. Besides fixing nitrogen, this creeper is a good fodder and provides seeds at the end which find a commercial application in pharmaceuticals and cattle feed industries. Creeping nature of this plant protects from trees from scorching sun light during summer months, besides suppressing the weeds.

14. Suggestions :

Natural Farming is the easiest way of farming. Natural Farming can be a solution to the present day problems of agriculture sector like labour shortage, fertilizers supply and ill effects of chemical fertilizers and pesticides. Natural Farming will certainly benefit poor and marginal farmers.

Natural Farming should be promoted globally. Research and development efforts are to be strengthened to evolve appropriate technologies for the farmers to adopt Natural Farming system models, including the existing models at few of the farmers, in the operational holdings.

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

- Identification of courses for farmers/farm women
- Rural Youth
- Inservice personnel

10.G. Field activities

i. Number of villages adopted-1
ii. No. of farm families selected - 208

10.H. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab **:** Established

1. Year of establishment : 2011(April)

2. List of equipments purchased with amount

Sl. No	Name of the Equipment	Qty.	Cost (Rs.)
1	Digital conductivity meter	1	12,860-00
2	Digital p^H meter	1	11,033-00
3	Flame photometer	1	48,375-00
4.	Spectrophotometer	1	42,570-00
5.	Macro Block digestion system: KIL 08 L	1	96,212-00
6.	Distillation system KJELO DIST EAS VA	1	1,77,268-00
7.	Digital Burette Titration system	1	53,212-00
8.	Quartz single distillation model with 4 l/h capacity	1	31,482-00

9.	Quartz double distillation unit with 1.5 l/h capacity	1	64,130-00
10.	Hot air oven	1	29,786-00
11.	Hot plate Rectangular	1	6,784-00
12.	Water bath	1	5,724-00
13.	Digital Analytical balance capacity 210 g	1	69,960-00
14.	Table top balance capacity 10 kg	1	6,890-00
15.	Heating mantle capacity 250 ml	1	1,908-00
16.	Kent water purifier	1	16,500-00
Total		**15**	**6,74,694-00**

Details of samples analyzed so far since establishment of SWTL:

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	976	863	233	1,05,950
Water Samples	537	487	187	24,100
Total	**1513**	**1350**	**420**	**1,30,050**

Details of samples analyzed during the 2012-13 :

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized (Rs.)
Soil Samples	584	483	162	66,750
Water Samples	350	312	123	24,750
Total	**934**	**795**	**285**	**91,500**

10.I. Technology Week celebration during 2012-13: Yes

Period of observing Technology Week: From: 14-09-2012 to 18-09-2012

Total number of farmers visited : 619

Total number of extension personnel participated: 36

Total number of agencies involved : 7

Other Details

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Lectures organized	05	619	Cotton, Maize, Ragi, Vegetables, Arecanut, Azolla
Exhibition	04	550	Implements, Seeds, Charts, Posters, Biofuel.
Film show	05	619	Soil and Water conservation, mechanization, Vegetable production technology and plant protection measures
Farm Visit	05	619	Cotton, Maize, Ragi, Redgram, Arecanut Groundnut
Supply of Literature (No.)	05	619	Literature on Cotton, Arecanut, Green manures, Biofuel, Fisheries, Azolla
Supply of Seed (q)	-		
Total number of farmers visited the Technology week	05	619	

10. J. Interventions on drought mitigation

A. Introduction of alternate crops/varieties: Introduced GPU-28 variety of short duration Ragi and BRG-2 Redgram varieties.

B. Major area coverage under alternate crops/varieties: 50 ha (Ragi : GPU-48 , Redgram : BRG-2)

C. Farmers-scientists interaction on livestock management: 10 programmes

D. Animal health camps organized: 5 animal health camps organized in collaboration with Dept. AH & VS, Davanagere

E. Seed distribution in drought hit states: Distributed short duration Ragi GPU-28 variety 120 kgs and Redgram BRG-2 variety 300 kg.

F. Large scale adoption of resource conservation technologies: Nil

G. Awareness campaign: 10

PART XI. IMPACT

11.A. Impact of KVK activities:

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Vermicomposting	45	13	-	-
Use of *Goniozus nephentidis* for management of black headed caterpillar in coconut	01	100	72000-00	252000-00
Integrated crop management in Cotton (FLD)	150	-	Area (2002-03): 4667 ha	Area (2008-09) 12640 ha

11.B. Cases of large scale adoption: Nil

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

PART XII - LINKAGES

12.A. Functional linkage with different organizations

Name of organization	Nature of linkage
Department of Animal Husbandry and Veterinary Science, Davanagere	Trainings, Animal Health Camps, Input for FLD
Department of Agriculture, Davanagere including ATMA.	Trainings, Field visits, Diagnostic field visits, Field day, Lectures, bi-monthly meetings, Agriculture technology week celebration and agriculture surveys, Short term project.
Department Horticulture, Davanagere	Trainings, Field visits, Diagnostic field visits, CHD programmes(Field visits, Seminars, Workshops)
Department of District Watershed Development, Davanagere	Trainings
Department of fisheries, Davanagere	Trainings, Field visits
Department of forestry, Davanagere	Supply of seedlings
Karnataka State Seed Corporation	Supply of seed materials for FLDs
Department of Social Welfare	Programme participation
District Information centre	Collection of basic information of the district
Canara Bank, State Bank of India, State Bank of Mysore, Shiva Sahakari Bank,	SHG A/C and KVK A/C
NABARD	Formation of farmers groups
University of Agricultural Sciences, Bangalore, Dharwad	Technology transfer, Knowledge update, HRD of KVK staff,
JSYS. CBTMPCS (UAS, Bangalore)	Trainings
IGFRI, Dharwad	Supply inputs to FLDs
Zilla Panchayath, Davanagere	Trainings under various programmes
ZARS, Navile. Shimoga	Technology transfer, Knowledge update
KVKs of Shimoga, Mandya, Chitradurga, Tumkur A, Gadag, Belgaum and Mysore	Interaction and exchange of ideas

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.)
			-
NICRA	Feb. – 2011 (On going)	ICAR	11,49,973-00
Bio Fuel Training and Demonstration Centre	April- 2011 (On going)	Dept. of Bio-Fuel, GoK, Bengaluru	7,50,000-00
SGSY (Trainings)	Aug.-2012 to March-2013	Zilla Panchayath	9,14,800-00
Total			**17,84,773-00**

12.C. Details of linkage with ATMA

a) Is ATMA implemented in your district Yes

Role of KVK in preparation of SREP of the district?

Visited villages and collected basic data for preparation of SREP.

Coordination activities between KVK and ATMA during 2012-13

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks
01	**Meetings**	Action plan 2012-13	1		
		TIC	2		
02	**Research project**	Demonstration of breeding of carps and hatchery management		1	Request for extension of project in 2013-14 submitted
03	**Training programmes**				
04	**Demonstrations**				
05	**Extension Programmes**				
	Agriculture Technology Week	Seminars, Workshops, Field visits,		1	
06	**Publications**				
07	**Other Activities**				

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

In collaboration with Dept. of Horticulture, Davanagere under National Horticulture Mission following programmes were organized.

Sl.No.	Date	Programme	Title	No. of participants
1	10-10-2012	Workshop	Production technology of commercial flowers for Davanagere district and dry flower technology	106
2	17-12-2012	Workshop	Improved production technology and post harvest technologies in Banana	76

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

12.F. Details of linkage with RKVY: Nil

12.G. Kisan Mobile Advisory Services 2012-13

Month	No. of SMS sent	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
April	--	--	--
May	--	--	--
June	--	--	--
July	--	--	--
August	01	200	--
September	--	--	--
October	05	200	--
November	01	200	--
December	09	200	--
January	08	200	--
February	01	200	--
March	05	200	--

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.	Banana Special	2011-12	-	-	Banana Special	4690 kg		26050-00	
2.	Horticulture Nursery	2009-10	0.1	Local	Curry leaf	4 No.	51625-00	86782-00	
				PKM-1	Drumstick	4090 No.			
				Alphanso	Mango	498 No.			
				Local	Jack	23 No.			
				Local	Sapota	228 No.			
				Thirthahalli local	Arecanut	555 No.			
				Local	Lemon	940 No.			
3.	Zero Energy Cool Chamber	2009-10							Used for short duration storage of vegetables produced in instructional farm

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	Quantity	Cost of inputs	Gross income	
Cereals :									
Foxtail millet	07-08-2012	08-11-2012	0-20	HMT 100-1	Seed	1.65	2,100	3,274	
Pulses :									
Redgram (Intercrop)	05-06-2012	02-01-13	1-00	BRG-2	Seed	2.00	4,450	8,035	
Commercial crops:									
Sugarcane	05-11-2011	11-11-2012 to 18-11-1012	0-10	COVC-2003/165	setts	115.00	1,08,128	1,87,449	
Sugarcane	07-11-2011		2-00	Co 86032	setts				
Spices & Plantation crops:									
Banana	30-07-2011	Oct 2012 to Feb 2013	1-00	Yelakki	Fruits & Sucker	49.20	37,003	49,191	
Banana			0-20	G-9					
Vegetables :									
French Beans	10-08-2012	25th Sept -	0-10	Arka Suvidha	pod	2.28	2,300	3,425	
Brinjal	10-07-2012	15-13-10-12	0-10	-	Fruit	1.98	1,600	2,980	

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

Sl. No.	Name of the Product	Quantity (kg)	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	Trichoderma	571	16652-00	27900-00	

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	Crossbred Cow Dairy	HF X	Milk	9004.25 L		213648-00	
2	Varietal Fodder plots demo unit	DHN-6 Guninea (BG-9) CO-3 Napier	Root slips	43856 No.		19660-00	
3	Azolla Demo Unit	*Azolla pinnata*	Azolla plant	92.5 kg		1850-00	
4	Vermiculture and vermicompost demo unit	-	Compost and Earthworms	13867.50 kg		112642.50	
5	Sheep demo unit	Bellary X	Sheep	15 No.		40000-00	
6	Hatchery	Indian major carps, Grass carps	Advanced fish fingerlings	3500 No.		15500-00	
7	Ornamental Fish Production Unit	Guppies, Mollies, Sword tails, Platy, Gambusia, Sucker cat fish	Ornamental fishes	4306 No.		25785-00	
8	Fish poly culture unit	*Catla, Rohu, Common carps, Pangasius*	Food fishes	416 kg		21318-00	

13.E. Utilization of hostel facilities

Accomodation available (No. of beds)

Months	No. of trainees stayed	Trainee days (days stayed)
April- 2012	46	02
May- 2012	25	02
June- 2012	354	06
July- 2012	183	06
August- 2012	160	06
September- 2012	275	07
October- 2012	365	18
November-2012	121	18
December-2012	210	22
January-2013	233	21
February-2013	198	15
March- 2013	343	24
Total	**2513**	**147**

13.F. Database management

S. No	Database target	Database created
1.	Creation and maintenance of relevant database system for KVK	Soil and water testing farmers database Extension activities Farmers advisory service

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

13.H. Farmer Field School

Technology : Integrated Crop Management in Banana
Area : 1 acre
Collaborator : Mr. Narappa K.G.
Participants : 25
Facilitator : SMS (Agriculture Extension, Horticulture, Plant Protection, Agronomy)
Place : Kenchanahalli, Harihara taluk

Number and details of activities

Sl.No.	DATE	Activities	No. of Participants
1	03-07-2012	• Group meeting and farmers selection	38
2	06-08-2012	• Sucker selection and their treatment	22
3	22-10-2012	• Integrated Nutrient Management	24
4	20-12-2012	• Micronutrient and fertilizer management	25
5	17-01-2013	• Precession farming activities	25
6	22-02-2013	• Bunch feeding of Banana Special	25

Results : Crop is yet to be harvested.

13.I. Integrated Farming System in Dryland Agriculture

Technology : Integrated Farming System in Dryland Agriculture
Participants : 06
Facilitator : SMS (Agronomy, Agriculture Extension)
Place: Kondajji, Harihara taluk. Bilichodu Jagalur taluk. Kurubagere, Harapanahalli taluk. Haluvarthy, Davanagere taluk. Lingadahalli, Channagiri taluk. S. Mallapura, Honnali taluk.

Interventions in 2012-13:

- Dryland horticulture with HYV (Mango, Sapota, Drumstick, Musambi, Jack, Lime, Guava)
- Vermicompost unit

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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 :	Canara Bank	Vidyanagar, DAVANAGERE - 577004	1813	Taralabalu Rural Development Foundation	18131010101143	0577015007	CNRB 0001813
	With KVK :	State Bank of India	P.J. Extension, DAVANAGERE - 577002	5624	Taralabalu Krishi Vigyan Kendra	30166599498	577002002	SBIN 0005624
		Canara Bank	Vidyanagar, DAVANAGERE - 577004	1813	Taralabalu Krishi Vigyan Kendra (Salary)	1813101010144	0577015007	CNRB 0001813
		Canara Bank	Vidyanagar, DAVANAGERE-577004	1813	Taralabalu Krishi Vigyan Kendra (Activities)	1813101010145	0577015007	CNRB 0001813

14. B. Utilization of KVK Funds During the Year 2012-13 (Rs. In Lakhs)				
Sl. No.	**Particulars**	**Sanctioned**	**Released**	**Expenditure**
1	2	3	4	5
A.	**RECURRING ITEMS :**	**Rs.**	**Rs.**	**Rs.**
1	Pay & Allowance	7100000	7022183	7100000.00
2	Travelling Allowance	100000	100000	99995.60
3	Other Contingencies :	*1000000*	1000000	996836.06
a)	Office Stationery, Telephone, etc.	190000	190000	187893.50
b)	POL & Repairs	165000	165000	164994.56
c)	Stipend / Meals for Trainees	50000	50000	49953.00
d)	Demon. & Teaching Materials	50000	50000	49999.00
e)	FLD On Cereals & Hort.Crops	400000	400000	399937.00
f)	On Farm Testing	40000	40000	39423.00
g)	Training to Extn. Functionaries	25000	25000	24920.00
h)	Maintenance of Building	25000	25000	24882.00
i)	Extension Activities	25000	25000	24870.00
j)	Farmers Field School	25000	25000	24966.00
k)	Maintenance of Library	5000	5000	4998.00
l)	Quarters License Fee			
m)	Bank Interest			
	Total - 'A'	**8200000**	**8122183**	**8196831.66**

B.	**NON RECURRING ITEMS :**			
1	Works	0	0	0.00
2	Equipments & Furniture	0	0	0.00
	(a) Plant Health Diagnostic Facility	0	0	0.00
3	Establishment of Library	0	0	0.00
	Total - 'B'	**0**	**0**	**0**
C.	**REVOLVING FUND**	0	0	0.00
	Total - 'C'	**0**	**0**	**0.00**
	Total (A + B + C)	**8200000**	**8122183**	**8196831.66**

14.C. Status of Revolving Fund (Rs. In Lakh) for the past three Years				
(Sanctioned : Rs.1 Lakh During 2004-05, Seed Money Returned : Rs.0.80 Lakhs)				
Year	**Opening Balance**	**Income**	**Expenditure**	**Closing Balance (as on 31st March)**
	Rs. In Lakhs			
Upto Mar-10	0.650	10.072	10.038	0.684
Upto Mar-11	0.684	18.969	18.958	0.695
Upto Mar-12	0.695	41.291	40.339	1.647
Upto Mar-13	1.650	33.10	32.90	1.850

PART- XV

Details of HRD activities attended by KVK staff during 2012-13

Sl.No.	Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
1	Mallikarjuna B.O.	SMS (Agronomy)	Organic farming and certification	UAS (B)	10-09-2012 to 13 09-2012
2	Mallikarjuna B.O.	SMS (Agronomy)	Preparation of Agromet Advisory Service and use of weather data	CRIDA, Hyderabad	14-09-2012 to 15 - 09- 2012
3	Santhosh B.	Programme Assistant (Computer)	Expert system	TNAU, Coimbatore	25-09-2012 to 26-09-2012
4	Dr. Devaraja T.N.	Programme Coordinator	vKVK and KVK net	ICRISAT, Hyderabad	15-06-2012
5	Dr. Jayadevappa G.K.	SMS (Animal Science)	Information communication technologies for farm women	NAARM, Hyderabad	18-01-2013 to 24-01-2013

PART- XVI

Other important and relevant information which has not been reflected above.

a) Participated in 6th National Conference of KVKs held in PAU, Ludhiana. An exhibition stall depicting the agricultural technologies of our KVK was arranged on this occasion from 20-11-2012 to 22-11-2012.

b) Common Service Centre: First of its kind in India, Taralabalu KVK is conducting internet based interactive classes between specialist and farmers at Gram Panchayath. At present 5 Gram Panchayath in Gubbi taluk, Tumkur district are covered.

c) Taralabalu Bio Fuel Training and Demonstration Centre with the financial assistance from Biofuel Board, Bengaluru was established and this year awareness training programmes on Biofuel plants and its by-products usage to farmers and farm women were conducted. In total 900 l of diesel, 100 l of glycerine 3000 kg of cake produced.

d) Conducted 16 training programmes of 6 days each for 764 women SHG members on 'Integrated Dairy Management and Vermicompost Production' sponsored by SGSY project, Zilla Panchayath, Davanagere.

e) FOCT trainings- Conducted 3 training programmes of 6 days each for 63 rural unemployed youths on 'Coconut Climbing and Plant Protection' sponsored by Coconut Development Board, Bengaluru.

f) To give importance of 'Pest harvest technology and marketing' 4 training programmes for 490 farmers was conducted in collaboration with Karnataka state Agricultural marketing Board, Bengaluru.

g) Conducted 5 training programmes to Bharath Nirman Sevak Youths in collaboration with Taluk Panchayath, Harihara for dissemination of agricultural technologies (146 Youths).

h) Organised one day workshop on 'Production technology of commercial flowers and dry flower technologies' in collaboration with Dept. of Horticulture for 106 floriculturist.

i) Actively involved in implementation of Comprehensive Horticulture Development programme, Dept. of Horticulture.

j) Organized one day workshop on 'Recent production technology in Arecanut' in collaboration with MCF Ltd., Davanagere (141 farmers).

k) Annual report of Taralabalu Rural Development Foundation (Host institution) – 2011-12 was prepared and presented before general body meeting of TRDF.

l) KVK has provided opportunity for 4 students of MSW from Davanagere University, Davanagere and 3 students BSW from Gangotri BSW College, Kotturu for their Dissertation work .

m) Special days celebrated:
   1. World Environment Day
   2. National Fish Farmers Day.
   3. World Food Day
   4. Women in agriculture day.
   5. Kissan Summan Diwas
   6. International Women's Day.
   7. World Water Day.
   8. World Meteorological Day.
   9. Parthenium Awareness Week.

n) Participated in 'Flower Show' organised by Dept. of Horticulture, Davanagere and an exhibition stall depicting the agricultural technologies of our KVK was arranged on this occasion from 02-02-2013 to 04-02-2013.

o) NICRA Activities : The Siddanur, village was selected for NICRA activities with collaboration of the line department officials. During the year 2012-13, the following activities were carried out.

Name of the activity	Works
Natural resource management	• Trench cum bunds, land leveling and bunding works carried in the village covering nearly 93 farmer in an area of 125 acres. Opening of the small ponds around the bore wells for water harvesting.
Crop production	• Intercropping of redgram in maize, supplied 3 kg seeds to 100 farmers and obtraind any yield of 4.5 q / acre under the low rainfall conditions. • FLD on Ragi: Introduction of the new HYV ragi (GPU-48) which is drought tolerant and short duration (100 days). The crop suffered moisture stress at vegetative stage and grain filling stage, yields were better compared to local variety. Obtained and yiled of 8 q/ acre (GPU-48) against the local 5.4 q / acre, the fodder quality is very good.
Live stock and Fisheries	• Introduction of swarnadhara sheep breed (Ram) for improvement of local sheep breed herd (2 males + 40 females). • Azolla ponds constructed (3 No.s) for azolla production for feeding greens to dairy animals. • All livestock's are vaccinated against foot and mouth disease. • Urea molasses mineral blocks were given to 50 farmers to enhance the utilization of dry fodders. • Leguminous fodder seeds (styloxanthus) were supplied to 80 farmers to grow fodder in rain fed condition. • Periodical animal health cheekups arranged (Fortnightly) to benefit the farmers. • 2 Urea molasses mineral block machines purchased to produce UMMB and supply to the village farmers. • Cow mats were purchased (7 no.s) to do demo on water sowing in scientific dairy farming.
Institutional Intervention	• Conducted regular monthly meeting with the CRMC members and programme were planned implemented by the CRMC members only • Conducted off campus training programme on the ICM in maize, redgram. • Conducted the on campus training programme on the pomegranate production technology. • Took farmers to exposure visit to KVK, Haveri regarding the minor millets seed procurement and to gain first hand information in plots. • Took farmers to KVK, Kannuru, Kerala, PRS, Panniyur, KVK Udupi, KVK Sirsi and other progressive farmers and farm women plots around Sirsi. • Conducted human health check up in collaboration with other line department and NGO's. • Regular field visit to the problematic plots. • Recording the observation of the small weather station and made use full while recommendation of irrigation schedule.

SUMMARY FOR 2012-13

I. TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops

Thematic areas	Crop	Name of the technology Assessed	No. of trials
Integrated Nutrient Management	Coconut	Assessment of TNAU Coconut Tonic to strengthen the coconut palm	05
Varietal Evaluation			
Integrated Pest Management	Rice	Testing efficacy of different molecules for management of gundhi bug in rice	10
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			
Others (Pl. specify)			
Total			**15**

Summary of technologies assessed under various livestock

Thematic areas	Name of the livestock enterprise	Name of the technology refined	No. of trials
Disease Management			
Evaluation of Breeds			
Feed and Fodder management			
Nutrition Management	Cattle and Buffalo	Balanced nutrition in cross bred dairy animals	05
		Balanced nutrition and complete deworming in small ruminants	05
Production and Management			
Others (Pl. specify)			
Total			**10**

Summary of technologies refined under various enterprises

Thematic areas	Enterprise	Name of the technology assessed	No. of trials

Summary of technologies refined under home science

Thematic areas	Enterprise	Name of the technology assessed	No. of trials

FRONTLINE DEMONSTRATION

Crops

Crop	Thematic Area	Name of the technology demonstrated	No. of Demo.	No. of KVKs	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
Cereals																
Rice	Mechnisation	Mechanization in rice transplanting	25		10	61.25	55.75	9.86	33460	88813	55353	2.65	37250	80837	43587	2.17
	IDM	Integrated management of root knot nematode in rice	10		05	55.25	46.75	18.18	40300	82875	42575	2.05	44750	65450	20700	1.46
Maize	ICM	Integrated crop management for improving maize productivity	16		6.4	57.0	50.7	12.42	31000	65550	34550	2.11	32500	58305	25805	1.79
Millets																
Ragi	ICM	ICM in HYV ragi	21		10	18.50	14.80	25.00	15800	33300	17500	2.10	15800	26640	10840	1.68
Foxtail millet	ICM	Integrated crop management in foxtail millet	12		05	10.2	7.8	30.76	4500	11220	6720	2.49	4200	8580	4380	2.04
Redgram	ICM	Integrated crop management in redgram	23		7.5	8.10	5.80	39.65	9500	24900	15400	2.62	8100	17400	9300	2.14

Bengalgram	ICM	Integrated crop management in bengalgram	17		7.0	9.10	6.70	35.82	10800	29120	18320	2.69	9400	21440	12040	2.28
Oilseeds																
Plantation crop																
Arecanut	INM	Velvet beans as intercrop in arecanut	10		04	22.43	16.32	37.43	61372	224300	162928	3.65	54382	178300	123918	3.27
Vegetables																
French bean	Popularization of HYV	HYV	10		2.0	148.7	113.4	31.12	62489	148700	86211	2.37	56824	90720	33896	1.59
Cow pea	Popularization of HYV	HYV	10		2.0	146	102	43.13	42,239	1.16,800	74,561	2.76	32.833	81,600	48,767	2.48
Tomato	ICM	ICM in Tomato	15		03	352	244	44.26	45500	123200	77700	2.7	41300	85400	44100	2.06
Fruit																
Mango	IPM	Integrated management of stem borer in mango	05		-	It is in progress.										
		Foliar application of Mango Special	05		02	147.8	113.3	30.45	34289	147800	113511	4.31	31437	113300	81863	3.60
Sugarcane	IPM	Integrated management of early shoot borer in sugarcane	11		10.0	10 month old crop										

Livestock

Catagory	Thematic Area	Name of the technology demonstrated	No. of KVKs	No. of Farmers	No. of Units	Major Parameters		% of change in major parameters	Other parameters		Economics of demonstration Rs./unit)				Economics of check (Rs./unit)			
						Demo	Check if any		Demo	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Dairy Cattle	Clean milk production	Use of cow mats for better performance in dairy cattle	-	05	05	-	-				-	-	-	-	-	-	-	-
Poultry	Backyard Poultry Rearing	Rearing Swarnadhara birds in backyard	-	05	05 (10 no)	2.3 kg in 8 weeks	0.8 kg in 8 weeks	187.5			50	184	134	3.68	30	64	34	2.13
Fodder	Fodder production	Production of HYV of DHN-6 Fodder crop		05	05	210 tons / ha	150 tons / ha	40			25000	90000	65000	3.6	20000	55000	35000	2.75
Sheep Farming	Disease management	Use of broad spectrum anthelmentic in small ruminants		05	05	3.0 kg per month	1.8 kg per month	66.6			138	900	762	6.52	117.0	540	423	4.61

Fisheries

Category	Thematic Area	Name of the technology demonstrated	No. of Farmers	Area (ha)	Yield		% change in major parameter	*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
Fisheries	Integrated fish cum rice farming	Rice cum fish culture in rice growing plots.	01	4.21 guntas	51.08 q, Rice 13.08 q. fish	78.14 q. rice	-	91102.00	136900.00	45798.00	1.5	66462.00	109350.00	42888.00	1.64

Other enterprises

Category	Name of the technology demonstrated	No. of KVKs	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Oyster mushroom																	
Button mushroom																	
Vermicompost																	
Sericulture																	
Apiculture																	
Others (pl.specify)																	
Total																	

Women empowerment

Category	Name of technology	No. of KVKs	No. of demonstrations	Name of observations	Demonstration	Check
Women						
Pregnant women						
Adolescent Girl						
Other women						
Children						
Neonats						
Infants						
Children						

Farm implements and machinery

Name of the implement	Crop	Name of the technology demonstrated	No. of KVKs	No. of Farmer	Area (ha)	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit ect.)			
						Demonstration	Check									

Other enterprises

Demonstration details on crop hybrids

Crop	Name of the Hybrid	No. of farmers	Area (ha)	Yield (kg/ha) / major parameter			Economics (Rs./ha)			
				Demonst-ration	Local check	% change	Gross Cost	Gross Return	Net Return	BCR
Cereals										
Bajra										
Maize- Integrated crop management for improving maize productivity	NAH-1137	16	6.4	57.0	50.7	12.42	31000	65660	34550	2.11
Rice										
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- Integrated crop management in Tomato	Arka Anaya	15	03	352	244	44.26	123200	45500	77700	2.7
Brinjal										
Okra										
Onion										
Potato										
Field bean										
Others (pl.specify)										
Total										
Commercial crops										
Sugarcane										
Coconut										
Others –Cotton- Management of sucking pest in cotton	MRC-7918	35	14	13.75	10.25	34.14	31250	57063	25813	1.82
Total										
Fodder crops										
Maize (Fodder)										
Sorghum (Fodder)										
Others (pl.specify)										
Total										

PART -IV TRAINING

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	--	--	--	--	--	--	--	--	--	--
Cropping Systems	--	--	--	--	--	--	--	--	--	--
Seed production	--	--	--	--	--	--	--	--	--	--
Integrated Crop Management	3	35	4	**39**	37	2	**39**	72	6	**78**
Soil and Water Conservation	1	9	--	**9**	3	--	**12**	12	--	**12**
Integrated Nutrient Management	--	--	--	--	--	--	--	--	--	--
Seed treatment	1	16	-	**16**	--	--	--	16	--	**16**
Environment Management	--	--	--	--	--	--	--	--	--	--
Water Management	--	--	--	--	--	--	--	--	--	--
Horticulture	--	--	--	--	--	--	--	--	--	--
a) Vegetable Crops	--	--	--	--	--	--	--	--	--	--
Protective cultivation	1	8	--	**8**	--	--	--	8	--	**8**
b) Fruits	--	--	--	--	--	--	--	--	--	--
Cultivation of Fruit	1	3	--	**3**	8	--	**8**	11	--	**11**
Others	--	--	--	--	--	--	--	--	--	--
Integrated Nutrient Management	--	--	--	--	--	--	--	--	--	--
Nutritive Value	--	--	--	--	--	--	--	--	--	--
c) Ornamental Plants	--	--	--	--	--	--	--	--	--	--
d) Plantation crops	--	--	--	--	--	--	--	--	--	--
Production and Management technology	1	7		**7**	1		**1**	8		**8**
Others	--	--	--	--	--	--	--	--	--	--
e) Tuber crops	--	--	--	--	--	--	--	--	--	--

f) Spices	--	--	--	--	--	--	--	--	--	--
g) Medicinal and Aromatic Plants	--	--	--	--	--	--	--	--	--	--
Soil Health and Fertility Management	--	--	--	--	--	--	--	--	--	--
Integrated nutrient management	3	1	13	**14**	13	16	**29**	26	30	**56**
Livestock Production and Management	--	--	--	--	--	--	--	--	--	--
Dairy Management	2	26	4	**30**	2	2	**4**	28	6	**34**
Home Science/Women empowerment	--	--	--	--	--	--	--	--	--	--
Agril. Engineering	--	--	--	--	--	--	--	--	--	--
Plant Protection	--	--	--	--	--	--	--	--	--	--
Integrated Pest Management	3	28	--	**28**	12	--	**12**	40	--	**40**
Integrated Disease Management	2	20	--	**20**	5	--	**5**	25	--	**25**
Fisheries	--	--	--	--	--	--	--	--	--	--
Integrated fish farming	2	9	25	**34**	1	23	**24**	10	48	**58**
Others	--	--	--	--	--	--	--	--	--	--
Fish polyculture	1	29	--	**29**	21	--	**21**	40	--	**40**
Production of Inputs at site	--	--	--	--	--	--	--	--	--	--
Capacity Building and Group Dynamics	3	20	21	**41**	13	9	**22**	**33**	**30**	**63**
Agro-forestry	--	--	--	--	--	--	--	--	--	--
TOTAL	**24**	**211**	**67**	**278**	**116**	**52**	**177**	**329**	**120**	**449**

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	--	--	--	--	--	--	--	--	--	--
Integrated Crop Management	4	36		**36**	35	--	**35**	71	--	**71**
Integrated Nutrient Management	4	67	10	**77**	7	--	--	--	--	
Water Management	1	8		**8**	4	--	**4**	12	--	**12**
Production of organic inputs	2	19		**19**	7	--	**7**	26	--	**26**
Others	--	--	--	--	--	--	--	--	--	--
Mechanization in rice and other crops	4	80	-	**80**	4		**4**	84		**84**
Seed treatment	4	41	11	**52**	7	1	**8**	48	12	**60**
Land preparation techniques for rain water harvest	1	9	--	**9**	4	--	**4**	13	--	**13**
Intercropping in Maize	1	15	--	**15**	3	--	**3**	18	--	**18**
Horticulture	--	--	--	--	--	--	--	--	--	--
a) Vegetable Crops	--	--	--	--	--	--	--	--	--	--
Others	--	--	--	--	--	--	--	--	--	--
b) Fruits	--	--	--	--	--	--	--	--	--	--
Cultivation of Fruit	1	30	--	**30**	--	--	--	30	--	**30**
Banana suckers selection and their treatment	1	22	--	**22**	--	--	--	22	--	**22**
Integrated Nutrient Management	2	49	--	**49**	--	--	--	49	--	**49**
c) Ornamental Plants	--	--	--	--	--	--	--	--	--	--
d) Plantation crops	--	--	--	--	--	--	--	--	--	--
Production and Management technology	3	53	10	**63**	24	4	**28**	77	14	**91**
e) Tuber crops	--	--	--	--	--	--	--	--	--	--
f) Spices	--	--	--	--	--	--	--	--	--	--
g) Medicinal and Aromatic Plants	--	--	--	--	--	--	--	--	--	--

Soil Health and Fertility Management	--	--	--	--	--	--	--	--	--	--
Integrated nutrient management	--	--	--	--	--	--	--	--	--	--
Micro nutrient deficiency in crops	--	--	--	--	--	--	--	--	--	--
Balanced use of fertilizers	--	--	--	--	--	--	--	--	--	--
Livestock Production and Management	2	21	--	**21**	13	--	**13**	34	--	**34**
Home Science/Women empowerment	--	--	--	--	--	--	--	--	--	--
Others	--	--	--	--	--	--	--	--	--	--
Post harvest technology	--	--	--	--	--	--	--	--	--	--
Agril. Engineering	--	--	--	--	--	--	--	--	--	--
Plant Protection	--	--	--	--	--	--	--	--	--	--
Integrated Pest Management	1	13	--	**13**	3	--	**3**	16	--	**16**
Integrated Disease Management	**2**	27	--	**27**	15	--	**15**	42	--	**42**
Fisheries	1	9	--	**9**	1	--	**1**	10	--	**10**
Production of Inputs at site	--	--	--	--	--	--	--	--	--	--
Capacity Building and Group Dynamics	--	--	--	--	--	--	--	--	--	--
Others (pl.specify):	--	--	--	--	--	--	--	--	--	--
Economics of organic and inorganic rice production	--	--	--	--	--	--	--	--	--	--
Marketing of organic paddy	--	--	--	--	--	--	--	--	--	--
Agro-forestry	--	--	--	--	--	--	--	--	--	--
TOTAL	**34**	**499**	**31**	**530**	**127**	**5**	**125**	**552**	**26**	**578**

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
Any other										
6. Soil and water testing	1	--	11	**11**		2	**2**	--	13	**13**
7. Production and use of organic in puts.	1	8	--	**8**	4	--	**4**	12	--	**12**
8. Importance of medicinal plants	1	--	--		2	3	**5**	2	3	**5**
9. Renewable energy sources with emphasis on biofuel	1	1	2	**3**	4	--	**4**	5	2	**7**
10. Environmental economics	1	--	20	**20**	--	10	**10**	--	30	**30**
6)Coconut climbing and plant protection	3	41	1	**42**	20		**20**	61	1	**62**
TOTAL	**8**	**50**	**34**	**84**	**30**	**15**	**45**	**80**	**49**	**129**

Training for Rural Youths including sponsored training programmes (off campus): Nil

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
1. Role of NGO personnel in bio-fuel production	1	40	11	51	14	13	27	54	24	78
2. Breeding in milch animals	1	31	--	31	19	--	19	50	--	50
Total	**2**	**71**	**11**	**82**	**33**	**13**	**46**	**104**	**24**	**128**

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
1. Bharat Nirman Youth Training	5	67	22	89	39	18	57	106	40	146
Total	**5**	**67**	**22**	**89**	**39**	**18**	**57**	**106**	**40**	**146**

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	14	--	**14**	16	--	**16**	30	--	**30**
2	**Production and value addition**	--	--	--	--	--	--	--	--	--	--
3	**Soil health and fertility management**	--	--	--	--	--	--	--	--	--	--
4	**Production of Inputs at site**	--	--	--	--	--	--	--	--	--	--
5	**Methods of protective cultivation**	--	--	--	--	--	--	--	--	--	--
6	**Others**	--	--	--	--	--	--	--	--	--	--
	f) Nutrient management in banana	4	170	1	**171**	27	1	**28**	197	2	**199**
	g) Production technology in arecanut	1	119	--	**119**	6	6	**12**	125	6	**131**
	h) Production technology in vegetables	2	47	--	**47**	4	--	**4**	51		**51**
	i) Floriculture	1	87	20	**107**	9	--	**9**	96	20	**106**
	j) Coconut climbing and plant protection	3	41	1	**42**	20	--	**20**	61	1	**62**
7	**Post harvest technology and value addition**	--	--	--	--	--	--	--	--	--	--
7a	**Others**	--	--	--	--	--	--	--	--	--	--
	Home made medicines for diabeties	1	17	14	**31**	--	--	--	17	14	**31**
8	**Farm machinery**	--	--	--	--	--	--	--	--	--	--
9	**Livestock and fisheries**	--	--	--	--	--	--	--	--	--	--
10	**Livestock production and management**	--	--	--	--	--	--	--	--	--	--
10.a.	Animal Nutrition Management	--	--	--	--	--	--	--	--	--	--
10.b	Fisheries	1	--	32	**32**		32	**32**	--	64	**64**
10.c.	Others :Integrated Dairy management and vermicompost production	16	5	431	**436**		328	**328**	5	759	**764**
11.	**Home Science**	--	--	--	--	--	--	--	--	--	--
12.	**Agricultural Extension**	30	--	--	--	--	--	--	--	--	--
	Total	**29**	**500**	**499**	**999**	**82**	**367**	**449**	**582**	**866**	**1438**

Details of sponsoring agencies involved

1. Department of Horticulture, Davanagere
2. CBTMPCS, UAS (Bengaluru).
3. CDB, Bengaluru.
4. Karnataka State Agricultural Marketing Board, Bengaluru
5. Zilla Panchayath, Davanagere
6. MCF Ltd. Davanagere

Details of Vocational Training Programmes carried out by KVKs for rural youth:

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Coconut climbing and plant protection	3	41	1	42	20	--	**20**	**51**	**1**	**52**
Total	**3**	**41**	**1**	**42**	**20**	--	**20**	**51**	**1**	**52**

Part-V. Extension Programmes

Activities	No. of Programmes	No. of Farmers	No. of Extension Personnel	Total
Scientific field visit	98	--	--	--
Farmers visit to KVK	939	1051	4	1055
Method Demonstration	4	83	5	88
News paper coverage	48	--	--	--
Field day	14	642	25	667
Guest lectures	41	1297	95	1392
Radio programmes	20	--	--	--
TV programmes	37	--	--	--
Film shows	34	1007	--	1007
Extension literature distributed	44	1650	8	1658
Bi monthly meeting	6	--	312	312
Exhibition	5	3850	--	3850
Workshops	3	250	23	273
Parthenium awareness week	1	15	--	15
Agriculture technology week	1	619	36	655
Popular articles	8	--	--	--
Diagnostic field visits	46	--	--	--
Exposure visits	2	40	-	40
Group meetings	6	162	21	183
Literature developed	6	--	--	--
vKVK	27	5400	--	5400
Davangere Dairy Farmers Association Meeting	12	342	--	342
Animal health campaign	2	230 Animals treated		
Agri- camp	2	117	18	135
Farmers scientist interaction	1	29	--	129
International Women’s Day	1	60	--	60
World Water day and World meteorological day	1	64	--	64
Women in agriculture day	1	50	--	50
World environmental day	1	600	--	600

National Fish farmers day	1	50	5	55
World Food day	1	84	45	129
Kissan Summan Diwas	1	47	--	47
News letter	4	--	--	
Total	**1417**	**17464**	**597**	**18161**

Details of other extension programmes

Particulars	Number
Electronic Media	03
Extension Literature	44
News Letter	04
News paper coverage	48
Popular Articles	08
Technical Bulletins	--
Technical Reports	--
Radio Talks	20
TV Talks	37
Animal health amps (Number of animals treated)	01 (230 animals)
Other	
Total	**165**

PART VI – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIALS

Production of seeds by the KVKs

Crop category	Name of the crop	Variety	Quantity of seed (Q)	Value (Rs)	Number of farmers to whom provided
Cereals	Foxtail millet (Seed)	HMT 100-1	1.65	3,274	1
Pulses	Redgram(Seed)	BRG-2	2.00	8,035	2
Commercial crops	Sugarcane (Setts)	Co 86032 & COVC-2003/165	115.00	1,87,449	2
Spices & Plantation crops	Banana (Suckers)	Yelakki & G-9	450 nos.	900	2
Total				**1,99,658**	**7**

Production of planting materials by the KVKs

Crop category	Name of the crop	Variety	Number	Value (Rs.)	Number of farmers to whom provided
Vegetable seedlings	Curryleaf	Local	4	40-00	1
	Drumstick	PKM-1	4090	35040-00	59
Fruits	Mango	Alphanso	498	15845-00	31
	Jack fruit	Local	23	230-00	11
	Sapota	Local	220	9305-00	15
	Lemon	Local	940	6588-00	61
Plantation	Arecanut	Local	555	8325-00	6
Fodder crops	Fodder Slips	DHN-6	43856	19660-00	19
	Azolla culture	*Azolla pinnata*	92.5 kg	1850-00	38
Total				**96893-00**	**261**

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity (Kg)	Value (Rs.)	Number of farmers to whom provided
Bio Fertilizers	Trichoderma	571	26050-00	127
Others	Vermicompost	13691	68455-00	84
	Earthworms	176.5	44187.50	39
	Banana special	4697	704550-00	542
	Mango special	68	13024-00	29
	Vegetable special	14	1920-00	6
Total		**19217.5**	**858186.50**	**827**

Production of livestock materials

Particulars of Live stock	Name of the breed	Unit	Value (Rs.)	Number of farmers to whom provided
Dairy animals				
Others	Milk	9004.25 L	213648-00	40
Poultry				
Piggery				
Others - Sheep	Bellary Deccani X	15 No.	40000-00	3
Fisheries				
Advanced Fingerlings	Catla, Rohu, Common carps	3500 No.	15500-00	12
Ornamental Fishes:	Guppies, Mollies, Sword tails	4306 No.	25785-00	251
Food fishes	*Rohu and Common Carps, Catla, pangus*	416 Kg	21318-00	56
Total			**316251-00**	**362**

VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS 2011-12

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil	584	483	162	66,750
Water	350	312	123	24,750
Total	**934**	**795**	**285**	**91,500**

VIII. SCIENTIFIC ADVISORY COMMITTEE

Number of SACs conducted
01

IX. NEWS LETTER

Number of issues of newsletter published
04 issues

X. RESEARCH PAPER PUBLISHED: NIL

XI. DETAILS ON RAIN WATER HARVESTING STRUCTURE AND MICRO-IRRIGATION SYSTEM:NIL

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