



**Taralabalu Rural Development Foundation, Sirigere**

**TARALABALU KRISHI VIGYAN KENDRA  
DAVANAGERE**



# **QUINQUENNIAL PROGRESS REPORT (2005 to 2010)**

**Submitted to:**

**Zonal Project Directorate, Zone VIII**  
Indian Council of Agriculture Research  
MRS HA Farm Post, Hebbal, Bangalore – 560 024

**Submitted by:**

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**1. Details on Krishi Vigyan Kendra**

<b>Name of the District and State</b>	<b>Location/address</b>	<b>Phone No.</b>	<b>Fax No.</b>	<b>e-mail ID</b>
Davanagere Karnataka	Taralabalu Krishi Vigyan Kendra Kadalivana LIC Colony, B.I.E.T.Road Davanagere-577004	08192 – 263462	08192 – 260969	<a href="mailto:dvgtkvk@yahoo.com">dvgtkvk@yahoo.com</a>

**2. Details on Programme Coordinator**

<b>Name</b>	<b>Address</b>	<b>Phone No.</b>	<b>e-mail ID</b>
Dr. Devaraja T.N.	No-1 Taralabalu KVK Staff Quarters LIC Colony, B.I.E.T.Road Davanagere-577004	94498-56876	<a href="mailto:tngdevaraja@yahoo.co.uk">tngdevaraja@yahoo.co.uk</a>

**3. Details on sanction of KVK**

<b>ICAR sanction order number</b>	<b>Date</b>
F.No.18-10/2001-AE-1	20-05-2004

**4. Details on the Host institute**

<b>Name</b>	<b>Location/address</b>	<b>Phone No.</b>	<b>Fax No.</b>	<b>e-mail ID</b>
Taralabalu Rural Development Foundation	Sirigere – 577 541 Chitradurga District Karnataka State	08194 – 268829 08194 – 268842	08194 – 268847	trdf@taralabalu.org

## 5. Details on Infrastructural facilities

### (a) Land and its utilization

(i) Total land with KVK: **15** ha,

ii) Land utilization pattern in KVK (as on 2009-10)

Particulars	Area in ha
Buildings	1.75
Demonstration units	0.25
Seed production	
Production of planting materials/seedlings of fruit/vegetable/ tree/etc.	13.0
Cultivable land not in use	
Barren and wasteland	
Any other	
<b>Total (ha)</b>	<b>15.0</b>

(iii) Demonstration units established in KVK farm

Name of the unit	Year	Amount spent (Rs.)	Source of fund
<b>(A) Crop husbandry</b>			
Plot of sugarcane wooly aphid resistant variety COVC-2003-165	2008	10,000-00	RF
Plot of gall wasp tolerant erythrina standards for betelvine	2010	3,000-00	RF
Paddy plots in organic method	2010	15,000-00	RF
Cotton ICM demonstration plot	2010	5,000-00	RF
Vegetable plot	2010	30,000-00	RF
<b>(B) Animal husbandry</b>			
Dairy demonstration unit	2009	3,00,000-00	ICAR
Fodder demonstration unit	2008	5,000-00	RF
Azolla production unit	2009	3,000-00	RF
Vermiculture and vermicompost unit	2008	80,000-00	RF
<b>(C) Other enterprises</b>			
Ornamental fishes unit	2010	40,000-00	DBT
Integrated fish farming ponds	2010	90,000-00	DBT
Coconut hexagonal & pentagonal garden	2009	5,000-00	RF
Tamarind garden	2005	1,000-00	RF
Curry leaf park	2006	1,500-00	RF
Tulasi park	2006	1,000-00	RF
Medicinal plants garden	2009	3,000-00	RF
Sapota garden	2010	20,000-00	RF
Mango orchard	2005	25,000-00	RF
Mixed fruit orchard	2009	500-00	RF
Agro forestry area with bio-fuel plants	2007	4,000-00	RF
Trichoderma production unit	2009	20,000-00	RF
Shade home	2010	25,000-00	DBT
Polyhouse	2010	1,20,000-00	DBT
Arecanut intercropping demo unit	2007	60,000-00	RF

**(b) Building infrastructure****(i) Buildings**

Name	Year of completion	Under construction	Condition of building, if completed	Source of fund
Administrative building	04-01-2008		Good	ICAR
Farmers hostel	04-01-2008		Good	ICAR
Staff quarters	04-01-2008		Good	ICAR
Dairy unit	04-01-2008		Good	ICAR
Sericulture demo unit	04-01-2008		Good	ICAR
Godown			Sanctioned & grants awaited	ICAR
Threshing floor			Sanctioned & grants awaited	ICAR
Fencing			Sanctioned & grants awaited	ICAR

**(ii) Laboratories: NIL**

Name	Year of establishment	Under establishment	Condition of lab, if completed	Source of fund

**(iii) Utilization of training hostel**

Total capacity of hostel **36** beds

Category of people	Occupancy (days)					Reasons for non-utilization
	2005-06	2006-07	2007-08	2008-09	2009-10	
Farmers				30	97	Hostel building construction was completed on 04-01-2008 and started using from November 2008 after getting electricity and water supply connections
Officials						
<b>Total</b>				<b>30</b>	<b>97</b>	

**(iv) Utilization of staff quarters**

Staff quarters	Occupancy					Reasons for non occupation
	2005-06	2006-07	2007-08	2008-09	2009-10	
1					Programme Coordinator	
2					Farm Manager	
3					SMS (Animal Science)	
4					SMS (Agriculture Extension)	
5					Field Assistant	
6					Driver	

**(c) Equipments**

Name of equipment	Year of purchase	Cost of equipment (Rs)	Source of fund	Present working condition
Mixer	2005	3,300-00	ICAR	Good
Xerox Machine	2006	73,840-00	ICAR	Good
Digital Camera	2006	19,900-00	ICAR	Not in working condition
Overhead projector	2006	19,935-00	ICAR	Good
TV with DVD player	2006	11,350-00	SHIMUL	Good
Refrigerator (LG)	2007	10,000-00	ICAR	Good
Computer + LCD	2007	1,00,103-00	ICAR	Good
VRC System	2008		UAS, Bangalore	Good
Fax (4 in 1)	2009	15,000-00	ICAR	Good

**(d) Vehicles**

Name of vehicle	Year of purchase	Cost of vehicle (Rs)	Source of fund	Present working condition
<b>(A) Four wheelers</b>				
Tempo Cruiser	2005	4,99,250-00	ICAR	Good
Tractor with Trailer	2005	4,99,995-00	ICAR	Good
Power tiller	2008	99,400-00	Cotton Mini Mission	Good
<b>(B) Two wheelers</b>				
Hero Honda CD Deluxe	2006	39,298-00	ICAR	Good
Yamaha Alba Bike	2009	48,309-00	ICAR	Good

**6. Staff in position****(a) Staff as on 31 March, 2010**

Sl. No.	Sanctioned post with designation	No. of sanctioned posts	Name of incumbent	Discipline	Pay scale	Date of Joining	Probable date of filling the vacant posts
A	Programme coordinator	1	Dr. Devaraja T .N.	Fisheries	12000-420-18300	17-05-2005	
B	Subject matter specialists (SMSs)	6					
1	Subject matter specialist	1	Mr. Mallikarjuna B.O.	Agronomy	8000-275-13500	09-01-2008	
2	Subject matter specialist	1	Mr. Basavanagowda M.G.	Horticulture	8000-275-13500	21-11-2006	

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3	Subject matter specialist	1	Mr. Raghuraja J.	Agriculture Extension	8000-275-13500	23-06-2008	
4	Subject matter specialist	1	Dr. Pradeep H.M.	Soil Science	8000-275-13500	25-06-2008	
5	Subject matter specialist	1	Mr. Prasanna Kumara N.	Plant Protection	8000-275-13500	24-06-2008	
6	Subject matter specialist	1	Dr. Jayadevappa G.K.	Animal Science	8000-275-13500	29-01-2008	
<b>C</b>	<b>Programme Assistants</b>	<b>3</b>					
1	Programme Assistant (Lab Tech.)/T-4	0	Vacant				July 2011
2	Programme Assistant (Computer)/ T-4	1	Mr. Santhosh B.	Computer	5500-175-9000	05-09-2008	
3	Programme Assistant/ Farm Manager	1	Mr. Vijayakumar S.B.	Farm Manager	5500-175-9000	23-06-2008	
<b>D</b>	<b>Administrative staff</b>	<b>2</b>					
1	Assistant	1	Mr. Mallikarjuna S. Gudihidala	Accounts	5500-175-9000	01-06-2005	
2	Jr. Steno	1	Mrs. Mamatha H.M.	Stenographer	4000-100-4900	06-06-2005	
<b>E</b>	<b>Drivers</b>	<b>2</b>					
1	Driver (vehicle)	1	Mr. Marulasiddaiah N.M	Driver	3200-85-4900	01-06-2005	
2	Driver (tractor)	1	Mr. Shivakumar S.	Driver	3200-85-4900	01-06-2005	
<b>F</b>	<b>Supporting staff</b>	<b>2</b>					
1	SS Grade	1	Mr. Shivakumar S.E.	Supporting staff	2550-55-2660-60-3200	01-06-2005	
2	SS Grade	1	Mr. Shivakumar B.	Supporting staff	2550-55-2660-60-3200	01-06-2005	
	<b>Total</b>	<b>15</b>					

**(b) Change of staff during 2005-06 to 2009-2010**

Name of incumbent	Designation	Discipline	Date of joining	Date of leaving	Years/ Months served	Give reasons for leaving KVK
Dr. Srinivasappa K.N.	Training Associate (Hort.)	Horticulture	01-06-2005	19-01-2006	00/07	Appointed at UAS, Bangalore
Dr. Jayaramaiah R.	SMS (Agronomy)	Agronomy	01-06-2005	16-02-2007	01/08	Appointed at UAS, Bangalore

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Mr. Sandesh H.M.	SMS (Agriculture Extension)	Agriculture Extension	01-06-2005	17-01-2007	01/07	Appointed at LIC, Shimoga
Dr. Rajkumar G.R.	SMS (Soil Science)	Soil Science	01-06-2005	01-01-2008	02/07	Appointed at UAS, Dharwad
Dr. Roopa S. Patil	SMS (Plant Protection)	Plant Protection	01-06-2005	01-01-2008	02/07	Appointed at UAS, Dharwad
Mr. Mallikarjuna B.O.	Programme Assistant	Farm Manager	01-06-2005	08-01-2008	02/07	Selected to SMS Post
Miss. Mamatha R. Halagola	Programme Assistant	Computer	01-06-2005	01-01-2008	02/07	Due to marriage
Miss. Kavitha P.	Programme Assistant	Home Science	01-06-2005	02-03-2010	04/09	Appointed at Dept. of Women and Child Welfare

## 7. Budget performance

Sl. No.	Particulars	Budget Sanctioned (S) and Expenditure (E) (Rs. in lakh)											
		2005-06		2006-07		2007-08		2008-09		2009-10		Total	
		S	E	S	E	S	E	S	E	S	E	S	E
<b>A</b>	<b>Recurring</b>												
1	Pay & Allowances	20.00	19.85	25.00	24.25	30.00	23.69	28.00	29.05	37.00	37.00	140.00	133.84
2	Traveling allowances	0.75	0.75	1.00	1.00	1.00	0.99	1.00	0.99	1.00	1.00	4.75	4.73
3	Contingencies	4.00	3.61	2.50	2.43	7.00	6.27	7.00	6.28	9.00	8.08	29.50	26.67
a	Stationery etc	1.00	1.00	0.90	0.89	2.17	2.18	2.10	2.09	2.10	2.09	8.27	8.25
b	POL	0.80	0.80	0.55	0.56	1.40	1.39	1.10	1.09	1.75	1.74	5.60	5.58
c	Meals/refreshments etc	0.75	0.75	0.25	0.24	0.91	0.85	0.90	0.58	1.05	1.05	3.86	3.47
d	Training materials etc	0.30	0.30	0.10	0.09	0.84	0.78	0.80	0.80	0.65	0.65	2.69	2.62
e	FLDs	0.50	0.28	0.35	0.35	0.88	0.68	1.00	0.88	2.20	1.52	4.93	3.71
f	OFTs	0.30	0.14	0.20	0.19	0.42	0.27	0.60	0.52	0.50	0.29	2.02	1.41
g	Training of extension personnel	0.25	0.25	0.10	0.06	0.28	0.04	0.2	0.06	0.10	0.10	0.93	0.51
h	Maintenance of buildings												
i	Extension activities									0.30	0.29	0.30	0.29
j	FFS							0.20	0.17	0.25	0.25	0.45	0.42
k	Library	0.10	0.09	0.05	0.05	0.10	0.08	0.10	0.09	0.10	0.10	0.45	0.41
l	SWPTL												
	<b>Total</b>	<b>24.75</b>	<b>24.21</b>	<b>28.50</b>	<b>27.68</b>	<b>38.00</b>	<b>30.95</b>	<b>36.00</b>	<b>36.32</b>	<b>47.00</b>	<b>46.08</b>	<b>174.25</b>	<b>165.24</b>



<b>B</b>	<b>Non-recurring</b>												
1	Civil works	29.68	26.59	46.43	46.43	27.76	27.76	0.00	0.00	0.00	0.00	103.87	100.78
2	Equipment/implements	6.15	6.10	1.00	1.00	5.00	5.00	0.15	0.15	1.70	1.69	14.00	13.94
3	Vehicle	5.40	5.38	0.00	0.00	0.00	0.00	0.50	0.48	0.00	0.00	5.90	5.86
4	Library	0.10	0.09	0.10	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.18
5	SWPTL												
	<b>Total</b>	<b>41.43</b>	<b>38.25</b>	<b>47.63</b>	<b>47.61</b>	<b>32.76</b>	<b>32.76</b>	<b>0.65</b>	<b>0.63</b>	<b>1.70</b>	<b>1.69</b>	<b>124.17</b>	<b>120.94</b>
<b>C</b>	<b>Revolving fund</b>	<b>1.00</b>	<b>1.00</b>									<b>1.00</b>	<b>1.00</b>
	<b>Grand Total</b>	<b>66.98</b>	<b>63.46</b>	<b>76.13</b>	<b>75.29</b>	<b>70.76</b>	<b>63.71</b>	<b>36.65</b>	<b>36.95</b>	<b>48.70</b>	<b>47.77</b>	<b>299.42</b>	<b>287.18</b>

## 8. Major activities undertaken

### (a) Thrust areas

<b>Crop / Enterprise</b>	<b>Major problem of the district</b>	<b>Major thrust areas emphasized for solving the problems</b>
Maize	Lower yield and disease problems	ICM
Paddy	Lower yield and more of disease incidences	ICM
Cotton	Lower yield and disease incidences	ICM
Coconut	Lower yield, poor quality nuts, mite incidence, CBHC	ICM and IPDM
Arecanut	Lower yield and pest incidence, Dropping of immature nuts and splitting of nuts	ICM, INM, IPDM and green manuring
Banana	Lower bunch weight and yield, poor quality fruits	Integrated nutrient management
Dairying	Lower production. Production of low quality and unhygienic milk	Balanced nutrition
Sheep and goat farming	Lower meat production	Balance nutrition
Fodder production	Scarcity of good quality fodder	Production of HYV of fodder crops
Women empowerment	Higher production cost due to increased wages	Drudgery reduction for farm women
Fisheries	Lower production, No pond aquaculture	Composite fish culture, Integrated fish farming
Marketing of produces	Agriculture, horticulture and livestock produces are not fetching good income to the farmers	Value addition of agriculture/Livestock produces

**(b) Details of targets and achievements**

Name of activity	2005-06		2006-07		2007-08		2008-09		2009-10		Total	
	Targets	Achievements	Targets	Achievements	Targets	Achievements	Targets	Achievements	Targets	Achievements	Targets	Achievements
<b>OFT</b>												
(i)No. of technologies	10	09	09	06	04	04	10	04	08	08	41	31
(ii) No. of farmers	40	25	53	23	40	40	63	20	51	51	247	159
<b>FLD</b>												
(i)No. of technologies	20	15	25	12	21	21	34	25	24	23	124	96
(ii) No. of farmers	100	114	327	184	239	239	465	267	326	284	1457	1088
<b>TRAINING</b>												
(i)No. of courses	50	86	200	181	85	93	154	93	99	119	588	572
(ii) No. of participants	1000	544	2500	5354	1700	1457	4969	4083	2475	2763	12644	14201
<b>EXTENSION ACTIVITIES</b>												
(i)No. of programmes	500	608	200	960	775	728	775	791	750	770	3000	3857
(ii) No. of participants	3000	2398	5000	16497	2600	2572	5900	5600	5000	5277	21500	32344
<b>Seed production</b>	2.0 q	1.6 q					Nil	10.6 Kg Styloxanthus	24 q	53.20 q	26 q	64.8 q
<b>Planting material production</b>			500 Drumstick 9 ton Sugarcane setts	500 Drumstick 9 ton Sugarcane setts	9000 Co-3 33.0 t Sugarcane	9000 Co-3 21.34 t Sugarcane	2000 Co-3 500 Drumstick 1000 Glyricidea -- --	2000 Co-3 349 Drumstick 810 Grlyricidea 450 Chilli 500 Brinjal	100000 fodder cuttings 1000 Drumstick 35000 Hort .Plants	75000 fodder cuttings 1000 Drumstick 35000 Hort Plants		
<b>Live stock strains production</b>			1600 fish fingerlings	20000 fish fingerlings	25000 fish fingerlings 2500 ornamental fish	23650 fish fingerlings 99 ornamental fish	12000 lt Milk 250-300 kg Sheep meat	6000 lt Milk --	10000 lt Milk 50 kg Fishes	8000 lt Milk 51 kg Fishes		
<b>Bio products production</b>							50 kg Banana special	50 kg Banana special	100 kg Trichoderma	75 kg Trichoderma		

## 9. Major accomplishments and impact as per the activities undertaken year-wise

### (a) Status of institutional training

Item	How KVK has done?
<b>A. Planning</b>	
i. Scheduling of training	Training programme related FLD and OFT are usually planned well in advance for each season. Farmer trainees would be identified with the help of line department particularly department of agriculture, horticulture and selected for the training programme. Before the start of the season, a visit to the selected village and group meeting with the farmers is generally adapted by our KVK. In consultation with the farmers on campus training(s) will be planned before the season. This allows a better preparation from us as well as farmers for the upcoming season in terms of critical inputs arrangement, agronomic practices and others. Mid season trainings are generally off campus ones and method demonstrations are obligatory part of such programmes. The training duration would normally range from 1 day to 3 days. Trainings for off farm individuals are planned throughout the year in coordination with the line departments.
ii. Job analysis of participants	Villages with various working backgrounds and individuals with different roles in a given type of system or process, be it farm or off farm activity are selected for specific training programmes. A specific training programme will be taken up in consultation with identified group or individuals. Trainings will be designed after understanding the specific role of the selected individuals play in the identified activity/subject.
iii. Trainees' knowledge analysis	This is done through a questionnaire before and after the training programmes
iv. Training needs assessment	After understanding the knowledge level of individuals, the identified subject and followed by a direct discussion with them would help in realizing the needs of the group.
<b>B. Preparation</b>	
i. Organization of content (course content and syllabus)	The SMS of the related subject will be given the task of setting ready with relevant course content for the training. He or she will get in touch with the state of the art subject contents through internet, UAS seminars and progressive persons in the subject.
ii. Lesson plan	Lesson plan will be prepared upon the approval of action plan.

<b>C. Implementation of training</b>	
i. Conduct of training (methodology followed)	Training will be conducted by introducing each other and KVK philosophy in the beginning of the programme. Writing board, slides on LCD projector and interactive session will be used for conducting the training. Adult education training techniques will be followed to avoid giving the feeling of boredom of classroom teaching to our trainees.
ii. Mid-review (modification of training schedule based on needs of participants)	Mid-way-through trainings are conducted on issues expressed by participants based on their needs. Concerned subject matter specialists take up the interested subject. Mostly, participant farmers express about burning subjects concerning village affecting large section of people, for example selection of seeds, fertilizer management, pest and disease, market related problems etc.
<b>D. Training evaluation</b>	
i. Job improvement plan	Upon imparting the training, KVK will support the individuals in making an improvement in the job or task which is essential for the trainee. This will be planned by direct one to one discussion after the training. It could be of help in getting the subsidy or loan sanctioned.
ii. Review and revision of training based on post training evaluation	Discussion and feed back survey after training with a gap of few months or a year will be conducted to review the impact and revise the training programme, if necessary.
iii. Monitoring and evaluation (post training contact and usefulness of training)	A particular training's usefulness is monitored through regular contact with the trainees either direct or through phone or line department extension official. The evaluation will be done after a substantial gap of time to understand the skill or knowledge through personal interview or general survey by a questionnaire. Sometimes, extranees meeting will be arranged to discuss the significance of given training on their socio-economics status.

**(b) Details of training programmes conducted****ON-CAMPUS****(i) Training programmes conducted for extension functionaries**

Discipline	Training programmes for extension personnel											
	2005-06		2006-07		2007-08		2008-09		2009-10		Total	
	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants
Crop production	01	34							01	35	02	69
Horticulture												
Livestock	01	10					01	10	01	10	03	30
Fisheries	01	22					03	24	04	32	08	78
Home science	01	45			01	33	02	45	01	41	05	164
Soil Science												
Plant protection	04	47	01	18			01	24	01	24	07	113
Agriculture engineering												
Agro-forestry												
<b>Total</b>	<b>08</b>	<b>158</b>	<b>01</b>	<b>18</b>	<b>01</b>	<b>33</b>	<b>07</b>	<b>103</b>	<b>08</b>	<b>142</b>	<b>25</b>	<b>454</b>

**(ii) Training programmes conducted for farmers/farm women**

Discipline	Training programmes for farmers											
	2005-06		2006-07		2007-08		2008-09		2009-10		Total	
	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants
Crop production	03	71	16	341	15	282	16	527	09	151	59	1372
Horticulture			04	71	08	173	08	92	21	397	41	733
Livestock					02	56	17	1056	05	94	24	1206
Fisheries			03	58	04	85	09	332	11	379	27	854
Home science	05	112	07	114	05	58	08	146	02	22	27	482
Soil Science	02	39	02	39			06	131	06	91	16	300
Plant protection	01	23	05	67	04	66	07	126	07	122	24	404
Agriculture engineering			01	10					01	19	02	29
Agro-forestry												
Production of inputs at site									02	58	02	58
Capacity building and group dynamics	01	32	02	59			02	33	20	406	25	530
<b>Total</b>	<b>12</b>	<b>277</b>	<b>40</b>	<b>759</b>	<b>38</b>	<b>720</b>	<b>73</b>	<b>2443</b>	<b>84</b>	<b>1739</b>	<b>247</b>	<b>5968</b>

## OFF-CAMPUS

(i) Training programmes conducted for extension functionaries

Discipline	Training programmes for extension personnel											
	2005-06		2006-07		2007-08		2008-09		2009-10		Total	
	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants
Crop production	01	19									01	19
Horticulture												
Livestock												
Fisheries												
Home science	02	52									02	52
Soil Science	01	21									01	21
Plant protection	01	15									01	15
Agriculture engineering												
Agro-forestry												
<b>Total</b>	<b>05</b>	<b>107</b>									<b>05</b>	<b>107</b>

(ii) Training programmes conducted for farmers/farm women

Discipline	Training programmes for farmers											
	2005-06		2006-07		2007-08		2008-09		2009-10		Total	
	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants
Crop production	07	247	06	131	05	129	07	170	06	134	31	811
Horticulture	02	40	06	162	04	72	01	29			13	303
Livestock							02	53	06	105	08	158
Fisheries			01	17	01	16					02	33
Home science	15	376	02	39	01	13	01	15	02	40	21	483
Soil Science	09	189	03	93	02	31			04	91	18	404
Plant protection	15	626	04	62	05	92	03	66	04	87	31	933
Agriculture engineering												
Agro-forestry												
Capacity building			01	07							01	07
<b>Total</b>	<b>48</b>	<b>1478</b>	<b>23</b>	<b>511</b>	<b>18</b>	<b>353</b>	<b>14</b>	<b>333</b>	<b>22</b>	<b>457</b>	<b>125</b>	<b>3132</b>

**BOTH ON AND OFF-CAMPUS (TOTAL)**

(i) Training programmes conducted for extension functionaries

Discipline	Training programmes for extension personnel											
	2005-06		2006-07		2007-08		2008-09		2009-10		Total	
	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants
Crop production	02	53							01	35	03	88
Horticulture												
Livestock	01	10					01	10	01	10	03	30
Fisheries	01	22					03	24	04	32	08	78
Home science	03	97			01	33	02	45	01	42	07	217
Soil Science	01	21									01	21
Plant protection	05	62	01	18			01	24	01	24	08	128
Agriculture engineering												
Agro-forestry												
<b>Total</b>	<b>13</b>	<b>265</b>	<b>01</b>	<b>18</b>	<b>01</b>	<b>33</b>	<b>07</b>	<b>103</b>	<b>08</b>	<b>143</b>	<b>30</b>	<b>562</b>

(ii) Training programmes conducted for farmers/farm women

Discipline	Training programmes for farmers											
	2005-06		2006-07		2007-08		2008-09		2009-10		Total	
	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants
Crop production	10	318	22	472	20	402	23	697	15	285	90	2174
Horticulture	02	40	10	233	12	245	09	121	21	397	54	1036
Livestock					02	56	19	1109	11	199	32	1364
Fisheries			04	75	05	101	09	332	11	379	29	887
Home science	20	488	09	183	06	71	09	161	04	62	48	965
Soil Science	11	228	05	132	02	31	06	131	10	182	34	704
Plant protection	16	649	09	129	09	158	10	192	11	209	55	1337
Agriculture engineering			01	10					01	19	02	29
Agro-forestry												
Production of inputs at site									02	58	02	58
Capacity building and group discussion	01	32	03	66			02	33	20	406	26	537
<b>Total</b>	<b>60</b>	<b>1755</b>	<b>63</b>	<b>1300</b>	<b>56</b>	<b>1064</b>	<b>87</b>	<b>2776</b>	<b>106</b>	<b>2196</b>	<b>372</b>	<b>9091</b>

## (iii) Vocational training programmes for rural youth

Discipline	Vocational training programmes for rural youth											
	2005-06		2006-07		2007-08		2008-09		2009-10		Total	
	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants	No.	Participants
Crop production					04	120			03	133	07	253
Horticulture					03	107					03	107
Livestock			01	22	01	26			02	28	04	76
Fisheries					03	80					03	80
Home science	04	69									04	69
Soil Science	01	60							01	99	02	159
Plant protection					01	34					01	34
Agriculture engineering												
Agro-forestry												
<b>Total</b>	<b>05</b>	<b>129</b>	<b>01</b>	<b>22</b>	<b>12</b>	<b>367</b>			<b>06</b>	<b>260</b>	<b>24</b>	<b>778</b>

## (iv) Sponsored training programmes conducted

Year	Course title	No. of courses	No. of participants	Fund (Rs)	Sponsoring agency
2005-06	Integrated fish farming system	01	50		NABARD & Pragathi Grameena Bank, Davanagere
	Production technology of vermicompost	01	34		Samatha Mahila Vedike, Avaragere
	Production technology of important vegetables	01	20	5,000-00	Dept. of Horticulture, Davanagere
	Solid waste management through vermicompost production	01	25	5,000-00	KRVP, Bangalore
	Production technology in important vegetables	01	38	10,000-00	Dept. of Horticulture, Honnali
2006-07	Clean milk production in dairy animals	94	3903	2,37,500-00	SHIMUL, Shimoga
	Production technology of vegetable crops	03	121	10,000-00	KSDH, Davanagere
2007-08	Vermicomposting	01	118	56,750-00	Zilla panchayath, Davanagere
	Sustainable integrated fish aquaculture	02	50	1,39,500-00	National Fisheries Development Board, Hyderabad
	Clean milk production	20	636	50,000-00	SHIMUL, Shimoga



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2008-09	Improved integrated dairy farming	12	829	5,00,000-00	Dept. of AH & VS, Davanagere (RSVY Scheme)
2009-10	Increased production and productivity in crops	01	14	4800-00	Baduku NGO
	Fruits plants-Hitech horticulture	01	28	30,000-00	Dept. of Horticulture, Davanagere
	Organic farming in Horticulture crops	10	230	1,73,250-00	Dept. of Horticulture, Davanagere
	Fisheries nutrition	06	266	16,700-00	District Watershed Development Department Davanagere
	Capacity building and group dynamics	05	140	1,47,000-00	CBTMPCS, UAS, Bangalore
	Integrated fish farming	01	22		
	Environment management plan	09	223		
<b>Total</b>		<b>169</b>	<b>5918</b>	<b>13,85,500-00</b>	







## (vii) Frontline demonstrations on livestock

Year	Technology	No. of farmers	Area/units	Average yield (q/ha)			Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
				Demo	Check	% increase	Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
2005-06														
2006-07														
2007-08														
2008-09	Production of Co-3 Fodder	03	0.6 ha	400 t	300 t	25.0	20000	40000	20000	2.0	20000	30000	10000	1.5
	Clean milk production	05	5 cows											
2009-10	Feeding balanced cattle feed and area specific minerals to dairy animals	10	10	8.84	7.5 lt	14.20	1800	3960	2160	2.2	1800	3375	1575	1.88
	Rearing giriraja birds in backyard free range condition	10	10	1709 g	700 g	59.0	300	1000	700	3.33	500	800	300	1.60
	Production of Co-3 Napier fodder	10	2.0 ha	359 t	250 t	30.0	20000	40000	19550	2.0	17500	25000	7500	1.42
<b>Total</b>		<b>38</b>	<b>22.6</b>											

## (viii) Frontline demonstrations on fisheries

Year	Category	Technology	No. of farmers	Area/units	Average yield (q/ha)			Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo	Check	% increase	Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
2005-06	Carps	Rearing catla & Common carp	05	1.0	35.0										
2006-07	Carps	Integrated fish polyculture in inland ponds	05	1.2	36.0			40100	73600	33500	1.84				
2007-08	Carps	Integrated fish farming	06	1.2	41	39	40	38073	1,25,000	64427	1.69				



## (x) Frontline demonstrations on farm enterprises

Year	Enterprise	No. of farmers	Are (ha)	Average yield (q/ha)			Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
				Demo	Check	% increase	Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
2005-06														
2006-07														
2007-08														
2008-09														
2009-10														
<b>Total</b>														

## (c) On-farm trials

## A. TECHNOLOGY ASSESSMENT

## (i) Technology assessment (crops)

Year	Crop and title of OFT	No. of trials	Result of best performing technology option	Feedback from the farmers	Gross cost (Rs./ha/unit)	Gross return (Rs./ha/unit)	Net return (Rs./ha/unit)	BC Ratio
2005-06	Introduction of GPBD-4 groundnut variety	03	Performance was better than TMV-2	They say yield is good			21638	3.16
	Control of leaf reddening in cotton	07	Non-significant	No Significance			43707	4.18
	Introduction to Kufri Jyothi potato	03	Performance of Kufri Jyothi is better than local	Good			28506	2.42
2006-07	Use of COT for correction of micronutrient deficiency in paddy	05	Healthy growth and higher yield	Farmers want COT in granular form			38902	2.97
	Pollination studies in sunflower	01	Non Significant				15420	2.05
	Control of leaf reddening in cotton	05	80% control of leaf reddening	MgSO <sub>4</sub> application has given good result			28750	3.65
	Purple blotch management in onion	05	Disease incidence was very low (2-3%)	Cultivation cost has come down & it is good			27150	2.75
	Management of woolly aphids through paired row technique with beans as intercrop in sugarcane	05	Woolly aphids incidence was very low (2-3%)	Paired row method of planting has given good income			65910	1.92

2007-08	Purple blotch management in onion	10	Disease incidence was very low (2%)	Reduced 40-50% of production cost			30520	2.29
	Micronutrient management in cabbage	10	COT application has increased the yield by 10%	Farmers want COT in granular form			42300	2.76
	Use of COT for the correction of micronutrient deficiency in rice	05	Use of COT for correction of micronutrient deficiency in Rice	Farmers want COT in granular form			39976	2.71
	Use of COT for supply of micronutrient in sugarcane	10	Use of COT for supply of micronutrient in sugarcane	Farmers want COT in granular form				
2008-09	Application of vegetable special in tomato	05	Growth & yield was better	Micronutrient			79800	2.51
	Nutrient management in tomato	05	Yield was better and bunch size increased	Micronutrient spray has increased the yield and fruit quality			121805	3.71
	Integrated management of eriophid mite in coconut	05	Increased yield (nuts) and mite incidence reduced	More area need to be covered under this programme	- 76 nuts/tree - Mite infestation is around 37.2%			
	Use of TNAU Coconut tonic to strengthen coconut palms	05	Increased nut yield and reduced mite infestation	Farmers are convinced & interested in buying tonic	- 78 nuts/tree - Mite infestation is around 39.6%			
2009-10	Use of TNAU coconut tonic to strengthen coconut palms	08	Increased nut yield and reduced mite infestation	Farmers are interested in using tonic				
	Enriching the productivity in redgram production	05	No clear cut differences observed (heavy rain)	Need to be checked again			7450/ha	2.01
	Evaluation of different methods of management of powdery mildew in sunflower	05	Timely spray with calixin reduces powdery mildew & gives higher yield	Timely spray with calixin is beneficial			22840/ha	2.23
	Assessment of integrated management practices of fruit borer in bhendi	05	IPM practices reduced the fruit borer incidence	Use of neem cake and neem soap application reduced pest attack			81000	2.56



2009-10	Plant geometry in maize	05	Plant closer spacing has resulted in lower yield. Where as wider space has reduced disease & pest incidence	Rainfall did not permit the weeding			24700	2.69
	Assessment of oyster mushroom production by locally available wastes	10	Mushroom yield was more in paddy straw compared sugarcane thrash & Coconut husk	Paddy straw yields more mushroom			1330/spawn	2.4
<b>Total</b>		<b>127</b>						

## (ii) Technology assessment (livestock)

Year	Livestock and title of OFT	No. of trials	Result of best performing technology option	Feedback from the farmers	Gross cost (Rs./ha/unit)	Gross Return (Rs./ha/unit)	Net return (Rs./ha/unit)	BC Ratio
2005-06								
2006-07								
2007-08								
2008-09								
2009-10	Supplementation of ragi grain as locally available energy source along with azolla for dairy animals	05	- Milk yield in dairy animals is increased by 20% with LMR of 1.028 - Cost of milk production reduced	- Shown interest in feeding azolla. - Ragi grain is not available at cheaper price			6-7/litre profit	2.0
<b>Total</b>		<b>05</b>						

## (iii) Technology assessment (fisheries)

Year	Fisheries and title of OFT	No. of trials	Result of best performing technology option	Feedback from the farmers	Gross cost (Rs./ha/unit)	Gross Return (Rs./ha/unit)	Net return (Rs./ha/unit)	BC Ratio
2005-06								
2006-07	Modified feeding in inland pond fish production	02	Alternate practice performed better than the traditional practice & resulted in higher yield	They say it is good & easy to practice			43835	2.09
2007-08								
2008-09								
2009-10								
<b>Total</b>		<b>02</b>						



## (iii) Technology refinement (fisheries)

Year	Fisheries and title of OFT	No. of trials	Justification for refinement	Result of performance of technology refinement option	Feedback from the farmers	Gross cost (Rs./ha/unit)	Gross Return (Rs./ha/unit)	Net return (Rs./ha/unit)	BC Ratio
2005-06									
2006-07									
2007-08									
2008-09									
2009-10									
Total									

## (iv) Technology refinement (others)

Year	Value addition/enterprise/ implement and title of OFT	No. of trials	Justification for refinement	Result of performance of technology refinement option	Feedback from the farmers	Gross cost (Rs./ha/unit)	Gross Return (Rs./ha/unit)	Net return (Rs./ha/unit)	BC Ratio
2005-06									
2006-07									
2007-08									
2008-09									
2009-10									
Total									

## C. Broad-basing of frontline extension

S. No.	Activity	No. of activities/No. of units carried out					Total
		2005-06	2006-07	2007-08	2008-09	2009-10	
i.	Artificial insemination of cattle/buffalo				05	10	
ii.	Animal health camp/care provided (No. of animals)			2 (250)	1 (500)		
iii.	Poultry introduced, including quail (units)				2		
iv.	Piggery introduced (No. of units)						
v.	Rabbitry introduced (No. of units)					2 No.	
vi.	Planting/livestock materials produced and distributed			3 (9000)	6 (20000)	25 (100000)	
vii.	Fodder grass introduced (ha)				5.0	20.0	
viii.	Fruit trees introduced						
ix.	Watershed development plan prepared						
x.	Watershed development						
xi.	Consultancy on soil analysis and topographic survey						
xii.	Consultancy on land-use planning and cropping patterns						
xiii.	Improved hand tools and implements introduced						
xiv.	Fishery demonstrations	05	05	6	16	05	37
xv.	Goatery introduced						
xvi.	Duckery introduced						
xvii.	Agro-forestry introduced						

xviii.	Apiary introduced	2 No.					
xix.	Mushroom cultivation introduced	1 No.					
xx.	Vermicompost introduced	4 No.					
xxi.	Sericulture introduced						
xxii.	Improved hand tools and implements introduced						
xxiii.	Any other (specify)						
	Total						

### **D. Impact of KVK in terms of agricultural and animal productivity, socio-economic conditions and employment generation during QRT period (5 years: 2005-06 to 2009-10) in the adopted villages**

#### **(i) Before and after KVK technological interventions**

<b>Sl. No.</b>	<b>Item</b>	<b>Unit</b>	<b>Prior to KVK (just prior to this QRT period : 2004-05)</b>	<b>Post KVK activities (Just after this QRT period: 2010-11)</b>
1	Change in cropping pattern	%		
	a Maize + Redgram	50	Maize sole crop	Maize + Redgram Maize + Cowpea Maize + Frenchbean
	b Cotton	60	Maize sole crop	Cotton
	c Ragi	65	Ragi local variety were grown	Improved high yielding variety GPU-28, MR-1
	d Maize	25	Private hybrid Stem borer and downy mildew problem	Public hybrid NAH-2049 resistant to downy mildew and stem borer
2	Change in productivity of			
	<b>(a) Cereal crops</b>	<b>kg/ha</b>		
	Maize	150-200	Farmers were growing sole crop and district farmers average yield was less than 30-40 q/ha	Intercropping with pulses were encouraged. Introducing of high yielding hybrid 65-70 q/ha
	Paddy	300	Improper nutrient management practices, No IPM measures 48-50 q/ha	INM specially with Azospirillum, ZnSO <sub>4</sub> application 50-50 q/ha
	Ragi	1000	Growing local variety Yields are low and fodder quality is poor 12-15 q/ha	Growing of HYV GPU-28 with improved practices yields are high 20-25 q/ha
	Navane	300	Growing of local variety yields are low and no value addition 5-7 q/ha	Introduction HYV STA-326 with improved agronomic practices 10-12 q/ha
	Sorghum	110	Growing of the sorghum (M-35-1) without ICM practices 8-10 q/ha	Growing of sorghum ICM practices enhances the yield upto 13-14 q/ha
	Sugarcane	8-10 t/ha	Incidence of wooly aphid which inturn reduces yield	Growing of wooly aphid resistant variety COVC-

		upto 10%	2003-165 which increases yield. In addition it is planted with spacing of 4-5 feet. Farmers get additional yield by growing vegetables as intercrop (Beans). Paired row was also introduces
Sugarcane	8-10 t/ha	No micronutrient application	Application of COT as increased yield levels upto 5-10%
<b>(b) Pulses</b>	<b>kg/ha</b>		
Redgram	500	Growing of local varieties Improper nutrient management Indiscriminate use of pesticides  Yield levels 6-8 q/ha	Introduction of HYV like BRG-1 and BRG-2 were grown with improved package practices seed, soil treatment trichoderma, rhizobium and PSB. installation of pheromone traps, spray with NPV and neem oil 12-13 q/ha
Bengalgram	200	Growing of local varieties Improper nutrient management Indiscriminate use of pesticides  Yield levels 5-6 q/ha	Introduction of HYV JG-11 with seed and soil treatment with trichoderma rhizobium & PSB. Timely spray with NPV, neem oil, chemicals, installation of pheromone traps and marigold as trap crop 8-9 q/ha
<b>(c) Oilseeds</b>	<b>kg/ha</b>		
Sunflower	300	Use of local private hybrid. Improper management of budnecrosis, powdery mildew and head borer 8-10 q/ha	Use of sunflower hybrid KBSH-44 & KBSH-53, Soil treatment with trichoderma and 0.2% boron spray, gypsum application and IPM measures. 13-15 q/ha
Groundnut	250	Growing of TMV-2 which is susceptible to leaf spot which return reduces yield. No INM and IPM practices followed. Poor knowledge on gypsum 4-5 q/ha	Introduction of HYV GPBD-4. Seed treatment with trichoderma and gypsum application follow of IPM practices 8-9 q/ha

	<b>(d) Overall</b>	<b>kg/ha</b>		
	Cotton	500	Sucking pests (aphids, thrips, mealy bugs), use of variety, no ICM practices, indiscriminate use of pesticides 7-8 q/ha	Introduction of Bt. hybrids. KNO <sub>3</sub> , planofix, MgSO <sub>4</sub> and seed treatment with bio-fertilizers with sucking pest management by spraying. Grading in cotton before marketing yields 18-25 q/ha
	Arecanut	1000	Dropping of immature nuts and slotting of nuts was common. Yield level was 18-20 q/ha	By following integrated nutrient management and follow of green manure crops. The yield level was increased to 30-32 q/ha
	Coconut	50-60 nuts/palm	Incidence of CBHC and mites was common. Lower palm yield (40 nuts) Dropping of immature nuts	Integrated nutrient management and introduction of TNAU coconut nutritional tonic helped to increase resistance in palms which in turn helps to increase the yield (120 nuts)
	Banana	5-6 kg/bunch	Lower bunch weight (6-8 kg/bunch) in banana due to deficiency of micronutrients	By foliar application of banana special which increases the yield level to 12-15 kg/bunch
	Tomato	8-10 q/ha	Lack of availability of quality planting materials, poor nutrition resulting in poor yield (20-25 q/ha)	Introduction of hybrids of public sector, popularization of vegetable special, following of staking increases total yield potential to 35-40 q/ha
	<b>(e) livestock</b>			
	Dairy animals	<b>Lts/day</b>	4-5	7-8
	Sheep/goat	<b>Meat gm/day</b>	20-30	40-50
	Poultry birds	<b>Meat gm/day</b>	15-20	30
	<b>(f) fisheries</b>	<b>2.1 t/ha</b>	1.5 tonnes/ha of fish production in tank. (Lower than state & national average)	3.6 tonnes/ha fish productivity in farmers pond
	<b>(g) enterprises</b>			
3	Average use of high yielding varieties	20-30%	Farmers are growing local varieties with respect to ragi, navane, redgram and bengalgram where yields are using 100 even though they follow the improved practices. Only progressive farmers around 8-10% were using HYV.	KVK conducted FLD in HYV like ragi (GPU-28), navane (STA-326), sorghum (M-35-1), redgram (BRG-1 & BRG-2) and bengalgram (JG-11). Around 40-50% of farmers who are contact with KVK are growing HYV.

4	Average use of livestock breeds	%	60	70
5	Average use of high yielding fish fingerlings	No./ha	Indiscriminate	20,000/ha
6	Average use of fertilizers (NPK nutrients)	kg/ha	293	248
7	Average use of FYM and other bio-fertilizers	kg/ha	600	1000
8	Farmers using tractor/machinery	5%	In dryland agriculture where farmers are growing crops under rainfed conditions where mechanization is problem. Non availability of low cost technology on mechanization	KVK conducted FLD on weed management in cotton through power weeder. Now farmers are able to continue technology.
		10%	For irrigated condition : Paddy is major crop mechanization is followed only for harvesting	KVK intervention on land preparation, nursery making and use of transplantor.
9	Change in net return in adopted villages	Rs./ha		
	(a) Major crops			
	Cotton (ICM)	15057	15594	30652
	Maize (ICM in NAH-2049)	6375	14300	20675
	Ragi	3983	6604	10587
	Bengalgram	4257	10459	6201
	Sunflower	14285	10221	24507
	Groundnut	14545	4328	18924
	Onion	27350	Farmers are using local varieties which are susceptible to purple blotch disease	Popularization of HYV Arka Kalyan in onion helps to increase the yield potential and also shown resistance to purple blotch disease.
	Banana	76450	Farmers getting lower profit because of lesser bunch height in Banana due to deficiency of micro nutrients	With the introduction of banana special foliar spray helped to correct the micronutrient deficiency and enhance the yield potential to 34 percent.
	Tomato	39375	Lower productivity is due to lack of quality planting materials, deficiency of micronutrients, not practicing	With the introduction of pore tray nursery, vegetable special foliar nutrition and following

			of staking.	staking activities helped to increase the productions up to 45 percent.
	Arecanut	25000	Application of tank silt to crop fields, poor drainage resulting in dropping of nuts, splitting of nuts which inturn reduces the yield	Following green manuring crops with integrated nutrient management enhances the yield potential
	(b) Major livestock			
	Dairy cow	20	40	
	Sheep/goat	1000	2000	
	(c) Major fisheries	Rs./ha		
	Carp	40,000/-	Low productivity in tank fisheries and no pond aquaculture	Scientific pond aquaculture enhanced productivity per unit area
	(d) Major other enterprises			
10	Employment generation	Mandays /month		
	(a) Among farmers			
	(b) Among farm women			
	(c) Among rural youth			
	(d) Among SHGs			
11	Any other specify			

**(ii) Details of major output and outcome through technological interventions during 2005-06 to 2009-10**

Crop / enterprise	Major Problem tackled	Type of intervention (s)	Period of intervention	Major output w.r.t. primary parameter	
				Before	After
Maize	Poor yield Less knowledge on micronutrients Stem borer & downey mildew incidence	Introduction of high yielding and disease resistant hybrid NAH-2049	2007-2008 2008-2009	<u>Yield</u> 38.5 q/ha	<u>Yield</u> 44.5 q/ha
Cotton	Sucking pests Close spacing Leaf reddening, flower & boll drop	Integrated crop management in cotton	2006-07 2007-08 2008-09 2009-10	<u>Yield</u> 15.40 q/ha	<u>Yield</u> 19.58 q/ha
Sugarcane	Woolly aphid incidence	Performance of woolly aphid resistance variety	2007-08 2008-09	<u>Yield</u> 69.25 t/ha	<u>Yield</u> 88.77 t/ha
Brinjal	Shoot and fruit borer	Integrated management of shoot & fruit borer	2007-08 2009-10	<u>Yield</u> 10.7 t/ha	<u>Yield</u> 15.0 t/ha



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Coconut	BHC	Integrated management of BHC in coconut	2008-09 2009-10	<u>Yield</u> 46 nuts/ palm	<u>Yield</u> 79 nuts/palm
Paddy	Lower yield due to higher incidence of brown plant hopper	BPH management in paddy	2005-06	<u>Yield</u> 45.5 q/ha	<u>Yield</u> 58 q/ha
Bengalgram	Incidence of wilt ad pod borer	IPM in bengalgram	2005-06 2006-07 2007-08 2008-09	<u>Yield</u> 4.45 q/ha	<u>Yield</u> 6.30 q/ha
Sunflower	Bud necrosis, powdery mildew & head borer incidence, poor seed setting	IPM in sunflower	2005-06 2007-08 2008-09 2009-10	<u>Yield</u> 11.8 q/ha	<u>Yield</u> 18.10 q/ha
Groundnut	No seed treatment & gypsum application leaf spot & bud necrosis	ICM in groundnut	2007-08 2009-10	<u>Yield</u> 12.0 q/ha	<u>Yield</u> 17.1 q/ha
Tomato	Higher incidence of wilt and fruit borer	IPM in tomato	2008-09	<u>Yield</u> 19.82 t/ha	<u>Yield</u> 29.15 t/ha
Chilli	Muruda complex	Integrated management of muruda complex	2009-10	<u>Yield</u> 15.2 t/ha	<u>Yield</u> 21.2 t/ha
Redgram	Wilt, pod borer and improper nutrient management	Integrated management of pod borer in redgram	2008-09 2009-10	<u>Yield</u> 6.6 q/ha	<u>Yield</u> 9.2 q/ha
Paddy	No seedling treatment, Improper nutrient management, BPH, Stem borer & blast incidence	ICM in rice	2009-10	<u>Yield</u> 47.5 q/ha	<u>Yield</u> 49.4 q/ha
Onion	Poor yield due to incidence of purple blotch disease	Introduction of purple blotch disease resistant variety Arka Kalyan	2007 2008	<u>Yield</u> 15-18 q/ha	<u>Yield</u> 25-30 q/ha
Arecanut	Dropping of immature nuts & splitting of nuts	Integrated nutrient mangement	2007 2008	<u>Yield</u> 17-18 q/ha	<u>Yield</u> 24-26 q/ha
Coconut	Incidence of mites	Root feeding TNAU coconut tonic, INM	2007 2008 2009	<u>Yield</u> 40 nuts/ palm	<u>Yield</u> 120 nuts/palm
Banana	Lower bunch weight in Banana	Popularization of banana special foliar spray	2008 2009 2010	<u>Yield</u> 8-10 kg/bunch	<u>Yield</u> 12-15 kg/bunch
Tomato	Imbalanced nutrition had lowered the production and productivity	Foliar spray of micronutrient vegetable special was used	2008 to 2010	<u>Yield</u> 30.5 t/ha	<u>Yield</u> 38.55 t/ha
Redgram	Fruit borer incidence Nutrient management	Integrated crop management in redgram	2009 to 2010	<u>Yield</u> 3.9 q/ha	<u>Yield</u> 4.0 q/ha
Fish	Low productivity/ha in tank fisheries aquaculture, No. Scientific pond	FLDs & OFTs	2008-09 & 2009-10	<u>Yield</u> 1.5 q/ha	<u>Yield</u> 40 q/ha
Dairy	Nutrient deficiency in cattle	Feeding balanced cattle feed	2009	<u>Milk yield increased by 25%</u>	

Fodder	Fodder scarcity	Introduction of high yielding fodder crops variety	2009	<u>Fodder yield increased by 100%</u>	
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(ii) Continued...

Crop / enterprise	Major output w.r.t. secondary parameter		Major outcome	District level impact	Major constraints for non significant impact
	Before	After			
Maize	<u>Plant Height</u> 170.10 <u>No. of rows</u> 13.25	<u>Plant Height</u> 170.12 <u>No. of rows</u> 14.18	Increase in yield	Increase in productivity	Availability of seeds
Cotton	<u>NO. of bolls</u> 40-50	<u>No. of bolls</u> 130-135	Increase in yield	Area of Cotton drastically increase from 500 ha to 25000 ha	Availability of seeds
Sugarcane	<u>% of incidence</u> 15	<u>% of incidence</u> 5	Decreased incidence more yield	Reduction in incidence of wooly aphid	Sets availability
Brinjal	<u>% of incidence</u> 30 <u>No. of fruits/plant</u> 30	<u>% of incidence</u> 2 <u>No. of fruits/plant</u> 39	Reduced incidence	Increased productivity and large scale adoption of IPM technology	WOTA traps availability
Coconut	<u>% mites incidence</u> 70	<u>% mites incidence</u> 40	Reduce incidence	Large scale adaption of IPM technology	Root feeding method
Paddy	<u>% incidence</u> 60	<u>% incidence</u> 10	Decreased BPH incidence	Farmers are adopting IPM technology against BPH	Spraying method is very difficult
Bengalgram	<u>Plant height</u> 39.30 cm <u>% pod borer mites incidence</u> 20	<u>Plant height</u> 29.90 cm <u>% pod borer mites incidence</u> 3	Increased yield due to reduced incidence	Farmers are adopting IPM technology	In time spraying is difficult

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Sunflower	<u>Plant height</u> 144.3 cm  <u>% powdery mildew incidence</u> 15 <u>Head diameter</u> 12.6 cm	<u>Plant height</u> 169.8 cm  <u>% powdery mildew incidence</u> 2 <u>Head diameter</u> 14.3 cm	Reduced disease incidence	IPM technology adopted by farmers at larger area	KBSH-53 seeds availability
Groundnut	<u>Plant height</u> 10.7 cm  <u>% Leaf spot incidence</u> 15 <u>No. of pods/plant</u> 20	<u>Plant height</u> 15.8 cm  <u>% Leaf spot incidence</u> 3 <u>No. of pods/plant</u> 33	Increase in yield	Farmers are using improved variety GPBD-4	GPBD-4 seeds availability
Tomato	<u>Plant height</u> 79.9 cm  <u>% fruit borer incidence</u> 20 <u>No. of fruits/plant</u> 34	<u>Plant height</u> 92.28 cm  <u>% fruit borer incidence</u> 3 <u>No. of fruits/plant</u> 45	Lesser incidence of wilt & pod borer	Farmers accepted and using the IPM technology in tomato	Availability of neem soap
Chilli	<u>Plant height</u> 61.8 cm  <u>% fruit borer incidence</u> 20 <u>No. of fruits/plant</u> 15.2	<u>Plant height</u> 70.5 cm  <u>% fruit borer incidence</u> 2 <u>No. of fruits/plant</u> 21.2	Increase in yield	Farmers avoided unnecessary spray to manage disease	Identification of disease due to several vectors is difficult
Redgram	<u>Plant height</u> 191.7 cm <u>% Pod borer incidence</u> 20 <u>No. of pods/plant</u> 93	<u>Plant height</u> 212.4 cm  <u>% Pod borer incidence</u> 3 <u>No. of pods/plant</u> 109	Increase in yield	Farmers are using IPM technology	Timely spray of correct chemical

Paddy	<u>Plant height</u> 85 cm <u>No of tillers</u> 34	<u>Plant height</u> 80 cm <u>No of tillers</u> 42	Sustainable yield Reduced fertilizer usage	Farmers are accepting & using ICM technology in rice	Identification of pest and incidence disease. Mind set of farmers is like that with out fertilizers good crop is impossible
Onion	<u>% incidence</u> 30-35	<u>% incidence</u> 5-6%	Increase in yield	Increase in productivity	Availability of seeds
Arecanut	<u>% incidence of dropping</u> 20-26	<u>% incidence of dropping</u> 8-10	Increase in the yield	Large scale adoption of green manure crops	Application of tank silt
Coconut	<u>% mites incidence</u> 30-35	<u>% mites incidence</u> 8-12	Decrease in mites incidence, increase in nuts/palm	Farmers stopped cutting of palms	Root feeding is difficult
Banana			Increase in the bunch weight	Large scale adoption of banana special	Spraying to lower surface of leaf
Tomato	<u>Pt height</u> 79.7 <u>No. of fruits</u> 39.6	<u>Pt height</u> 66.5 <u>No. of fruits</u> 30	Reduced fruit splitting	Increased fruit yield	Non availability of vegetable special at proper time and source
Redgram	<u>% fruit borer</u> 35	<u>% fruit borer</u> 20	Increased yield Reduced fruit borer Improved soil fertility	Farmers using ICM technology	Farmers having less interest towards the sole crop of redgram
Fish		Additional income by vegetables and others from pond dykes equals to net income of one acre paddy for ex: Rs.20000/acre	Net income/unit area has improved Rs. 40000/ha	Farmers opening up to the potential of pond aquaculture and finding it attractive alternative or integrative practice with agriculture. More than 250 farmers have been exposed to pond aquaculture trainings	Resistance to change among farmers, poaching, predation, Non availability of good quality advanced fish fingerlings for several water bodies such as farm ponds, Sustained support to fish culture enthusiasts by Govt.
Dairy			Income increased and Quality milk production	Awareness created on CMP	
Fodder			Good quality fodder milk production increased	Fodder cultivation area increased	

## (iii) Case studies documented in detail in each year (2005-06 to 2009-10)

Eight case studies have been presented here for the review period

**a) Role of Banana Special in improving productivity of Banana in Siddanur village of Davanagere district**

**Background:**

Banana is one of the important fruit crops of the district. Substantial number of farmers are growing banana crop. 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 spending more than required money on fertilizers. It is of great concern that each farmer is spending 60-70 % of cost of production only on fertilizers. KVK has conducted a survey on banana area and cost of production of crop in the Siddanur cluster of Davanagere taluk. Survey revealed that farmers are applying fertilizers indiscriminately. No farmer is aware of recommended dosage of fertilizers for banana. The role of micronutrients was known to very few farmers. Indian Institute of Horticultural Research, Hesaragatta, Bengaluru is producing micronutrient spray mixture "Banana special" for banana and made it available for our KVK to conduct FLD on the said technology

**KVK intervention:**

**Spray schedule details:**

Taralabalu Krishi Vigyan Kendra selected Siddanur cluster for FLD on use of banana special and Mr. Basavanagowda M.G., SMS (Horticulture) was deputed for the same during 2008-09. As a part of FLD, group meetings, trainings, field visits and field day were conducted. An exposure visit was organized for the group to precision farming area at Dharmapuri district to know the precision farming activities and direct interaction with practicing farmers.

In Siddanur and Kandanakovi villages of Davanagere (tq) twelve farmers were selected for the demonstration on use of banana special, six farmers under grandnaine and six

Farmers under yelakki bale variety. Foliar application of Banana special was undertaken as per schedule and observations were recorded. Foliar spray schedule includes six sprays at 5, 6, 7 and 8<sup>th</sup> month of planting. Fifth spray on emerged bunch and sixth spray was given one month after bunch emergence. The spray concentration should be 5 grams per liter water. For the better results of spray, one shampoo and one lemon liquid should be mixed in 20 liters of spray solution.

**Effect of the technology among demonstrated farmers:**

	<b>G9</b>	<b>Yelakki</b>
Demo Production (Average)	533.9 q/ha	225.9 q/ha
District Productivity (Average)	277.2 q/ha	-
Local check	400.1 q/ha	162.2 q/ha
Per unit expenditure	Rs. 1,40,510-00	1,26,549-00
Gross income	Rs. 3,73,730-00	3,38,850-00
Net income	Rs. 2,33,220-00	2,12,301-00
BC ratio	2.65	2.67

• **Suitability in the existing farming / cropping systems:**

There is micronutrient deficiency observed among all the plots selected for demonstration. So, the technology is suitable to the area under study.

- **Acceptance of the technology by the farmers:**  
Farmers have accepted the technology, as it increases the productivity of the crop. It also provides the benefit of reducing the cost of production particularly of fertilizers.
- **Horizontal spread :**  
12 families directly and 50 families indirectly have realized the importance of banana special application. More than 550 kg of banana special has been sold through our KVK.
- **Substitution or replacement of commodities:**  
The technology substituted the excess use of fertilizers for the crop.
- **Social impact:**  
Formation of Siddanuru Bale Belegarara Sangha ( Siddanuru Banana Growers Association) after the successful demonstration of Banana special technology
- **Marketing channels:**  
The Banana Growers Association has been linked with **SAFAL** market, Bengaluru. Farmers were taken to **SAFAL** market during the exposure visit arranged by KVK. They are selling the produce to wholesale merchants as well as **SAFAL** market.
- **Establishment of units:**  
The success of banana special technology led to the formation of Siddanuru Bale Belegarara Sangha and Sri Done Siddeshwara Vegetable Growers Association. These two Common Interest Groups (CIGs) are supported by NABARD for many agricultural activities. The Vegetable Growers Association has established **vegetable nursery unit** at Siddanuru and selling vegetable seedlings. There is a plan to multiply tissue culture banana seedlings in future.  
  
To encourage organic farming vermicompost units were established and produced compost is being used for the crops. Demonstrations on **Vegetable special**, another product from IIHR, Bengaluru for vegetables were taken up in Siddanuru cluster during past two years.
- **Linkage with development organizations:**  
In collaboration with IIHR, Bengaluru, we had conducted farmers scientist interaction for our banana growers. FLD Farmers shared their experiences of using this technology with the gathered scientists and other farmers.
- **CD developed, if any:**  
A documentary study on use of banana special by our SMS (Horticulture) was telecasted in Annadata programme of E-TV Kannada.
- **Places and addresses of the farmers concerned or persons who could be contacted:**  
Post intervention survey schedule and testimonial from the farmers are enclosed.
- **Publications printed:**
  1. The case study was presented as poster presentation on **use of banana special to increase bunch weight in banana** by Mr. M.G.Basavanagowda, SMS (Horticulture), Dr. Pradeep H.M. (Soil Science) and Dr. Devaraja T.N. (Programme Coordinator) at National conference on horticulture biodiversity in eve of Swadesh Prem Jagruthi Sanghosti 2010, Bangalore.
  2. The Yashogathe of technology was published in Janathavani, Davanagere local news paper.

It is clear that there was a 33.44% increase in productivity of G9 variety and 39.27% increase of yelakki bale. Demonstrated technology helped in increasing the bunch weight and shelf life, thereby fetching good market price and increased income to farmers. This resulted in purchase of more than 200 kg of Banana special by other than demonstrated farmers in Siddanur cluster.

Frontline demonstration on use of Banana special in Banana helped farmers in micro nutrient management in Banana. These farmers formed “Siddanur Bale Belegarara Sangha” to help themselves in production and marketing of Banana. 12 farm families directly and 50 farm families indirectly had understood the importance of application of micro nutrients in Banana production. This in turn will help all of them to produce better quality and quantity of banana in a given area. Therefore, our intervention has resulted in increased farm income per unit area with good agriculture practices.

**Evidence:**

The success of this intervention was measured through pre and post assessments (12 No.s) While selecting the farmers for this programme, their family survey was conducted. The data was collected on a prescribed format and the post intervention data was collected on the same format to assess the difference of improvement.

**b) Case study on horizontal spread of ‘Arka kalyan’ in Onion through seed production in Honnali taluk:**

Onion is the main vegetable crop growing in Honnali taluk of the District. Up to 2007-08 farmers were growing local varieties in onion viz., Honnali red and satara red. Those varieties are having lower productivity levels and more susceptible to purple blotch disease. Farmers from Honnali taluk who visited our KVK in one of the training programmes expressed their opinion about onion crop and they urged KVK scientists to take up some useful demonstrations in the taluk.

KVK scientists selected Arundi village of Honnali taluk for demonstration purpose by contacting Raitha Samparka Kendra, Nyamathi. Totally ten farmers selected for demonstration. The technology selected was demonstration of purple blotch resistant variety Arka Kalyan. Regular training programmes, method demonstrations, field visits, were conducted by KVK scientists. During the cropping period no purple blotch incidence in the demo plot was observed unlike in local check. This helped the farmers to reduce their cost incurred on spray of plant protection chemicals. Farmers with local variety got around 70 q/ha where as farmers with Arka Kalyan got 115 q/ha. There is considerable (47.81 %) increase in yield was observed compared to local check. Farmers expressed good opinion about the variety and decided to produce more of this variety in future.

In the next rabi season farmers had taken up seed production of the same variety (Arka Kalyan) with the technical assistance from KVK scientists. The seeds of Arka Kalyan produced by few farmers (7 No.) were distributed among the farmers of the village. During this kharif 2008-09, the 70% of the total onion crop area (100 acres) of the village is under Arka Kalyan. The area expansion in this variety has indicated successful demonstration of the technology by KVK scientists.

**c) Groundnut stripper – A technology in women drudgery reduction**

Groundnut is an important crop among oilseeds in the district. Its production in India is 80 lakhs ton and in Karnataka is about 7.69 lakhs ton i.e. about 10% (2005-06). Important post harvest operation in groundnut is separation of pods from the plants which is generally carried out by women. The traditional method of separating groundnut is drudgery prone, time and labour intensive. Since this operation is performed manually, it causes physical and mental fatigue and other health problems

especially severe pain in fingers. Here, farmers are also forced to bear extra amount for labourers. Considering the above problems, an alternative technology has been developed i.e. Groundnut stripper (CIAE, Bhopal), which is useful in separating more pods about 60-70 kg per hour at a time by four members. Here there is a possibility to modify the equipment by farmers according to their needs depends upon their groundnut production. In case of Self Help Groups, they can have big size equipment and can earn money by giving other groundnut growers of the same village on daily rental basis. Hence groundnut pods can be separated by cheap and safer means. Moreover that would be stored or preserved and safeguard from natural calamities.

A small group of women of the Mallenahalli village, Davanagere taluk and Kechenahalli of Jagalur taluk were selected by Taralabalu Krishi Vigyan Kendra and demonstrated the Groundnut Stripper. Women folk of agricultural labourers showed special interest towards this equipment and most of them liked this technology and accepted because the labourers get wage amount depending on the quantity of the pods they separate. Hence using this equipment there is a possibility to earn extra money per day. Thus, farm women perceived that, this equipment is drudgery reducing, more efficient, advantageous in terms of increased out put thus time saving compared to traditional method of stripping. The same information was spread to many people and at present women groups from 4-5 villages are adopting this technology and solved labour problem.

#### d) Cotton:

India occupies 27% of total area in the world on under Cotton. Ranks first among other countries in Cotton area and second in production.

Davanagere district consists of six taluks, Harapanahalli, Jagalur, Harihara, Davanagere, Channagiri and Honnali. During 1990's Cotton area under Davanagere district was 25000 ha. But in 2003-04 Cotton area was reduced to 3,131 ha due to severe pest incidence, low yield and shutdown of cotton mills. Recent trend in cotton area and production of Davanagere district is shown in table-1 and one can see a gradual increase in the same during past 3 years.

#### 1: Cotton scenario of the district

Year	Area (ha)	Production (Bales)
2002-03	4667	4,759
2003-04	3131	3,007
2004-05	9620	13,485
2005-06	5294	3,008
2006-07	6657	7,160
2007-08	6773	43,232
2008-09	12640	1,02,110

**Table – 2: Rainfall data (mm)**

Month	2003	2004	2005	2006
June	21.8	46.1	70.8	74.3
July	27.1	91.1	203.6	96.0
August	99.5	84.4	117.8	33.6
September	10.5	208.4	107.4	76.4
October	150.2	112.0	132.4	28.2
November			38.4	55.6



Taralabalu Krishi Vigyan Kendra came into existence during May 2005-06. Under Mini Mission of Cotton project our KVK had taken 50 acre demonstration in Bt cotton. Based on the survey and discussion with line departments, **we selected** Budihal, Nandikamba and Anajigere villages of Harapanahalli taluk for demonstration. Rainfall data in the selected area was found to be optimum for cotton production although erratic during some part of the years (Table-2).

**Farmers and scientists** interacted with brain storming session in the villages for Bt-cotton introduction. Farmers were of the opinion that Cotton is a waste crop, requires more pesticides and inturn increased cost of production. They also added that ten years back cotton area was more than 500 acres in their village and now it is hardly 5-10 acres in each village.

We were able to convince the farmers and selected 50 farmers for demonstration during 2006-07. First step after selection was the collection of **soil samples** from each demo plot and analyzed for nutrient status. Based on the soil test report, fertilizers were applied. KVK had conducted On campus and Off campus training programmes on improved Cotton production technology. We also introduced growth regulator (Planofix), MgSO<sub>4</sub> and pheromone traps in the package of the technologies. During that year, senior scientists from **Zonal Project Directorate –Zone VIII and Board members of Taralabalu Rural Development Foundation, Sirigere visited the Front Line Demonstration plots.**

Farmers expressed that, who have grown maize suffered huge losses due to low rainfall at critical stages of crop growth during August and September 2006. Farmers were able to harvest only 15 q/ha against 60 q/ha with maize. On the other hand the farmers who had grown cotton under our FLD with Bt cotton technology did harvest 9 q/ha. The net income of the maize farmers was very low compared to the cotton grown farmer (Table-3).

**Table – 3: Yield and income**

<b>Crop</b>	<b>Yield (q/ha)</b>	<b>Cost of cultivation (Rs/ha)</b>	<b>Gross returns (Rs/ha)</b>	<b>Net returns (Rs/ha)</b>	<b>B:C ratio</b>
Bt Cotton	9	16,125	25,200	9,075	0.56
Maize	15	7,500	9,000	1,500	0.20

**Note:** Sale price: Rs. 2500-00/q (Cotton), Rs.600-00/q (Maize)

During the year 2007-08 farmers themselves came forward for cotton production. Then, we repeated the FLD with different farmers in the same villages. Now the cotton area has increased to >500 ha in and around Anajigere panchayath villages because of our KVK intervention during the **field visit** (Table-4).

**Table-4 : A survey conducted in Budihal/ Anajigere villages regarding Cotton area**

Year	Area
2003-04	150 ha
2004-05	10 ha
2005-06	20 ha
2006-07	30 ha
2007-08	250 ha
2008-09	>500 ha

**Table-5: A market survey conducted in Davanagere regarding sales of Bt Cotton seeds**

Year	No. of packets
2005	3,800
2006	40,000
2007	50,000
2008	83,000

During the year 2008-09, cotton area in the district was found to be 15000 ha and it is replacing the maize and sunflower in some taluks as observed in the data collected by the Department of Agriculture. We have surveyed the market sale of Bt cotton seeds (Table-5) and by looking at this data we can clearly say that area is catching up in the district as a whole.

Turning point in our intervention was **Farmer Field School** in the Bt cotton production (ICM) which fine tuned the understanding of Bt technology in cotton by farmers during 2008-09.

KVK had conducted Farmers Field School in Bt Cotton during 2008-09 at Budihal involving 30 farmers on ICM v/s Non ICM in Bt cotton. It was a huge success and collaborator farmer is now the leader in cotton technology for the village.

During 2009-10 cotton has replaced sunflower to a substantial extent in Harapanahalli and Jagalur taluk. Farmers are convinced with the technology and now they have become experts in utilizing the same for their benefit through KVK technologies.

The farmers are now able to talk about technology in Bt cotton and now they are ready to practice it without our presence. This new practice fetching higher yield and higher income with reduced cost of production for the farmers.

During **field day** conducted in the year 2007-08, Mr. Nagaraj a farmer from Budihal had expressed that he had harvested 60 q of cotton in 3 acres and claims that he has cleared the Bank loans and leading his life happily after our KVK's intervention in Bt technology. Another farmer, Mr. Kenchappa of Anajigere harvested 48 q of cotton in 2.5 acre land by giving protective irrigation at critical stages.

**Conclusion :** Bt cotton technology introduced in our KVK has certainly brought smile on the faces of farmers and success of these farmers has impacted their friends and relatives to go in for cotton production. As long as Bt cotton seeds are supplied in time and with Government subsidy regaining its earlier name in cotton production is not an impossible dream for Davanagere district, given the story technical backup of our KVK.

**e) Revival of coconut black headed caterpillar (*Opisina arenosella*) by larval parasitoid *Goniozus nephantidi***

Coconut is one of the important plantation crops of the district next to areca nut. The district has 12949.8 ha of coconut with production of 883.71 lakh nuts. The average productivity of 120 nuts / palm. Because of heavy incidence of coconut black headed caterpillar (CBHC) and mites nuts productivity has reduced drastically.

Coconut black headed caterpillar (CBHC) *Opisina arenosella* is one of the major pests of coconut palms causing considerable damage to coconut industry and according to a recent survey, about 1.6 million palms are affected in Karnataka alone. Available control measures include mechanical, chemical and biological to control it. The chemical method has been shown to leave persistent Residues. Consumption of tender coconuts from trees applied with synthetic pesticides may pose health hazards. Insecticide of several concerted efforts made for the past two decades to control the pest by synthetic application, the anticipated results have never been achieved in this communication, we report the effectiveness and superiority of biological control over other methods for management of this notorious pest by parasites.

**KV K Intervention**

Mr. Prakash.M S/o G.Mallappa, Kotehal village of channagiri Taluk, Davanagere district cultivators 8 acres of coconut from past two decades around 600 plants are accommodated in the 8 acres of area. The productivity of the palms was 40. He has taken all the measures like mechanical (cutting and burning of affected palms) and chemical (Roof feeding of monocrotophas 10 ml /palm) methods. By during all these efforts he is unable to control the pest and decided to uproot the palms as they have less productive.

They expressed the problem with officials of Taralabalu Krishi Vigyan Kendra. Scientists from KVK initially surveyed the plot for the occurrences of pest incidence. It was noticed that 65-70% of the palms were affected with this. Scientists contacted the Tamilnadu Agriculture University scientists for obtaining larval parasite *Goniozus nephantidis*. Initial arrangement was made by KVK to procure the parasites. A method demonstration was also did on release of parasites to the palm. Later on the farmer released the parasites 4 times by himself. Slowly the incidence was reduced months after month. Again in the next year they have practiced the same technology in consulting with KVK scientists.

<b>Particulars'</b>	<b>Before</b>	<b>After</b>
Incidence of CBHC in plot	65-70 %	5-10%
Number of nuts / palm	40	140-150
District average	120	
Gross Income (600 Palms )	72000/-	252000/-

### **Suitability in the existing farming / cropping system**

As the incidence of CBHC is prevailing in the other coconut gardens of the region. So this technology suits to whole area of affected palms.

### **Acceptance of the technology by the farmer**

Farmers accepted and convinced about the technology as it drastically reduced the pest incidence. It also acts as best alternative to other methods of control.

### **Horizontal spread**

More than 50 farmers are advised in this technology by the KVK. We are diverting the farmers to department of Horticulture for obtaining the *Goniozus nephantidis*.

### **Linkage with developmental organizations**

In collaboration with department of horticulture, Davanagere we have conducted several training programmes on production technology of coconut under coconut development board scheme. Farmers who advised about the technology are diverted to department for getting the *Goniozus nephantidis* parasitoids in the early years Tamilnadu Agriculture University has supplied the culture.

### **CD Developed / Media**

A story on management of CBHC in coconut by our SMS (Horticulture) Mr.Basavanagowda.M.G was telecasted on Anna data programmed of E-TV Kannada.

### **Places and Address of the Farmer who could be contacted**

Mr.Prakash.G S/o Mallappa.G

Kotehal, Marabanahalli (at post)

Channagiri Taluk

Davanagere district-577551, Phone No: 09448628010

### **Publications Printed**

1) The study was presented as poster presentation on “Integrated Management of black headed caterpillar in coconut by Mr.Basavanagowda.M.G SMS (Horticulture), Prasannakumara.N SMS (Plant Protection), Dr.Devaraja.T.N (Program me Coordinator) at international conference on a coconut Biodiversity for prosperity at Central Plantation Crops Research Institute, Kasargod (Enclosure-1).

2) Folder on management of CBHC in coconut was brought out by Taralabalu KVK (Exclosure-2)

It was clear that, a coconut garden which is going to uproot by the farmer is saved by the KVK effort. *Goniozus nephantidis* is the most effective larval parasitoid in controlling the CBHC. The parasitoid should be released @3000/ha under the coconut trees when the pest is in the 2<sup>nd</sup> &3<sup>rd</sup> instars larval stage. The optimum level of release is 1:8 of parasitoid ratio. Parasitoid should not be released in the crown region since they will be killed by predators like spiders bugs.

This technology helped to reduce the incidence level from 65-70 percent to 5-10 percent. This inturn helps to increase the productivity of the palms contributing to the higher gross income.

## Evidence

The success of the technology was measured by post assessment of the farming situation. Initial survey was made on the percent existence of the pest later after the study post survey was made on the percent damage. Increase in number of nuts per palm itself indicates the success of technology in decreasing the incidence.

### **f) Case study: Velvet beans: A superior inter/cover crop in arecanut and coconut plantation of Davanagere district.**

**Background:** In Davanagere arecanut is the major plantation crop covering an area of 30000 ha. Dominantly arecanut is grown as sole crop in all parts of district. This has increased the weed infestation and raised the microclimate temperature inturn leading to infloresunce drying and premature nuts falling. Some of the intercrops like banana and betelvine etc were grown. But, most of the farmers are not interested in putting effort or getting money from intercrops. Only their interest is in minimizing weed infestation, moisture conservation and fertility maintainance. They want easy ways for getting above results. Hence, velvet beans, a pulse crop can satisfy all the above requirements with minimum care and cost, Taralabalu Krishi Vigyan Kendra started popularizing the velvet beans crop as cover /intercrop in arecanut and coconut plantations.

This programme is important to the farmers because velvet bean is hardy crop needs less maintainance or care. This will spread all over the plot with in 45-50 days of sowing. This will reduce the weeds, reduces moisture loss and fallen foliage or green mulching will improves the soil fertility.

### **KVK Intervention**

Our KVK has done an on farm trial “Assessment of mucuna as intercropping in arecanut”. Technology options viz, sole arecanut, arecanut + cowpea and arecanut+ mucuna intercropping were carried out in four farmers field. The production system ws rainfed. Some of performance indictors for technology were number of pods per plant and yield. Technology option arecanut+mucuna shown higher net return (28450/ ha), production (6.60 q/ha) and B:C Ratio (4.6) compared to arecanut + cowpea treatment which shown net return (10500/ha), production (4 q/ha) and B:C ratio (2.4)

Assesment requirement such as weed control and moisture conservation was very well happened in arecanut+mucuna option. Foliage fallen by mucuna was very large and it was added biomass and inturn improved the fertility of soil. Farmers were very happy with the results and also monitory benefit from it.

After the success of on farm trial, we started popularization in arceanut and coconut gardens. Krishi Vigyan Kendra provided nearly 150 kg of mucuna seeds to 20 farmers. The list of farmers is enlisted below.

Sl. No.	Farmers name	Address	Mucuna seeds Quantity sold (kg)
1.	Mr. Nagarajappa	Marabanahalli, Channagiri tq	10
2.	Mr. Manjunatha	Kanivebilchi, Channagiri tq	10
3.	Mr. Siddabasappa	Malalakere, Davanagere-tq	12
4.	Mr. Shivappa	Halebislerly, Davanagere-tq	07
5.	Mr. Arunkumar	Halebislerly, Davanagere-tq	06
6.	Mr. Nataraj	Naraganahalli	02
7.	Mr. Halappa	Davanagere	06
8.	Mr. Jayappa	Kaggi, Channagiri-tq	03
9.	Mr. Govida Naik	Kerebilchi, Channagiri-tq	10
10.	Mr. Prakash	Kotehal, Channagiri-tq	03
11.	Mr. Parameshwarappa H.C.	Dibbadahalli, Harihar-tq	05
12.	Mr. Krishna reddy	Nandihall, Harihar-tq	05
13.	Mr. Shivashankar	Kenchanahalli, Hairhar-tq.	05
14.	Mr. Arunkumar	Somashettihalli, Channagiri-tq	10
15.	Mr. Ramalingappa	Kengunte, Holalkere-tq	03
16.	Mr. Sanakki Basavarajappa	Kengunte, Holalkere-tq	03
17.	Mr. Jayapraksh	Halebislerly, Davanagere-tq	16
18.	Mr. Chandrappa C.T.	Shiramangondanahalli, Davanagere-tq.	03

Constraints or hurdles identified: Mucuna is spreading and climbing one. It will climb the arecanut tree. In matured trees harvesting may become problematic, since mucuna was spreaded all over the plot.

KVK provided mucuna seeds at minimum cost to farmers and gave all necessary technical crop production information. In one season the crop was spread to more than 75 acres of land. KVK also took the help of department of agriculture and horticulture for popularizing the crop. This made a good impact in popularizing mucuna.

#### **Effect of the technology/ Process / Results / Impact:**

##### **A. Production:**

Arecanut+cowpea

Number of pods per plant: 14.80

Yield (q/ha) : 4.50

Arecanut+mucuna

Number of pods per plant: 42.3

Yield (q/ha) : 6.60

**B. Economic gains:**

<b>Technology option</b>	<b>Cost of cultivation (Rs./ha)</b>	<b>Gross return (Rs./ha)</b>	<b>Net return (Profit) Rs./ha</b>	<b>B:C ratio</b>
Arecanut+cowpea	7500	18000	10500	2.4
Arecanut+mucuna	7850	36300	28450	4.6

**Price:** Cowpea seeds: Rs. 40/kg

Mucuna seeds: Rs. 55/kg

**C) Suitability in the existing farming / cropping systems:**

Arecanut and coconut are grown as sole crops by major farmers. The weed menace and moisture shortage were major problems. The mucuna intercropping has proved answer for both problems and inturn effective in maintaining the soil fertility.

D) Acceptance of the technology/its sustainability, process in terms of views of farmers:

The technology was already accepted by farmers but its sustainability has to checked still more seasons.

E) Horizontal spread:

It has been grown by nearly 20 farmers with in a area of 75 acres.

F) Marketing channels: KVK has shown different ways for marketing of mucuna seeds. Some medicine making companies are the important vendors of mucuna seeds.

**g). Case Study : Cycle weeder-handy for the small farmer****Introduction**

Weed is the biggest problem in the crop production. In the recent years, based on the data estimated about 30% of the yield loss is due to weeds. These weeds will remove nearly 25% to 60% of nutrients from the soil which is not available to the crop inturn reduces yield and quality of the crop. Weeds not only remove the nutrients and moisture (30 -60%) but also act as host for the pests and pathogens.

Weed management is also a problem because of the lack of availability of the labourer. Therefore in recent years, mechanization is gaining importance in all aspects of the crop production. But the small farmers are facing problem with the mechanization as it is costly to adopt such technologies. Hence, the farmers whose land holding is less than two acres are facing severe problem in the weed management.

## Problem Definition

A farmers by name Mr. Renukarya and Mr. Mallikarjuna, from Kallahalli and Belavanur ,village Harapanahalli and davanagere taluk met SMS (Agronomy) and discussed regarding the weed management in his one acre area where vegetables were grown. He expressed that weed menace is severe and yields levels are very low. For growing one acre of different vegetables we require about 20-30 men labourers and cost of the labourers are high. The cost of the production is much more when we use labourers for weeding. He was suggested to attend the training programme on mechanization in agriculture during the technology week in September 2010.

Many farmers from Belavanur and kalahalli visited KVK and attended the training programme on the weed management through the mechanization in field crops for small farmers. In the training we had demonstrated the use of cycle weeder for weeding in the vegetables plots. After the training programme, selected group of the farmers were given the cycle weeder for weeding in their own farmers under our technical guidance. We had conducted an off campus training on utilization of the cycle weeder for weeding in vegetables at Belavanur and kalahalli village.

## KRISHI VIGYANA KENDRA INTERVENTION WITH CYCLE WEEDER

We had conducted an off campus training on utilization of the cycle weeder for weeding in vegetables at Belavanur village. We did suggested to the farmers that it can be used for all the crops like groundnut, sunflower, maize and vegetables with the spacing of 30-40 cm between the lines and 15 -20 cm within the plants. Cycle weeder can penetrate 2-2.5 cm depth in the soil. The efficiency of the cycle weeder is about 1-1.5 acre weeding can be done with a single man. Cycle weeder can be used after 15-20 DAS and their should be enough moisture at time of weeding. The weeding technology was demonstrated in the field where vegetables were grown in the farmers field.

Made frequent visits to the plots where the weeding was done using the cycle weeder in the vegetable crops and collected the data on weed menance , time require for weeding and yield. The following observation were made by the farmer who is using cycle weeder in the vegetables grown throughout the year.

**Table 1. Comparison of manual weeding with modified Cycle weeder in vegetables**

Sl.No	Method of weeding	Manual weeding			Cycle weeder		
		Total no of labourers required per ha	Total numbers of labourers	Total Cost	Total no of labourers required	Total numbers of labourers	Total Cost
	Vegetables	18 X4Nos	72	10,800	6X4Nos	24	3,600



**Table 2. Economics of Manual weeding v/s Hand operated Cycle weeder in vegetables**

	<b>Hand weeding</b>	<b>Cycle weeder</b>
Area coverage per (ha)/day	0.398	0.405
No.of labourers required	18	4
Cost of labourers (Rs.)	2700	600
B:C	1.9	2.8

**Inference :** Four men labour could able to weedbetween the rows and in between the plants by hand operated cycle weeder an area of 0.4 ha/day for Rs.600/- but in hand weeding 18 women labourers were required for covering an area of 0.398 ha/day at Rs. 2700/- which saves 2100 per day.

#### **FARMERS FEED BACK ON THE TECHNOLOGY**

The farmers using the technology expressed that the weeder is best suited for the farmers whose land holding is 2 acres and if he grows vegetables there is more beneficial. Earlier before the cycle weeder labourers were used for weeding. The main problem with labourers is their inefficiency and demanding high price at peak time of the crop. Farmers expressed that the timely sowing and timely weeding is important in agriculture. The farmer has added fly ash to his field and application of cycle weeder is very easy as the soil has become fragile. Now, other family members can also use the cycle weeder .He usually does the weeding work in the early morning and evening for 3-4 hrs daily with other regular farm works . Mr Renukarya , retired Agri.scientist expressed that the technology of cycle weeder had used by me and it is best technology for the future agriculture when the land holdings will be reduced. The population is increasing day by day but not the land. There will be be more fragmented land and this will be very suitable for the farmers during the weeding.

#### **Conclusion**

The use of cycle weeder for weeding will be efficient where the soil moisture is optimum and soil should be loose enough to pull the weeder. This is specially designed for the small farmers and farmwomen. Now our taralabalu krishi vigyana Kendra is popularizing technology to the small farmers .This technology is being used by progressive farmers as they are facing the labourers problem.

## h) Case study : “Impact of Front Line Demonstration on High Yielding variety GPU-28 of Ragi” in Kurki village

### Introduction:

Ragi, the staple food of poor men growing in the country since time immemorial. Increased area under maize has resulted in decreased area under minor millets, oil seeds and pulses in the last decade or so. The trend is same in ragi also. In Davanagere district ragi is grown in 10362 ha, (15912 ha, 2008-09) with total production 15537 tones (23845.5 tons. 2008-09) and productivity 1499 kg/ha. (Source: Department of Agriculture, Davanagere 2009-10) Ragi, which is predominantly grown by poor and marginal farmers uses locally available varieties. These local varieties are poor yielders and less fodder production, resulting in little income to the farmers.

### KVK interventions:

Taralabalu Krishi Vigyan Kendra conducted Frontline Demonstration on “Popularization of High Yielding Variety GPU-28 of Ragi” during kharif – 2007. Subject Matter Specialist of Agronomy was in charge of this FLD. Twenty four farmers selected for this FLD in the following villages-1. Mellakatte (8 farmers) 2. Tholahunse ( 5 farmers) and 3. Kurki ( 11 farmers) in Davanagere taluk.

On-campus training on “Production Technology in (GPU-28) ragi” was conducted on 25-6-2007. In the training important topics like seed treatment, application of fertilizer based on soil test results, spacing, seed rate, intercultivation and weed management were explained. Field visits (18-7-07 and 16-9-07) for regular monitoring and field day was conducted on 12-10-2007. Demonstrated variety i.e. GPU-28 of ragi produced yield of 22.00 q/ha when compared to 14.00 q/ha yield of local check.

### Results and Discussion:

Village survey conducted during February 2011 to know the spread of GPU-28 ragi variety among farmers in Kurki village.

**Table-1** Number of farmers growing GPU-28 variety among ragi growing farmers in Kurki village.

(N=320)

GPU-28		Other varieties	
Number	Percent	Number	Percent
256	80	64	20

It is clear from table-1 that among 320 ragi growing farmers, 256 farmers (80%) are growing GPU-28 variety and only 20% growing other varieties. Performance of GPU-28 variety in terms of yield, size of fingers, quality of grains and quantity and quality of fodder produced played major role in opting for the same. Demonstrated farmers had provided seeds (GPU-28) for neighboring farmers.

During the survey, farmers revealed that average yield of GPU-28 variety is 19.00-20.50 q/ha, in comparison to other varieties 14.00 to 15.95 q/ha. Correspondingly, income generated was Rs. 19000/- /ha. and Rs. 14000/ha in case of GPU-28 and other ragi variety respectively.

Since ragi is grown in rainfed and less fertile land, normally minimum efforts are devoted for crop management practices and in put application when compared to paddy or maize. Considering

prevailing prices in the market, farmers cannot afford to spend more on inputs and management practices for production of ragi. In this situation GPU-28 variety introduced by KVK became best sought after ragi variety for ragi growing farmers in kurki village.

Front Line Demonstration conducted by Taralabalu Krishi Vigyan Kendra, Davanagere on ‘Popularization of High Yielding Variety GPU-28 of Ragi’ in Kurki village of Davanagere district almost replaced old local varieties of ragi. Yield levels and fodder quantity and quality used for rearing animals was found compatible with conditions prevailing in the village.

(iv) Large scale adoption of technologies documented in detail in each year (2005-06 to 2009-10)

***A study on Impact of training programme on “Production of Vermicompost and its importance in Agriculture”***

**Introduction and Methodology:**

A study was conducted to analyze the *impact of training* among the farmers of Kurki village of Davanagere taluk. The village has 1000 families with majority of land being irrigated. The major crops of the village were Paddy, Maize, Jowar, Sugarcane, Arecanut, Coconut and Banana. Farmers are using fertilizers to grow crops and only few farmers are using farm yard manure (FYM) based on the availability. There exist major scope for vermicompost production in this village, considering crops grown and the availability of biomass (agricultural waste for the production of vermicompost viz. paddy straw and husk, sugarcane trash, Arecanut and Coconut leaves etc.) with this background, Taralabalu Krishi Vigyan Kendra has taken up training programmes on ‘Production of vermicompost and its importance in Agriculture’ during the year 2005 and 2006. 45 potential farmers from the village were randomly selected and were trained to impart necessary skill in production of vermicompost. Present study was taken up in August 2009 after three years of training to analyze the impact of training on “Production of vermicompost and its importance in Agriculture”.

Training title	Date	No. of farmers
Production of vermicompost and its importance in agriculture	19-09-2005 and 23-01-2006	45

The study was conducted using structured schedule and 45 farmers were asked to answer the questions. The data collected was analyzed and the results were tabulated using percentage and numbers.

**Results and Discussion:**

The results of the study were tabulated and presented in number and percent basis

**Table-I: Knowledge of farmers in production of vermicompost before the training**  
(n=45)

Yes		No	
Numbers	Percentage (%)	Numbers	Percentage (%)
01	2	44	98

**Table-II: No. of farmers who felt the training was useful**

(n=45)

Useful		Not useful	
Numbers	Percentage (%)	Numbers	Percentage (%)
45	100	0	0

**Table-III: Number of farmers adopted the technology**

Adopted		Adopted and discontinued		Not adopted	
Numbers	Percentage (%)	Numbers	Percentage (%)	Numbers	Percentage (%)
06	13	13	29	26	58

(n=45)

Majority (98%) of the farmers said that they don't have knowledge of vermicompost production prior to the training programme Table-I.

Table-II reveals that cent percent farmers felt that the training programme was useful, but still yet only (Table-III) 13% adopted the technology and 29% of the farmers have been discontinued after adopting the technology. The reasons quoted by these farmers are lack of labour, support and motivation, follow-up and water problem in summer. Majority of the farmers (58%) have not adopted the technology at all, reasons for this are no place for construction of vermicompost unit around their homes, water facilities, labour problem (High cost of labour), lack of motivation and absence of cows and buffalos.

**Summary:**

Although cent percent of the farmers felt that training on 'Production of vermicompost and its importance in agriculture' was useful majority of farmers have find it difficult to adopt the technology. Repeated follow up visits and subsidized support to the farmers for sustained production will definitely help discontinued and non-adopters to adopt the technology. In this background Taralabalu Krishi Vigyan Kendra has planned to conduct Ex-trainees training programme on 'Production of vermicompost and its importance in agriculture' to farmers of Kurki village.

**E. Details on extension activities****E.1. Extension activities undertaken**

Name of programme	No. of activities (NA) and participants (F: farmers and EO: Extension Officials)																	
	2005-06			2006-07			2007-08			2008-09			2009-10			Total		
	NA	F	EO	NA	F	EO	NA	F	EO	NA	F	EO	NA	F	EO	NA	F	EO
Field Day	03	55		05	173		10	387		04	52	05	07	160		<b>29</b>	<b>827</b>	<b>5</b>
Kisan Mela										01			02			<b>3</b>	<b>0</b>	<b>0</b>
Kisan Ghosthi										01	81					<b>1</b>	<b>81</b>	<b>0</b>
Exhibition	03						01						01			<b>5</b>	<b>0</b>	<b>0</b>
Film Show				96	3922		27			76	153		29	241	24	<b>228</b>	<b>4316</b>	<b>24</b>
Method Demonstrations	70	232	16	169	4658	41	75	890		55	996		34	241		<b>403</b>	<b>7017</b>	<b>57</b>
Farmers Seminar							01	56		01	18					<b>2</b>	<b>74</b>	<b>0</b>
Workshop				02	75		01	53		01			07	442		<b>11</b>	<b>570</b>	<b>0</b>
Group meetings							23			01			07	184		<b>31</b>	<b>184</b>	<b>0</b>
Lectures delivered as resource persons				21	1504	30	10	690		30	726	73	30	1547		<b>91</b>	<b>4467</b>	<b>103</b>
Guest Lectures																<b>0</b>	<b>0</b>	<b>0</b>
Extension Literature /training materials produced																<b>0</b>	<b>0</b>	<b>0</b>
(a) Pamphlets				06	3946		12			93	1217	65	45	777	59	<b>156</b>	<b>5940</b>	<b>124</b>
(b) video cassettes																<b>0</b>	<b>0</b>	<b>0</b>
(c) Slides																<b>0</b>	<b>0</b>	<b>0</b>
(d) Lecture notes				01	958											<b>1</b>	<b>958</b>	<b>0</b>
Technical Advisory Services																<b>0</b>	<b>0</b>	<b>0</b>
<i>a) Poultry and Pig</i>																<b>0</b>	<b>0</b>	<b>0</b>
Scientific visit to farmers field	198	193	05	229			165			75	141	17	54			<b>721</b>	<b>334</b>	<b>22</b>
Farmers visit to KVK					157	157		259		214	210	04	319			<b>533</b>	<b>626</b>	<b>161</b>
Diagnostic visits								15		07			12			<b>19</b>	<b>15</b>	<b>0</b>

## Taralabalu KVK, Davanagere

Exposure visits				02			05			01			03			11	0	0
a)Goat/Dairy																0	0	0
Ex-trainees Sammelan																0	0	0
Soil health Camp																0	0	0
Animal Health Camp							02	250		01	500					3	750	0
Agri mobile clinic																0	0	0
Soil test campaigns				01	47											1	47	0
Farm Science Club Conveners meet																0	0	0
Self Help Group Conveners meetings				01	15		06	78		01	14		01	35		9	142	0
Mahila Mandals Conveners meetings							01	12		01	28					2	40	0
Farmers groups formed																0	0	0
SHGs formed	11	116		01	15		02	28					11	160		25	319	0
Diagnostic team visits																0	0	0
Mobile team visits																0	0	0
Advisory services	280	280		135	135					81			67			563	415	0
FFS organised																0	0	0
Celebration of important days (specify)																0	0	0
a)Farmers' day celebrations				01	39		01	36		01	09					3	84	0
b) Earth day																0	0	0
c) Science day	01	34		01	50		01	59		01	24					4	167	0
Video lessons displayed																0	0	0
Newspaper coverage	34			89						126			88			337	0	0
Radio talks Radio coverage's				04			22			05			24			55	0	0
TV talks				23			07			10			13			0	0	0

## Tara labalu KVK, Davanagere

Popular articles				05			05			01			02			53	0	0
<b>Any Other (Specify)</b>																13	0	0
World Wet Land Day													01	70		1	70	0
Brain storming on natural farming	01	380	20													1	380	20
International Mothers Day	01	11														1	11	0
World Environment Day	01	30														1	30	0
Diagnostic Survey	05															5	0	0
Trainers Training				01												1	0	0
PRA				01	170											1	170	0
Parthenium Awareness Week							01	29		01	60		01	60		3	149	0
Meeting with Honorable Agriculture Minister of Karnataka				01												1	0	0
World Food Day Celebration				01	32		01	36		01	09	40	01	65		4	142	40
Women in Agriculture Day celebration				01	24		01	65		01	94	02				3	183	2
World Kitchen Day celebration				01	42		01	22		01	60		01	53		4	177	0
Conference				01												1	0	0
Wall posters				01	235											1	235	0
Agri camps							02									2	0	0
Technology week celebration													01	614		1	614	0

**E.2. Technology Week Observation during 2009-10**

Period of observing Technology Week: From 12-10-2009 to 16-10-2009

<b>Types of Activities</b>	<b>Number of activities</b>	<b>Number of Farmers utilized the activities</b>
Demonstration plots laid inside KVK campus	15	615
Extension Activities	10	615
• Literature provided (No.)	5 different types	615
• Supply of Planting materials (No.)	1 (50,000 cuttings)	12
• Supply of Seeds (q.)	1 (5 q)	35
• Supply of Bio Product (kg)	1 (50)	20
• Supply of Bio Fertilizers (q.)		
• Supply of fingerlings		
• Supply of Livestock specimen (No.)		
• Lectures organized	09	01
• Exhibition	01	615
<b>Total</b>		<b>2528</b>

**F. Status of research-extension linkages at district level**

<b>Indicators</b>	<b>Explain how involvement taken place</b>
What kind of mechanism exists for local coordination of the frontline extension demonstrations between the KVKs and state government	Direct meeting with Department of Agriculture JDA and ADAs planning on collaborative FLDs will be designed for each season every year. RSKs will help.
What is the frequency of local management committee/scientific advisory committee meeting of KVK during last 5 years	Conducting SAC meeting every six months once
No. of monthly workshops organized/participated	Minimum of one extension activity per month in collaboration with line Department of UAS or NGO
Frequency and number of staff participated in seminars at zonal, state and national levels	Minimum of 6 staff members participated in seminars in a year and 8-10 such seminars in a year
Whether the local NGOs are involved in KVKs programmes, if yes how many and what frequency	Yes. They bring trainees for sponsored programmes and also participate KVK's function such as technology week, seminars once a month minimum. (Spoorthy, Baduku, Sahara, IDS).
Whether the local mahila mandal or farm science clubs are promoted and have become visible in their activities. If yes how many and what frequency	Yes. 5 are formed
A brief about the extent of contribution of the officials of various line departments and joint programmes undertaken.	JDA is the most supportive and understanding. Collaborative krishi melas, technology weeks, workshops, trainings have been organized. DD-Horticulture, Veterinary and Watershed are also supportive of KVK activities. ZP has recognized KVK and its potential and thoroughly utilizing the infrastructure for skill development programme.





<b>Fish fingerlings (Number)</b>										248	1240		76 00	125 00				
Fishes (No)			1600 0	51 70	6	2365 0	68 00	06										
Ornamental fishes						99	64 0	25										
<b>Bio Products (Quintal)</b>																		
Vermicompost			1600 0	51 70	6	2365 0	68 00	06										
Banana special						3195 kg	10 93 5	25	54 kg	8100	35							
Vegetable special									35 kg	5250	28							
Trichoderma													75 kg	562 5	40			

## H. Impact of KVK on farming population

Five farmers have been posed with the following questions & reported here (Adopted villages)

### 1) (i) General information

<b>Name and address of farmer</b>	<b>Mr. Prabhakar</b> Kurki Davanagere tq. and Dist. Karnataka
Enterprises being practiced	Vermicomposting
Enlist improved technologies being adopted under different enterprises	1. Azolla culture production 2. Bio fertilizers were used in rice and redgram crops 3. Hexagonal planting of coconut
When were these improved technologies received by you (farmer) and from where?	Given in the table below

Technology	Year	Where
1. Azolla culture production	2007	TKVK, Davanagere
2. Bio fertilizers	2008	TKVK, Davanagere
3. Hexagonal planting in coconut	2007	TKVK, Davanagere

(ii) Enlist 10 latest technologies which have been received from the KVK to your village and furnish information on the following

Sl. No	Name of the technology	Extent of adoption (% approximately)	Reasons for formal adoption
1	Azolla culture production	30	As a nutrient source along with feed
2	Bio fertilizers	45	Reduces expenses on fertilizers
3	Hexagonal planting in coconut	05	Higher yield

(iii) Opinion of the farmer

What should be the approach of KVK for training and better adoption of technologies in light of your experience with the technologies introduced in your village	Reach of KVK to farmers is in small extent. In addition to the introduction of new technologies KVK should concentrate to change the mind set of farmers, most of farmers already lost their interest in agriculture because of its heavy man power investment with low monetary returns.
Do you know the activities of KVK? If yes, what are those activities?	<b>Yes, I know the KVK activities</b> 1. Front Line Demonstration 2. On Farm Trail 3. Trainings 4. New improved variety popularization 5. Workshops 6. Supply of some quality agriculture inputs like banana special and seedlings like mango, drumstick, arecanut etc. 7. Soil and Water testing and recommendations.
Do you think that roles/activities of KVK need some change? Yes/No If yes, what are your suggestions?	1. KVK has to increase the number of demonstrations and trails of new technologies. 2. KVK should involve in mass seed production activities in farmers field.
Any other comments on the KVK	-

2. (i) General information

Name and address of farmer	<b>Mr. Ravi Kumar M.B.</b> Siddanuru, Davanagere tq. and dist., Karnataka
Enterprises being practiced	Nursery seedling production
Enlist improved technologies being adopted under different enterprises	1. Banana special foliar macro nutrient application to banana. 2. Vegetable special foliar micronutrient application to Tomato. 3. Use of Maize NAH 2049 (Nityashree) 4. Use marigold as trap crop in tomato
When were these improved technologies received by you (farmer) and from where?	Given in the table below

Technology	Year	Where
1. Banana foliar micronutrient application to banana	2009	TKVK, Davanagere
2. Vegetable special foliar micronutrient application to tomato	2009	TKVK, Davanagere
3. Use of maize NAH 2049 (Nityashree)	2008	TKVK, Davanagere

(ii) Enlist 10 latest technologies which have been received from the KVK to your village and furnish information on the following

Sl. No	Name of the technology	Extent of adoption (% approximately)	Reasons for formal adoption
1	Banana foliar micronutrient application to banana	60	Increases bunch weight and equal size of fingers in bunch
2	Vegetable special foliar micronutrient application to tomato	40	Increases yield
3	Use of maize NAH 2049 (Nityashree)	20	Resistant to downey mildew, leaf blight and stem borer

(iii) Opinion of the farmer

What should be the approach of KVK for training and better adoption of technologies in light of your experience with the technologies introduced in your village	KVK should give training at our village only. Recent technologies like fertigation should be popularized to several crops.
Do you know the activities of KVK ? If yes, what are those activities?	<b>Yes, List of activities:</b> 1. Training 2. FLD 3. OFT 4. Special day celebration 5. Exposure visits
Do you think that roles/activities of KVK need some change? Yes/No If yes, what are your suggestions?	No
Any other comments on the KVK	No.

3. (i) General information

Name and address of farmer	<b>Mr. Basavaraj</b> Anajigere, Harapanahalli – tq., Davanagere district. Karnataka
Enterprises being practiced	No
Enlist improved technologies being adopted under different enterprises	1. Potassium nitrate, planofix and magnesium sulphate foliar spray to cotton. 2. Introduction of KBSH-53 sunflower hybrid 3. Introduction of GPU-28 variety
When were these improved technologies received by you (farmer) and from where?	Given in the table below

Technology	Year	Where
1. Potassium nitrate, planofix and magnesium sulphate foliar spray to cotton	2008	TKVK, Davanagere
2. Introduction of KBSH-53, Sunflower variety	2009	TKVK, Davanagere
3. Introduction of GPU-28 variety	2009	TKVK, Davanagere

(ii) Enlist 10 latest technologies which have been received from the KVK to your village and furnish information on the following

Sl. No	Name of the technology	Extent of adoption (% approximately)	Reasons for formal adoption
1	Potassium nitrate for cotton	40	Increase in boll weight and retention of bolls and squares
2	Planofix for cotton	45	
3	Magnesium sulphate for cotton	66	
4	Introduction of KBSH-53, Sunflower hybrid	20	Resistant to powdery mildew and higher yield
5	Introduction of GPU-28 variety	80	Resistant to blast and higher yield

(iii) Opinion of the farmer

What should be the approach of KVK for training and better adoption of technologies in light of your experience with the technologies introduced in your village	KVK should regularly visit the farmers and give recommendations so that farmers will be benefited. Increase OFT and off campus trainings.
Do you know the activities of KVK ? If yes, what are those activities?	<b>Yes</b> , List of activities: 1. Training 2. FLD 3. OFT 4. Field day 5. Diagnostic field visits 6. Workshops 7. Awareness campaign
Do you think that roles/activities of KVK need some change? Yes/No If yes, what are your suggestions?	<b>Yes</b> , Suggestions: 1. KVK should do more activities on minor millets. 2. KVK should give more importance to post harvest activities. 3 KVK should give more importance to market linkage
Any other comments on the KVK	

## 4. (i) General information

<b>Name and address of farmer</b>	<b>Mr. Shivakumar</b> Bhudhihal, Harapanhalli tq.
Enterprises being practiced	Seed production
Enlist improved technologies being adopted under different enterprises	1. Spray with KNO <sub>3</sub> , Planofix and MgSO <sub>4</sub> in cotton. 2. Introduction of navane variety STA-326. 3. Use of neem soap, neem cake and marigold in tomato IPM
When were these improved technologies received by you (farmer) and from where?	Given in the table below

<b>Technology</b>	<b>Year</b>	<b>Where</b>
1. Spray with KNO <sub>3</sub> planofix and MgSo <sub>4</sub> in cotton	2007	TKVK, Davanagere
2. Introduction of Navane variety STA-326	2008	TKVK, Davanagere
3. Use of neem soap, neem cake and marigold in tomato	2008	TKVK, Davanagere

(ii) Enlist 10 latest technologies which have been received from the KVK to your village and furnish information on the following

<b>Sl. No</b>	<b>Name of the technology</b>	<b>Extent of adoption (% approximately)</b>	<b>Reasons for formal adoption</b>
1	Potassium nitrate for cotton	45	Increase in boll weight and retention of bolls and squares
2	Planofix for cotton	66	
3	Magnesium sulphate for cotton	40	
4	Introduction of navane variety STA-326	20	Higher yield
5	Use of neem soap, neem cake and marigold in tomato	50	Control of fruit borer

(iii) Opinion of the farmer

What should be the approach of KVK for training and better adoption of technologies in light of your experience with the technologies introduced in your village	More number of off campus training should be conducted at village level and exposure visits have to be made to different places.
Do you know the activities of KVK ? If yes, what are those activities?	<b>Yes,</b> 1. Training 2. Farmer-Scientists interaction 3. Group meetings 4. Workshop 5. Awareness campaign

Do you think that roles/activities of KVK need some change? Yes/No If yes, what are your suggestions?	<b>Yes,</b> <b>Suggestions:</b> 1. More number of method demonstrations should be made at field level for better adoption. 2. Diagnosis of pests should be made at field level and more number of farmers should be present at diagnosis. 3. Activities on marketing and value addition.
Any other comments on the KVK	-

### 5. (i) General information

<b>Name and address of farmer</b>	<b>Mr. Eranna</b> Halebisleri Davanagere tq. and Dist.
Enterprises being practiced	Vermicomposting ICM in rice
Enlist improved technologies being adopted under different enterprises	1. Rice seedlings treatment with Azospirillum. 2. Use of funnel trap for yellow rice stem borer. 3. Azolla culture production.
When were these improved technologies received by you (farmer) and from where?	Given in the table below

<b>Technology</b>	<b>Year</b>	<b>Where</b>
1. Rice seedlings treatment with Azospirillum.	2009	TKVK, Davanagere
2. Use of yellow rice stem borer traps.	2009	TKVK, Davanagere
3. Azolla culture production.	2009	TKVK, Davanagere

(ii) Enlist 10 latest technologies which have been received from the KVK to your village and furnish information on the following

<b>Sl. No</b>	<b>Name of the technology</b>	<b>Extent of adoption (% approximately)</b>	<b>Reasons for formal adoption</b>
1	Rice seedlings treatment with Azospirillum.	45	Reduces expenses on fertilizers
2	Use of funnel trap for yellow rice stem borer.	43	Control of stem borer and reduces expenses on pesticides
3	Azolla culture production.	30	As a source of nutrient along with feed

## (iii) Opinion of the farmer

What should be the approach of KVK for training and better adoption of technologies in light of your experience with the technologies introduced in your village	KVK should have to give training in effective manner by method demonstration, film show and diagnosis of symptoms. Regular field visits and interaction should be made along with farmers for better production of crop.
Do you know the activities of KVK? If yes, what are those activities?	<b>Yes,</b> 1. Method demonstrations 2. Seminar 3. Diagnostic field visits 4. Workshop 5. FLD 6. Group meetings 7. Exhibition
Do you think that roles/activities of KVK need some change? Yes/No If yes, what are your suggestions?	<b>Yes.</b> <b>Suggestions:</b> 1. More number of farmers should be included in demonstrations. 2. Regular field visits has to be made to problematic plots.
Any other comments on the KVK	-

**Five farmers have been posed with the following questions & reported here (Non-adopted villages)**

## 1. (i) General information

<b>Name and address of farmer</b>	<b>Mr. Anandappa</b> Budihal, Malebennur (Hobli), Harihara (taluk), Davanagere (Dist) Ph: 09448980466
Enterprises being practiced	Paddy, Arecanut, Coconut, Banana, Vegetables
Enlist improved technologies being adopted under different enterprises	
When were these improved technologies received by you (farmer) and from where?	2009-10, Dept. Hort. Davanagere

<b>Technology</b>	<b>Year</b>	<b>Where</b>
Banana cultivation (Tissue culture)	2009-10	Dept. Hort.
Hybrid seed production (Vegetables)		Davanagere
Vermicomposting		



## 2. (i) General information

<b>Name and address of farmer</b>	<b>Mr. Sadashivappa</b> Obannahalli Davanagere (Tq) & (Dist) Ph: 09481483600
Enterprises being practiced	Arecanut, Banana, Coconut & Field crops
Enlist improved technologies being adopted under different enterprises	Arecanut – Banana intercropping (High density) Vermicomposting
When were these improved technologies received by you (farmer) and from where?	2006, Dept. Hort. Davanagere

<b>Technology</b>	<b>Year</b>	<b>Where</b>
Arecanut – Banana intercropping (High density)	2006	Dept. Hort.
Vermicomposting		Davanagere

## 3. (i) General information

<b>Name and address of farmer</b>	<b>Mr. Shivayogi B.M.</b> E. Bevinahalli Harapanahalli (Tq) Davanagere (Dist) Ph: 09008279337
Enterprises being practiced	Intercropping in Horticulture crops (Arecanut, pepper, sapota, Banana)
Enlist improved technologies being adopted under different enterprises	Multi storied cropping
When were these improved technologies received by you (farmer) and from where?	Exposure visits to different parts of the country

<b>Technology</b>	<b>Year</b>	<b>Where</b>
Multi storied cropping	--	Exposure visits to different parts of the country

## 4. (i) General information

<b>Name and address of farmer</b>	<b>Mr. Thimmanna</b> Igur Davanagere (tq) & (Dist) Ph: 09341890611
Enterprises being practiced	Arecanut, Papaya, Banana, Dairy, Maize
Enlist improved technologies being adopted under different enterprises	High density planting in banana. Fertigation system
When were these improved technologies received by you (farmer) and from where?	2008, Dept. Agriculture and Horticulture, Davanagere

<b>Technology</b>	<b>Year</b>	<b>Where</b>
High density planting in banana.	2008	Dept. Agriculture and Horticulture., Davanagere
Fertigation system		

## 5. (i) General information

<b>Name and address of farmer</b>	<b>Mr. Devendrappa K.M.</b> Kengalahalli Honnali (tq) Davanagere (Dist) Ph: 09901117874
Enterprises being practiced	Vermicomposting, Multicrop system in horticulture (Flowers, fruits, spices), Organic paddy
Enlist improved technologies being adopted under different enterprises	Use of plant extracts for control of pest and diseases
When were these improved technologies received by you (farmer) and from where?	2006, through books and contact with other progressive farmers

<b>Technology</b>	<b>Year</b>	<b>Where</b>
Use of plant extracts for control of pest and diseases	2008	2006, through books and contact with other progressive farmers

**10. Strengths and Weaknesses of the KVK (Please put ✓ mark)**

Particulars	Strengths	Weaknesses	Suggestions to overcome the weaknesses / further improving the strengths
KVK Mandate	✓		OFTs need enhancement
Infrastructural facilities	✓		Need more demo units, vehicle & implement shed, bigger seminar hall, auditorium storage
Manpower		✓	Require more field assistants for effective implementation of FLD and OFT's.
Technical	✓		USP of our KVK is organizing group or mass events and interactive meetings in a professional way.
Administrative	✓		Regular salary every month to be ensured
Technological backstopping by SAU		✓	Need to strengthen timely scientific support and backstopping for updating knowledge time to time from SAUs.
Human Resource Development for KVK staff		✓	Due to consideration should be given for scientific training to KVK staff at national and international level.
Computerization and automation in KVK	✓		Needs improvement. Data analysis needs attention.
Reporting system by KVKs w.r.t type and frequency of report being submitted		✓	Too many and frequently reporting consumes more time of KVK staff effecting implementation of mandated KVK activities.
Action Plan Meeting	✓		
Annual Review Workshop	✓		
Coordination support from Zonal Project Directorate	✓		
Funds for implementing KVK mandated activities	✓		
Revolving Fund Status		✓	More non farm based enterprises.
Linkage with ATMA		✓	Need to strengthen, coordination for effective works.
Linkages with other Development Departments		✓	For NGO KVK's development departments may not support fully for trainings, field visits, as resource persons etc.
E-connectivity (wherever exists)		✓	
Kisan Mobile Advisory Services	✓		
Subject Matter Specialists being demoted from scientist cadre to technical cadre		✓	It is mandatory for KVK's to act as a resource and knowledge centre of agricultural technologies and to organize training to extension personnel, with SMS's being demoted from scientific cadre to technical cadre the moral of SMS is being severely jointed to carryout above said mandated activities.

### 11. Efforts and achievements made during the last five years towards up-gradation of knowledge and skills of staff of KVK i.e. Human Resource Development

S. No.	Activity	No. of staff deputed					Total
		2005-06	2006-07	2007-08	2008-09	2009-10	
A	TRAINING						
	(i) National						
	(ii) Zonal	01	04	03	02		
	(iii) State		01	02	02	04	
	(iv) District			05	01	05	
B	Seminars/meetings						
	(i) National						
	(ii) Zonal						
	(iii) State						
	(iv) District				06		
C	Conferences/Workshops						
	(i) National	03	01		01		
	(ii) Zonal					01	
	(iii) State		01				
	(iv) District			01	04		
D	Study leave for higher education						
	(i) PG						
	(ii) PhD						

### 12. Give a brief account of technical back-up, the KVK has been getting from ICAR Institutes and SAU scientists in programme planning, execution of programmes and evaluation

Particulars	Organizations		
	ICAR Institutes	SAUs	Other (please name)
Monthly interaction	Interaction with scientists for technical information	Scientists from SAU's as resource persons, interaction with scientists for technical information	
Bi monthly interaction			Interaction with development departmental officials
Half yearly interaction			

Deputation for training <b>(i)Within the State</b>	Orientation programme on FLD's/OFT's ZPD, Bangalore		a)CAPART project guidelines, Hubli. SMS (Hort.) b)Organic Farming and Management of pest and diseases in arecanut & coconut, MBA College, Davanagere. SMS(Hort.). c)Bio-diversity conservation, KRVP,Bengaluru.
	Integrated farming systems ZPD, Bangalore		
	IIHR, Hesaraghatta – production of quality planting materials in horticulture crops	FFS – UAS(B), UAS(D)	
		- VRC Operators training programme (BPC GKVK, Blore) - VRC training UAS(B) - Horticulture extension management	
	Orientation training programme – ZPD, Bangalore		
Deputation for training <b>(ii)Outside the State</b>	Extension management for horticulture development – MANAGE, Hyderabad		
	CIAE, Bhoopal Madyapradesh. Improved equipment and machinery for crop production and horticulture		
	CIFA Bhubaneswara, Orissa – Portable fish carps hatchery its installation and operation		

<p>Participation in seminar/workshop</p>	<ul style="list-style-type: none"> <li>- Production of quality seeds and planting materials – health management in horticulture crops – society for promotion of horticulture, New Delhi.</li> <li>- International conference on coconut biodiversity for prosperity – CPCRI, Kasaragod.</li> <li>- Global Banana conference – SMS (Hort. NRCB, Trichi)</li> <li>- NASC, NewDelhi – National workshop on popularization on hybrid maize production technology.</li> <li>- Annual review workshop – JSS KVK, Suttur</li> <li>- NBAII, Hebbal Bangalore sensitization workshop on coconut leaf beetle management</li> </ul>	<p>Foliar Application of Banana Special, National Conference on Horticulture Bio-diversity, Lt. Amith Singh Foundation, New Delhi at UHS(Bagalkote), Bangalore.</p> <p>- New initiatives in rural livelihood system and development research area UAS(B)</p>	<ul style="list-style-type: none"> <li>- Bio technical strategies for biodiversity conservation, Kuvempu University.</li> <li>- Onion production technology and plant protection, NHRDF, Hubli.</li> <li>-Improved cultivation practices and post harvest management in horticulture, Karnataka Agriculture Marketing Board, Bangalore.</li> <li>-Potato Production Technology, Taluk Krishik Samaj, Channagiri.</li> <li>- Mother Palm Selection and Selection in Arecanut, Kannada Vigyan Sammelan , Kuvemp University.</li> <li>- Mechanization &amp; drudgery reduction, Bellad motors</li> <li>- Natural resources data management system applications for district development, ZP, DVG</li> <li>- World food day, Shivagangothri PG centre, Kuvempu university</li> <li>- Krishik samaj, Channagiri potato production and protection</li> <li>- Integrated nutrient and</li> </ul>
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			pest management in paddy. Pragathi gramin bank, Kumblur. - Pest and disease management in paddy. Rallis India Ltd, Davanagere Hale kundawada - National seminar on onion production technology. NHRDF Hubli. Chigatari - Integrated nutrient & pest management in paddy, Pragathi grameena bank, Kumbalur - Recent advances in biotechnology BIET College, Davanagere.
Monitoring by the DEE		SAC-meeting, action plan meeting, annual review workshop meeting, ZARP meeting	
Support in the form of publication of literature	New letter, Folders, Research articles	Package of practice (POP)	
SAC meetings	For technical inputs	For technical inputs	For technical inputs

### 13. Enlist the publications made

#### (i) Research articles

Year	Name of publication	Copies circulated	User group
2005-06	Community participatory management of wastes through eco-friendly technology	1000	Researches teaching staff etc
2006-07			
2007-08			
2008-09			
2009-10	Hand book of paddy farming	150	Farmers, Department personnel
<b>Total</b>		<b>1150</b>	

#### 17. Books/book chapters

Year	Name of publication	Copies circulated	User group
2005-06			
2006-07			
2007-08			
2008-09			
2009-10	Integrated Improved Livestock Farming	1500	Farmers
<b>Total</b>		<b>15000</b>	

### 18. Popular articles

Year	Name of publication	Copies circulated	User group
2005-06	An introduction to KVK		Farmers
	Environment refugees		Farmers
	Use of tank silt in agriculture		Farmers
	Recycling of sugarcane trash		Farmers
	Management of BPH in paddy		Farmers
	Value addition and nutrition		Farmers
	Sustainability in agriculture		Farmers
	Easy learning of English		Farmers
	Inland fisheries		Farmers
	Balanced nutrition		Farmers
2006-07	Fish culture in inland ponds		Farmers
	Good quality seeds for better yield in field crops		Farmers
	Drudgery reduction by groundnut stripper		Farmers
2007-08	Selection and development methods in arecanut seedlings		Farmers
	Dryland horticulture		Farmers
	Larvivorous fishes – management strategy for chikungunya		Farmers
	Raising of quality seedlings in protrays		Farmers
2008-09	Poretray – A quality planting material		Farmers
	Planting systems in horticulture crops		Farmers
	Rasagobbarakke beda hahakara		Farmers
	Krishi parivarthana sustirate		Farmers
2009-10	Transplanting methods in horticulture crops		Farmers
	Banana special for better banana crop		Farmers
	Water soluble fertilizers – a method for higher yield		Farmers
	Integrated management of sigatoka disease in banana		Farmers
	Medicinal garden at home		Farmers
	Integrated management of coconut blackheaded caterpillar		Farmers
<b>Total</b>			



## (iv) Technical bulletins

Year	Name of publication	Copies circulated	User group
2005-06			
2006-07			
2007-08			
2008-09	Taralabalu Krishi Sinchana	1500	Farmers
2009-10	Taralabalu Krishi Sinchana	2000	Farmers
<b>Total</b>		<b>3500</b>	

## (v) Extension literature like leaflets, pamphlets, folders, newsletters etc.

Year	Name of publication	Copies circulated	User group
2005-06	An introduction to Taralabalu KVK	1000	Farmers
	Vermicompost production	1000	Farmers
	Inland aquaculture – A boon to small farmers	500	Farmers
	Solid waste management	100	Farmers
2006-07	Control of wooly aphids in sugarcane	1000	Farmers
	IPM in Bt. cotton	1000	Farmers
	Control of pod borer in tur	1000	Farmers
	IPM in brinjal	1000	Farmers
	Parthenium management	1000	Farmers
	Inland fish farming	1000	Farmers
	Mushroom cultivation	1000	Farmers
	Kitchen gardening	1000	Farmers
	Onion	1000	Farmers
	Groundnut cultivation	1000	Farmers
2007-08			
2008-09	Integrated management of Black headed caterpillar in coconut	1000	Farmers
	Onion	1000	Farmers
	Integrated pest management in Bt. cotton	1000	Farmers
	Integrated management of BPH in paddy	1000	Farmers
2009-10	Azolla-A sustainable feed source	1000	Farmers
	IPM practices in banana cultivation	1000	Farmers
<b>Total</b>		<b>18600</b>	

14. Whether the KVK has E-connectivity facility? : No

Year of establishment	Programmes undertaken	User group exposed	Feed-back

**15. Whether the KVK has its own website? : YES**

Year of creation	Content	User hits count	Feed-back
July 2010	<ul style="list-style-type: none"> <li>• Home</li> <li>• Host Institution</li> <li>• Staff details</li> <li>• Infrastructure</li> <li>• KVK activities</li> <li>• News letter</li> <li>• Publications</li> <li>• Application</li> <li>• Contactors</li> <li>• Photographs</li> </ul>	1804 hits as on 26-04-2011	

**16. Status of Revolving Fund (Rs. In lakh)****(a) Balance as on March 2010**

Year	Amount received	Additional amount generated	Amount refunded to ICAR (Rs.)	Whether refunded as per schedule	Net balance
2005-06	1.0	-0.673			0.327
2006-07		0.227			0.554
2007-08		-0.135			0.419
2008-09		0.231			0.650
2009-10		0.034	20000	Yes	0.684
<b>Total</b>	<b>1.0</b>	<b>-0.316</b>	<b>20000</b>		<b>0.684</b>

**(b) Purpose and results**

Year	Purpose	Results
2005-06	Agri implements, pipeline works, vegetable production	Provided irrigation to horticultural crops.
2006-07	Bullocks purchased	
2007-08	Agro forestry and fruit orchards established	Papaya and mango harvested.
2008-09	Arecanut and coconut gardens established	Arecanut and coconut gardens 3 year old.
2009-10	Sapota gardens established	Fresh leaves have emerged in sapota garden
Total		

17. What type of linkages your KVK has with different organizations including NGOs? Please elaborate.

Sl. No.	Name of the organization	Nature of linkage
1	University of Agricultural Sciences, Bangalore	Technology transfer, Knowledge update, Bimonthly meeting.
2	Indian Institute of Horticulture Research, Bangalore	Technical support, training, supply of seed materials
3	Department of Agriculture, Davanagere	Field visits, training programmes, Bimonthly meeting, pest surveys
4	Department of Horticulture, Davanagere	Field visits, trainings
5	Department of Fisheries, Davanagere	Field visits, trainings
6	Department of Forestry, Davanagere	Supply of planting materials
7	Department of Women and Child Welfare, Davanagere	Training to SHGs and Anganawadi workers
8	District Industries Centre, Davanagere	Vocational trainings
9	Department of Social Welfare	Programme Participation
10	Karnataka State Seed Corporation	Supply of seed materials for FLDs
11	Karnataka Oilseed Federation	Supply of seed materials of FLDs and training
12	Karnataka Rajya Vigyan Parishath, Bangalore	Environmental Awareness Campaign programme
13	District Statistical Information Centre	Basic data of the district
14	Canara Bank, State Bank of India	SHGs & KVK Account
15	Karnataka Veterinary, Animal Science and Fisheries Sciences University, Bidar	Technology transfer
16	Agriculture Research Station, Nagenahalli	FLD in Maize
17	ZARS, VC farm, Mandya	FLD in Sugarcane
18	Shimoga Milk Union Ltd, Mandya	Sponsored training programme
19	Pest control of India, Bangalore	Demonstration of Pheromone traps in FLD's
20	Department of Animal Husbandry and Veterinary Sciences, Davanagere	Animal Health Camps and trainings
21	Jala Samvardana Yojana Sangha, Davanagere	Sponsored training programmes
22	Zilla Panchayath, Davanagere	Sponsored training programmes
23	ARS, Kathalagere, Davanagere district	Collaborative trainings, Field visits
24	District watershed development department, Davanagere	Trainings, Field visits

18. Please give details of involvement of the KVK in the following Govt. or other programmes

(i) Type of KVK involvement in RKVY programme: NIL

Type of intervention	Nature of linkage	Results

(ii) Type of KVK involvement with wasteland development: NIL

Type of intervention	Nature of linkage	Results

## (iii) Type of KVK involvement with horticultural development

Type of intervention	Nature of linkage	Results
NPOF training for famers/ extension functionaries/ Service providers	Collaborative training	200 farmers gave training on organic farmers, 30 extension functionaries, 30 service providers
Supply of Bio agent <i>Goniozus nephantidies</i> for coconut	Collaborative FLD	Bio-agents were supplied to coconut growers to control CBHC
Training for farmers for medicinal plants	Collaborative training	30 farmers were given training on conservation and utilization of medicinal plants
Training for SC/ST farmers on Hi-tech Horticulture	Sponsored training under SEP-11 programme	30 Farmers given training under Hi-tech Horticulture

## (iv) Type of KVK involvement with animal health camp

KVK has conducted 4 animal health camp in collaboration with the department of Animal Husbandary and Veterinary Sciences, Davanagere and other NGOs. During the period the problems of livestock with respect to feeding, diseases management and breeding are documented for KVK interventions. Also technical seminars are organize to the participated farmers to give more knowledge on the major problems in livestock rearing.

## (v) Type of KVK involvement with consultancy on land use planning and cropping patterns

Type of intervention	Nature of linkage	Results

## (vi) Type of KVK involvement with consultancy on soil analysis and topographic survey

Type of intervention	Nature of linkage	Results

## (vii) Type of KVK involvement with ATMA

Type of intervention	Nature of linkage	Results
Preparation of SREP	Group meeting, village visits to collect information	SREP prepared
Technology week celebration	Seminars, farmers-scientists interactive meetings	

(viii) Type of KVK involvement with SHM/NHM: NIL

Type of intervention	Nature of linkage	Results

(ix) Type of KVK involvement with other agencies (specify name)

Type of intervention	Nature of linkage	Results

### 19. Scientific Advisory Committee Meetings (SAC) conducted

Year	Dates	Chaired by	No. of members attended	No. of special invitees, if any
2005-06	09-11-2005	Dr. M.N.Kulkarni, ED, TRDF	16	03
2006-07	14-03-2007	Dr. M.N.Kulkarni, ED, TRDF	11	02
2007-08	04-10-2007	His Holiness Dr. Guruji	19	03
	04-03-2008	Dr. M.N.Kulkarni, ED, TRDF	17	05
2008-09	23-10-2008	His Holiness Dr. Guruji	24	07
2009-10	22-05-2009	Dr. M.N.Kulkarni, ED, TRDF	18	04
	29-10-2009	Dr. M.N.Kulkarni, ED, TRDF	20	01
	20-03-2010	Dr. Renukarya M.K. Rtd. Scientist/Farmer	17	03
<b>Total</b>	<b>08</b>			

### 20. What are the major constraints in implementing the mandated activities of the KVK and what are your suggestions to overcome them?

(a) Constraints with respect to KVK functioning

#### a) Administrative

Now a days, both State and Central Governments are Implementing Developmental Projects through KVKs. Consequently, the work load is increased enormously in office. To mention few, obtaining payment vouchers for all payments, passing receipts for all money received, checking TA/DA Bills, keeping computerized books of accounts project wise, preparation of pay bill, ensuring deduction of updated LIC policies premium in the salary of individuals, making statutory deduction of applicable professional tax, income tax, CPF, preparing and sending monthly financial reports, ensuring filing of yearly returns of professional tax, income tax, arranging of AUCs projects wise, preparation of BEs and REs, maintenance of SRs, type-setting the periodical activities, reports, maintenance of store materials and books etc. Therefore, to look into mainly the inventory aspects, the post of store keeper and to type-set all the activities reports and the post of Clerk-Cum Data Entry Operator either permanent or temporary in nature are needed.

#### b) Financial

Under Non-recurring items, releasing the grant at the end of the financial year and expecting the KVKs to complete the works, is humanly possible. Considering the practicability, KVKs may be

allowed to complete the works within a year from the date of release of funds to avoid asking for revalidation and deducting unspent while release of the next year's grant.

**a) Technical**

A bit more proactive interaction from near by ARS and ZARS scientists under UAS, Bengaluru would help to strengthen the execution of mandatory activities.

**(b) Constraints with respect to professional growth of KVK staff**

(1) Integrated approach in KVK has become the success to the system. Division of Extension staff into scientific (1 post) and technical (6 posts) should not have been done. Restoring to earlier cadre position should be done. Any action to demoralize any staff in KVK should be discouraged.

(2) Further, there has been also change in the designation of Office Superintendent on implementation of 6<sup>th</sup> CPC. For instance, under Pre-revised scale of Rs. 5500-9000, there has been the post 'Farm Manager'. Similarly under the same pay scale, Office Superintendent post might have been re-designated as Office Manager or the same designation should have been continued or to give the importance to the work of accounts, it should have been Accounts Officer or any other designation which could help to carry the morale of the person concerned to newer height.

**21. Please give your suggestions on the following points which may change the agricultural scenario of the KVK district**

➤ **Human resource development**

There are burning issues in the district relating to agricultural aspect for example: Climate change, long dry spells during rainy season, labour problem and need to go in for mechanization, fertilizer problem, severe pest and disease problem which resulted in uprooting of many coconut plantations, water management in rainfed situation, lack of awareness regarding soil test etc. Considering current available human resource in KVK, it is very difficult to address these issues at each village level. KVK can train few individuals (Educated youths) on these issues and these individuals can act as technocrats in clusters of village. This paying it forward approach can alleviate the crisis and see us through these dire straits.

➤ **Market-driven entrepreneurship development**

KVK can conduct more of entrepreneurship development training programmes by considering SHG's concept and link to marketing facilities for their produce to get better prices.

➤ **Providing district-level farming situation-based technology**

Davanagere district comprises of 6 taluks where Davanagere, Harihara and Honnali parts of Channagiri are under irrigation from Bhadra canal. Conducting more number of FLD on SRI in Paddy, Introduction of HYV and hybrid Maize, Ragi, Redgram, Bengalgram, Sunflower, Groundnut. Most important technology on INM in Maize is mainly focused in intercropping with pulses.

Judicial application of chemical fertilizers and pesticides is an important issue. KVK has been conducting campaigns in this regard and intends to intensify the same in future.

Earthen pond aquaculture of fishes is a best alternate or integrative practice with agriculture in this district which boasts of abundant freshwater resources. Paddy cum fish culture by trench-bund system in traditionally paddy growing area is an attractive proposition for farmers. Our KVK is making some inroads through initiatives in the form of FLDs among organically oriented farmers.

Rice production CB ratio is not any more a beneficial one as the yield stagnancy and ever increasing production cost haunt farming community. Fish aquaculture is beneficial in these situations as advanced technological interventions available with our KVK providing proper guidance to farmers in focus. Integrating fish farming with dairy, poultry, horticulture, silviculture is a sustainable solution for small and marginal farmers. KVK aims to achieve significant progress in this direction during the next five years.

Trading of ornamental fishes is another lookrative option given the district's strategic location in the state and well connected transportation network.

Live stock and poultry are important non-farm enterprises that villages can practice with ease. If one is keen in pursuing one's life in rural areas, then scientific dairying, stall feeding of sheep and goat, backyard poultry, quality fodder production, azolla production all these would certainly provide sustainable livelihood security to small and marginal farmers. Our KVK is well equipped to carryout these practices and already established demonstration unit on the same at instructional farm.

➤ **Service-centre for the farmers, including soil and water testing facilities and diagnostic service for plant and livestock**

KVK has done good work in soil and water testing. KVK has done more than 500 soil sampling testing and 200 water sample testing. In addition to testing, KVK has given recommendations for crops and management for problematic soils. KVK has given soil test based recommendations to major crops of district.

KVK is giving service to farmers i.e. disease and pest infected specimens etc. KVK has provided answer to famers for their different queries regarding farming and non farming enterprises.

➤ **Information and communication technology, etc.**

- Need to strengthen mobile advisory service using short message service to farmers, though already in used.
- Gram panchayath, which is a centre for 6-8 villages, can be brought under e-connectivity with KVK's where in subject matter specialists at KVK centre act as a resource persons and farmers sitting in gram panchayath office can receive with video conferencing. Common service centers scheme can provide plot farm to this approach.
- Selected educated rural youth (preferably computer literates) can be periodically trained to disseminate agriculture information among farmers.

**22. Attach your approved Action plan for 2009-10 and indicate how was it formulated and finalized. Attach the minutes of SAC on the proposed Action plan.**

**[Action plan proceedings of 2009-10 file link](#)**

**[Minutes of 6<sup>TH</sup> SAC Meeting held on 22-05-2009 file link](#)**

**[Minutes of 7TH SAC Meeting held on 29-10-2009](#)**

**23. SWPTL**

a) **Do you have soil testing facility in KVK? If yes, when was it established?**

No laboratory, but a mobile kit has been used to test soil and water samples for approximate analysis.

b) **What kind of equipments/apparatus are available for soil testing?**

c) How many soil samples were tested so far.

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages	Amount realized
Soil Samples	483	470	415	42,200-00
Water Samples	209	185	175	9,200-00
Plant samples				
Manure samples				
Others (specify)				
<b>Total</b>	<b>692</b>	<b>655</b>	<b>590</b>	<b>51,400-00</b>

Sl no	Year	Soil sample	Water sample
1	2005	16	02
2	2006	24	05
3	2007	204	43
4	2008	98	32
5	2009	107	111
6	2010	34	16
<b>Total</b>		<b>483</b>	<b>209</b>

d) Do you also provide recommendations/suggestions to farmers along with soil test results? Attach a sample copy of 'Report' given to the farmers.

YES.

[Soil test report link](#)

[Water test report link](#)

e) Problems & suggestions to make it more effective

Kit method gives only a range values like low, medium and high. It wont give actual soil physical properties and fertility. So, samples testing with a well sophisticated laboratory is very much essential.

#### 24. Details on Rain Water harvesting structure and micro-irrigation system (wherever applicable)

Amount sanction (Rs.)	Expenditure (Rs.)	Details of infrastructure created / micro irrigation system etc.	Activities conducted					Quantity of water harvested in '000 litres	Area irrigated / utilization pattern
			No. of Training programmes	No. of Demonstration s	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)		

#### 25. Electricity to the KVK

a) Do you have electric supply in KVK premises? : Yes

b) If yes, on an average, how many hours per day, you receive power supply? If no, what arrangement do you make? :

**1-2 Hour load shedding per day is regular. 7.5 KVA generator is available.**



**26. Telephone facility**

- a) Do you have telephone with STD facility, Computer facility and Internet connectivity in your office?  
If yes, since when?

**Yes: 18-12-2008**

- b) How many computer terminals in your office has e-connectivity? : **No**
- c) How frequently you use Internet and for what purposes (other than e-mail).  
**3-4 hours daily, Mails sending and checking and to browse information on Agriculture technology. To send SMS to farmers.**
- d) Do you have any other such facility like e-connectivity with other networks? Give details. : **No**
- e) To what extent, these facilities have been/being used for the benefit of your target groups.  
**Available phones and computers are utilized to inform farmers and send short messages to hand phones.**

**27. Post harvest processing**

- a) Do you have a Post-Harvest Technology and value addition demonstration unit in your KVK. If yes, give details. - **No**
- b) **Have you organized training in the area of empowering farmer/farm women/rural youth in the field of post-harvest, value addition, marketing, grading and packaging etc.**

Yes. The details are has below

Sl. No.	Title of the training	Participant type	No. of participants
1	Value addition in milky mushroom	Farmwomen	16
2	Value addition in oil seeds and pulses	Farmers	26
3	Value addition in food	Farm men/women	35
4	Value added products in Ragi-on preparation of ragi malt & ragi based bevarages	Farm women	24
5	Preparation of value added products in ragi	Farm women	16
6	Processing and production of fruits jam and nector preparation	Farm women	18
7	Production, processing and value addition in mushroom	Farm women	24
8	Importance of soybean and preparation of soyamilk	Farm women	25
9	Post harvest technologies in agricultural crops	Farm women	21
10	Importance of ragi in daily diet and preparation of ragi malt	Farm women	15
11	Processing of field crops – agro based enterprises for rural women	Farm women	48
12	Processing of ragi, maize and soybean and its value added products	Extension personnel	33

## Taralabalu KVK, Davanagere

13	Agro based income generating activities and marketing	Farm women	14
14	Post harvest technologies in horticulture crops	Rural youth	30
15	Post harvest technologies in cereals and pulses	Farmers & Farm women	13
16	Value added products in minor millets	Farmers & Farm women	25
17	Fruits & vegetables processing and preservation	Farm women	31
18	Fruits and vegetables		
19	Women empowerment through production and marketing of daily use products produced by women SHG	Farm women	18
20	Importance of value added products in day to day life and marketing strategies	Extension personnel	12
21	Marketing aspects in selling products produced by rural women SHG members (packing labeling and price fixing)	Farm women	18
22	Post harvest technologies and value addition in horticulture crops	Farm women	13
23	Processing of fruits, vegetables and their preservation	Farm women	17
24	Entrepreneurial development women and demonstration at daily use products – its marketing aspects	Rural women	15
25	Importance of valued added products in day to day life and marketing strategies	Rural women	15
26	Post harvest aspects in ragi	Rural women	17
27	Marketing opportunities for value added products produced by SHGs	Farm & Farm women	26
28	Grading in cotton	Farmers & Farm women	19
29	Marketing of agriculture produce	Farmers & farm women	19
30	Use of ragi in preparation of bakery products	Farm women	05

c) Do you have agro-processing and agri-based cottage industries training facilities at your KVK ? – **No**

**28. In the light of expenditure made during the 11<sup>th</sup> Five Year Plan and keeping in view your future priorities, what are your proposals for additional infrastructure, demonstration units and trainings/extension activities for the 12<sup>th</sup> Five Year Plan? Give justification and estimated financial requirement for each.**

Sl. No.	Item Name	Quantity	Amounts (Laksh)	Justification for new equipment
<b>Farm &amp; Demo Equipments</b>				
1	Mahindra tractor with trailer-tipper	01	7.00	Existing tractor is likely to cross 10000 hours of run
2	Tractor drawn cultivator	01	0.30	
3	Power sprayer	01	0.40	
4	Tractor mounted pits digger	01	0.50	
5	Paddy transplanter	01	10.00	
6	Paddy harvester	01	15.00	
7	Multi crop thresher	01	2.00	For demonstration
8	Liquid nitrogen container Cap. 10 liter	01	0.30	Conservation of superior germ plasm of cattle for spreading in the adopted villages
9	Feed mill – Grinder and mixer	01 each	1.00	For preparing mineral blocks suitable for the district
10	Mineral block making machine	01	0.50	For preparing mineral blocks suitable for the district
11	Cross bred milch animals	06	1.80	To demonstrate scientific dairy farming activities
12	Raised bed weeder for veg. crops	01	0.30	To demonstrate weeding in vegetable crops resulting reduction of drudgery
13	Coconut climber	02	0.20	For demonstration purpose
14	Raised bund former-cum-transplanter of vegetables	01	0.80	For demonstration purpose
15	Lawn mower	01	0.15	For lawn trimming to create aesthetic beauty in and around building
16	Aqua guard	01	1.20	To provide clean and soft water to farmers
17	Solar water heater system	02	5.00	To provide hot water to trainees. One to hostel and another to staff quarters
18	Solar lightening system to campus	02	8.00	To save energy and to promote renewable energy
19	Pelletizer	01	0.50	For demonstration in fish culture
20	Cement cisterns fish tanks with epoxy paint	10	0.75	For demonstration
21	5 HP pump	01	0.20	For fish pond maintenance
22	Water softening equipment	01	0.20	For fish pond maintenance

23	Live feed unit	01	0.50	For fish pond maintenance
24	Diaphragm based aerator system	01	0.30	For fish pond maintenance
25	UPS, 15 KVA	01	2.00	For fish pond maintenance
26	Water storage tank	01	0.50	For fish pond maintenance
<b>Office equipments</b>				
1	Xerox	01	1.00	The existing one is expected to be condemned
2	Computers – Laptops	12	7.20	The existing is going to be outdated. Every staff is proposed to have one computer-Laptop to avoid bottle neck in the flow of work.
3	UPS, 10 KVA	01	1.25	For electric equipments, UPS is considered the best to avoid fluctuation problems in current flow
4	EPABX	01	0.85	To have connectivity to hostel, Laboratory, main gate, demonstration units from office.
5	A/c appliances	05	2.00	For better work efficiency, one to PC room, one to Seminar-cum-exhibition hall, one to office ad one each to SMS rooms.
6	Office furnishing		10.00	Built up records needs to be stored in wardrobes and to be protected from dust to ensure long life.
7	Hostel furnishing		3.00	
<b>Teaching equipments</b>				
1	Digital camera, 4 GB + 18.15 MM lense	01	0.40	Due to wear and tear of the existing one, the new camera is needed.
2	Video camera	01	0.50	To record live technology demonstration
3	LCD projector, 15000 ANSI lumens	01	0.75	The existing one is expected to be condemned
4	LCD-TV, 32 <sup>11</sup>	03	1.95	One in seminar hall and another in class room to show technologies through vedio.

<b>Vehicles proposed</b>				
1	TATA SUMO Grande/Mahindra Xylo	01	9.0	Existing vehicle is going to complete 2 lakhs KMs and run period of 8 years.
2	Hero Honda Splendor, Two Wheeler	08	5.6	Existing motor cycles are going to complete 1.2 lakhs KMs and run period of 7 years
3	Honda scooter	01	0.70	Office use
<b>Constructions</b>				
1	Seminar-cum Exhibition hall	200 Sq.M.	26.00	To have permanent display/exhibition of technologies disseminated
2	Auditorium	200 Sq.M.	30.00	To host zonal/ national level events under ICAR
3	Ornamental fish tanks and shed	300 Sq.M.	15.00	
4	Farm pond for rain water harvesting	30 x 30 x 10 m <sup>3</sup>	5.00	
5	Staff quarters (Another 6 No.s)	300 SQMS	42.00	

## 29. What role the KVK has played to

- a) Facilitate credit supply to the entrepreneurs to develop enterprises?
  - KVK expert in fisheries has advised and guided many farmers to obtain bank loan facility for pond aquaculture in their own farm land.
- b) Create awareness among the farmers regarding Kisan Credit Card and Crop Insurance Scheme?
  - No

## 30. How many villages have been covered by KVKs during 2005-06 to 2009-10? Give the name(s) of the villages and indicate the spread of the activities of the KVK in the district through a map.

Our KVK has addressed 313 villages (i.e. 1/3<sup>rd</sup> of the total) through various interventions in the district. Davanagere taluk has been given higher focus interms of number interventions owing to its geographical position and proximity to KVK. A digital map depicting the same has been attached here with.

**[KVK activity Map \(2005-2010\) link](#)**

**31. What are the special features of your KVK which attract the farmers to the KVK?**

- Strategic location of KVK with easy access to farmers in the heart of the city and district headquarters.
- Horticulture seedlings and soil and water testing facilities.
- Good instructional farm with special emphasis on organic practices.
- Special demonstration units for visiting farmers.
  - Plot of sugarcane wooly aphid resistant variety COVC-2003-165.
  - Plot of gall wasp tolerant erythrina standards for betelvine.
  - Dairy demonstration unit, Fodder demonstration unit, Azolla production unit, Vermiculture and vermicompost unit.
  - Ornamental fishes unit, integrated fish farming ponds.
  - Coconut hexagonal and pentagonal garden, Tamarind garden, Curry leaf park, Tulasi park, Medicinal plants garden, Sapota garden, Mango orchard, mixed fruits orchard.
  - 'Banana Special' production unit and its availability to farmers.

**32. Is there any bottleneck in flow of fund to your KVK from the host organization? If yes, what are the means do you suggest improving the system?**

**33. Other information, not mentioned above:**

**I. Farmers Field School:**

**FFS-1: ICM of Cotton**

**Introduction:** Farmers Field School (FFS) is one of the established participatory methods of effective learning. FFS was considered as an effective and comprehensive non-formal educational method to teach and technically empower the adult farmers and farm women.

FFS mainly include three categories of actors and they are

- a) **FFS participants :** Farmers selected by the villagers.
- b) **Collaborator :** Is a farmer or farm women who gives the land for conducting field studies.
- c) **Facilitator :** Technically competent person to lead the members through the hands on exercise.

KVK is conducting FFS on Integrated Crop Management in Cotton.

**Crop :** Cotton

**Technology :** Integrated Crop Management in Cotton

**Demonstration :** 1.0 acre

**Farmer's practice:** 1.0 acre

**Collaborator :** Mr. Naganna

**Participants :** 25 No.

**Facilitator :** Scientist

**Place :** Budihal, Harapanahalli (Tq)

**Number and details of activities:**

Sl. No.	Date	Activities	No. of participants
1	29-05-08	<ul style="list-style-type: none"> <li>• Selection of farmers, facilitator and crop.</li> <li>• Importance of FFS</li> <li>• Critical inputs rules and regulation of FFS</li> </ul>	25
2	05-06-08	<ul style="list-style-type: none"> <li>• Agro Ecological Situation</li> <li>• Seed treatment against sucking pests</li> <li>• Planting method, spacing</li> <li>• Importance of soil testing and fertilizer application.</li> </ul>	25
3	21-07-08	<ul style="list-style-type: none"> <li>• Agro Ecological Situation</li> <li>• Pheromone trap installation</li> <li>• Sucking pest identification and nature of damage</li> </ul>	23
4	21-08-08	<ul style="list-style-type: none"> <li>• Agro Ecological Situation</li> <li>• Use of micronutrient and demonstration on the farmers field</li> <li>• Identification of disease and pest symptoms</li> <li>• Use of planofix (Growth regulator)</li> </ul>	20
5	18-09-08	<ul style="list-style-type: none"> <li>• Agro Ecological Situation</li> <li>• Exposure visit to KVK cotton field</li> </ul>	20
6	20-10-2009	<ul style="list-style-type: none"> <li>• Agro Ecological Situation</li> <li>• Training on integrated management of helicoverpa after 100 days</li> </ul>	20
7	19-11-2009	<ul style="list-style-type: none"> <li>• Farmers view on Farm Field School during field day</li> </ul>	23

**Salient findings**

- Application of recommended dose of fertilizer resulted in maximum yield.
- Wider rows spacing ( 120 cm X 120 cm) and trap crop is advantageous over close spacing (60 cm X 60 cm).
- Weed management specially at 20, 40 and 60 days after sowing is essential.
- Power weeder can be used effectively for weed management in Bt. Cotton.
- Complete knowledge on Bt. Cotton regarding incidence of pest was cleared to the farmers.
- Use of growth regulator (Planofix- 6 ml / 15 lt. of water) as played key role in reducing flower drop.

**Result:**

Technology	Yield (qt./ha.)	Cost of Cultivation (Rs.)	Gross return (Rs.)	Net return (Rs.)	Benefit Cost ratio
ICM (MRC-6918)	17.9	16,850	44,750	27,900	2.65
Non ICM (MRC-6918)	12.3	17,700	30,825	13,125	1.74

**Budget:**

Particulars	Amount (Rs.)
Sanctioned	20,000
Expenditure	16,922
Balance	3078

**FFS-2: ICM of Paddy**

Introduction: Farmers Field School (FFS) is one of the established participatory methods of effective learning. FFS was considered as an effective and comprehensive non-formal educational method to teach and technically empower the adult farmers and farm women.

FFS mainly include three categories of actors and they are

- a) **Participants** : Farmers selected by the villagers.  
 b) **Collaborator** : Is a farmer or farm women who gives the land for conducting field studies.  
 c) **Facilitator** : Technically competent person to lead the members through the hands on exercise.

**KVK is conducting FFS on Integrated Crop Management in Paddy**

**Crop** : Paddy  
**Area** : 1 acre  
**Technology** : Integrated Crop Management in Paddy  
**Area** : 1.0 acre (Demonstration)  
 : 1.0 acre (Farmer's practice)  
**Collaborator** : Mr. Eranna  
**Participants** : 25 No.  
**Facilitator** : Agronomist, Soil Scientist and Plant Protection  
**Place** : HaleBisaleri, Davanagere (Tq)

**Number and details of activities:**

Sl. No.	Date	Activities	No. of participants
1	27-06-2009	<ul style="list-style-type: none"> <li>• Selection of farmers, facilitator and crop.</li> <li>• Importance of FFS</li> <li>• Ballot Box Test</li> <li>• Critical inputs rules and regulation of FFS</li> </ul>	30
2	30-06-2009	<ul style="list-style-type: none"> <li>• Agro Ecological Situation</li> <li>• Role of bio fertilizer and vermicompost in main field</li> <li>• Use of paddy transplanter</li> <li>• Installation of pheromone trap at seed bed against yellow stem borer</li> </ul>	23
3	13-07-2009	<ul style="list-style-type: none"> <li>• Agro Ecological Situation</li> <li>• Pheromone trap installation</li> <li>• Organic and inorganic fertilizer management at seed bed</li> <li>• Method demonstration of bio fertilizers in paddy seed bed</li> <li>• Weed management</li> <li>• Group dynamics</li> </ul>	20
4	03-08-2009	<ul style="list-style-type: none"> <li>• Agro Ecological Situation</li> <li>• Use of micronutrient (ZnSO<sub>4</sub>) and demonstration in the farmers field</li> <li>• Spraying of neem against stem borer</li> </ul>	20



5	31-08-2009	<ul style="list-style-type: none"> <li>• Agro Ecological Situation</li> <li>• INM</li> <li>• Release of tricho cards against stem borer</li> <li>• Film show ICM in paddy</li> <li>• Group dynamics</li> </ul>	18
6	30-09-2009	<ul style="list-style-type: none"> <li>• Agro Ecological Situation</li> <li>• Training on split application of urea and potash</li> <li>• IPDM</li> <li>• Field visit to the affected (BPH) plots</li> </ul>	16
7	28-10-2009	<ul style="list-style-type: none"> <li>• Farmers view on Farm Field School during field day</li> <li>• Ballot paper test to know the level of knowledge after FFS</li> </ul>	28
8	14-11-2009	<ul style="list-style-type: none"> <li>• Closing of FFS and sharing their experience</li> </ul>	20

**Results:**

Sl. No.	Technology	Variety	Yield q/ha		Gross Cost	Gross Returns	Net Income	B:C
			Demo	Local				
1.	ICM in Paddy	Bpt-Sona	62.2	-	32100-00	80860-00	48760-00	2.51
			-	58.5	36200-00	76050-00	39850-00	2.10

**Salient findings**

- Application of recommended dose of fertilizer at split doses resulted in maximum yield.
- Application of decomposed / vermicompost is better rather than application of un decomposed FYM to avoid methane emission from paddy field.
- Use of bio-fertilizer as shown the yield improvement when compared to check plot.
- Weed and water management at critical stages of the crop growth plays an important role in achieving maximum yield.
- Use of pheromone trap, tricho cards and bird perches as reduce the unnecessary spraying cost on chemicals.

**II. External project implemented by KVK:**

**Establishment of Rural Bio Resource Complex for Sustainable Rural Livelihood Security through Bio-Technological Approaches in and around Central Karnataka – 2009-12.**

**Funded by Dept. of Biotechnology, New Delhi. (Project Cost: Rs. 26.684 Lakhs).**

### III. Special programmes :

- i) **FLD Orientation programme** for Subject Matter Specialists of Zone - VIII KVKs conducted during March 2006 at our KVK.
- ii) **'A-Z about Azolla'** workshop conducted during Nov. 2009.
- iii) **'Precision farming in banana'** workshop conducted during December 2009.
- iv) **'Save Coconut'** workshop conducted for 100 farmers during Feb. 2010 with Dr. D.C. Chowta, Kasaragod as resource person.
- v) **Interventions on drought mitigations**
  - a) Introduction of alternate crops/varieties

Crops/cultivars	Area (ha)	No. of Beneficiaries
Ragi (GPU-28)	03	05
Navane (STA-326)	02	04
Same (OLM (203)	02	04
Redgram (BRG-1)	12	30

- b) Awareness campaigns

Meetings		Gosthies	
No.	No. of farmers	No.	No. of farmers
08	199	02	29

- vi) Organized **Krishi Mela** (30 stalls) on the occasion of 'Taralabalu Hunnime Mahotsava-2009' in Davanagere with public-private partnership. Nearly 1 lakh people have taken part in this exhibition and obtained relevant agricultural technology information.
- vii) Organized **Bio-Event** at Sirigere on the occasion of 'Taralabalu Hunnime Mahotsava-2010' with farmers-scientist interactive programmes. On the occasion, a krishi mela was organized comprising stalls with technologies of mechanization, agriculture inputs (Seeds, fertilizers, pesticides) and agriculture Universities.

### IV. First time in the district

- Freshwater prawn culture in fish ponds was introduced
- Amur common carp with improved genetic potential was introduced in farmers ponds
- Lignin, pectin and cellulose degrading earthworms from CPCRI, Kasargod was brought and distributed to farmers. (First KVK in the state of Karnataka).
- Coconut tonic (micronutrient mixture) brought from Tamilnadu and introduced to farmers of the district to strengthen infested coconut palms.'

- Through frontline demonstrations introduced following varieties/hybrids
  - Kufri Jyothi in potato
  - NAC-6004 and NAH-2049 in Maize
  - GPBD-4 in Groundnut
  - GPU-28 in Ragi
  - KBSH-53 in Sunflower
  - COVC-2003-165 wooly aphid resistant variety in Sugarcane
- Conducted National Environment Campaign in collaboration with KRVP for 4 years on various environmentally related issues.
- The KVK in collaboration with Department of Forestry under “Vanasamvardhana Trust” has distributed more than 140000 saplings of different forest species to farmers of the district during 2007-08.