

**ICAR-KRISHI VIGYAN KENDRA,
SHIVAMOGGA**

ANNUAL REPORT- 2019

**(FOR THE PERIOD FROM
01 January 2019 to 31 December 2019)**

ICAR-KRISHI VIGYAN KENDRA
Savalanga Road, Navule, Shivamogga – 577 204,
Karnataka. India. Tel. : 08182-267017,
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University of Agricultural and Horticultural Sciences
Shivamogga -577204, Karnataka, India.
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PART I - GENERAL INFORMATION ABOUT THE KVK

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

KVK Address	Telephone		E mail	Web Address
	Office	Fax		
ICAR-Krishi Vigyan Kendra, Savalanga Road, Navule, Shivamogga-577 204. Karnataka	08182- 267017	-	kvk.shivamogga@icar.gov.in shivmogakvk@gmail.com	www.kvk shivamog ga.org

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

Address	Telephone		E mail	Web Address
	Office	Fax		
University of Agricultural and Horticultural Sciences, Savalanga Road, Navile, Shivamogga-577 204	08182- 267011	08182- 298008	vcuahss2014@gmail.com	www.ua hs.in

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. B. C. Hanumanthaswamy	9448255252	9480838976	bchswamy@gmail.com

1.4. Year of sanction: 2000

1.5. Staff position as on 31-03-2020

Sl. No.	Sanctioned post	Name of the incumbent	Designation	M/F	Discipline	Highest Qualification (for PC, SMS and Prog. Asstt.)	Pay Scale	Basic pay	Date of joining KVK	Permanent /Temporary	Category (SC/ST/OBC/Others)
1	Head/Senior Scientist	Dr. B.C. Hanumanthaswamy	Senior Scientist and Head	M	Agril. Entomology	M.Sc., (Agri. Entomology) Ph.D., PGDBA, PGDPP, PGDAEM	144200-218200	153000	22.12.2011	Permanent	OBC
2	Scientist/SMS	Mr. M. Basavaraja	Scientist (Agronomy)	M	Agronomy	M.Sc. (Agri.) (Agronomy)	131400-217100	147900	01.04.2018	Permanent	ST
3	Scientist/SMS	Dr. Jyoti M. Rathod	Scientist (Home Science)	F	Home Science	M.H.Sc. (Food and Nutrition), Ph.D, PGDAEM	79800-211500	89800	18.05.2007	Permanent	SC
4	Scientist/SMS	Dr. M. Ashok	Scientist (Animal Science)	M	Animal Science	M.VSc., Ph.D. PGDAEM	79800-211500	89800	18.05.2007	Permanent	OBC
5	Scientist/SMS	Dr. Sahana. S	Scientist (Agril. Extension)	F	Agril. Extension	M.Sc., (Agril. Extension), Ph.D., PGDAEM	79800-211500	98200	01.04.2018	Permanent	OBC
6	Scientist/SMS	Dr. Sarvajna B. Salimath	Scientist (Soil Science)	M	Soil Science	M.Sc., (Soil Science & Agriculturall. Chemistry), Ph.D., (Agriculture Physics), PGDAEM	79800-211500	95300	01.04.2018	Permanent	OBC
7	Scientist/SMS	Dr. Nagarajappa Adivappar	Scientist (Horticulture)	M	Horticulture	M.Sc. (Horticulture), Ph.D. (Horticulture), PGDIPR, PGDAEM	79800-211500	95300	01.04.2018	Permanent	OBC
8	Programme Assistant (Lab Tech.)	Dr. Nagaraja R.	Programme Assistant (Lab)	M	Programme Assistant (Lab)	M.Sc. (Agri.) in Agricultural Microbiology, Ph.D. PGDAEM	9300-34800	14040	23.10.2010	Permanent	OBC
9	Programme Assistant (Computer)	Mrs. B. S. Geetha	Programme Assistant (Computer)	F	Programme Assistant (Computer)	M.Com., PGDCA, PGDHR, PGDAEM	9300-34800	13490	22.01.2011	Permanent	OTR
10	Farm Manager	VACANT									
11	Assistant	Mrs. Jyothi H.	Assistant	F	Assistant	B.A.	30350 - 58250	30350	01.04.2018	Permanent	SC
12	Jr. Stenographer	VACANT									
13	Driver - 1	Mr. N. Gopala	Lab Assistant	M	Driver (Jeep)	SSLC	21400-42000	30350	16.08.2012	Permanent	OBC
14	Driver - 2	Mr. K. H. Mohan	Driver (Tractor)	M	Driver (Tractor)	7 th Standard	27650-52650	34300	20.10.2008	Permanent	OBC
15	SS-1	VACANT									
16	SS-2	Mr. T. Chikkaiah	Assistant Cook cum caretaker	M	Cook cum caretaker	SSLC	18600-32600	23500	22.11.2018	Permanent	OBC

1.6. Total land with KVK (in ha): 4.50 ha

S. No.	Item	Area (ha)
1.	Under Buildings	0.50
2.	Under Demonstration Units	0.50
3.	Under Crops	3.00
4.	Orchard/Agro-forestry	0.50

1.7. Infrastructural Development:

A) Buildings

Sl. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs. In lakh)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	Oct. 2009	550	55	-	-	-
2.	Farmers Hostel	ICAR	Sept. 2012	305	33.33	-	-	-
3.	Staff Quarters	-	-	-	-	-	-	-
	1							
	2							
	3							
4.	Demonstration Units							
	1. Vermi Compost Unit	NCOF Ghaziabad	2008	-	1.25	-	-	-
	2. Poultry Unit	RKVY	2012	100 sq.m.	1.20	-	-	-
	3							
	4							
5	Fencing							
6	Rain Water harvesting system	-	-	-	-	-	-	-
7	Threshing floor	-	-	-	-	-	-	-
8	Farm godown	-	-	-	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Tractor with Trailer	2001	3,71,892.00	4649.90	Good condition
Jeep (Mahindra Bolero)	2017	8,00,000.00	52224.00	Good condition
Hero Honda Splendour+	2009	39,350.00	55760.00	Good condition
Honda Activa	2009	46,102.00	29540.00	Good condition

C) Equipment & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Lap top and LCD	10/10/2007	100000	Scrapped
Mobile Display Board	7/29/2008	3360	Good Condition
Hakims mobile Pivot Stand	06/10/2008	2300	Good Condition
Hakims Data Press Board	06/10/2008	4400	Good Condition
Hakims Combination Board	06/10/2008	1800	Good Condition
Hakims 3 type rotation Book Stand	07/29/2008	3100	Good Condition
Hakims Display in minutes 4 board " double side stand	07/29/2008	8950	Good Condition

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Video Camera	02/05/2009	184000	Good Condition
LCD	02/05/2009	44990	Good Condition
Motorized Screen	02/05/2009	23000	Good Condition
Visual production Unit	02/05/2009	599500	Good Condition
Desk Top Computers (2 Nos.)	02/05/2009	46000	Scrapped
Lexmark Laser printers (2 Nos.)	02/05/2009	15645	Scrapped
Digital Copier cum network printer	02/05/2009	55125	Good Condition
Display board (15 Nos.)	02/05/2009	30000	Good Condition
Voltage Stabilizer (2 Nos.)	02/05/2009	5520	Good Condition
UPS " (CBTMPCS)	10/05/2010	26000	Scrapped
Canon Printer-2900B	01/22/2013	5524	Good Condition
HP Laser Printer	03/15/2010	19864	Good Condition
Sony digital Camera-DSC H-20 SI.No.2348907	01/22/2013	17500	Good Condition
Sony digital Camera-DSC H-20 SI.No.2285039	01/22/2013	9950	Good Condition
Panasonic Fax Machine (Sl. No.91CBA004235)	01/22/2013	8736	Good Condition
Generator (Genset-EXK-28005)	03/29/2011	59850	Good Condition
UPS	03/29/2011	38587	Scrapped
Photocopier	7/29/2008	92297	Scrapped
Acrylic name holder	07/29/2008	2800	Good Condition
Hakims Security Board (Flap type)	07/29/2008	3100	Good Condition
HP Scanner	03/15/2009	4000	Good Condition
Desk Top Computers (2 Nos.) HCL	01/22/2013	38600	Scrapped
Desk Top Computers (2 Nos.) HCL	01/22/2013	38169	Good Condition
Tubular Batteries of 120 AH (20/12V)	09/18/2015	50000	Good Condition
Information KIOSK (Touch screen)	02/05/2009	124519	Good Condition
Research Microscope	11/18/2008	66555	Good Condition
Digital Micro pipette set	09/15/2008	21180	Good Condition
Hot Air Oven	02/12/2009	24160	Good Condition
Laminar Air Flow	02/12/2009	54013	Good Condition
pH Meter	03/12/2009	6600	Good Condition
Autoclave	03/31/2009	28687	Good Condition
ELISA Reader	03/12/2010	147155	Good Condition
Incubator	03/18/2011	24425	Good Condition
21 Black Onida CTV-21	01/22/2013	8990	Scrapped
Bosch Gas Geyser	01/22/2013	7600	Good Condition
Shakthi Power Tiller and accessories	03/31/2010	131500	Good Condition
5 HP diesel engine pump and accessories	06/03/2010	18030	Good Condition
Portable agri sprayer	06/03/2010	9975	Good Condition
Tractor drawn implements, Trencher, ridger, marker	03/26/2011	86500	Good Condition
Tractor drawn 2 ferrow MB plough & Tractor drawn disk harrow	03/28/2011	88000	Good Condition
Power Tiller trailer	03/28/2011	48048	Good Condition
Tractor drawn water tanker " Chassis mounted 3500 ltr. Capacity, Water tank with resale tyre and heavy axel, Water Tanker	06/22/2011	99250	Good Condition
Hand operated "C type areca leaf plate making machine.	06/21/2011	38850	Good Condition
Tractor mounted water pully	07/02/2011	32500	Good Condition
Tractor operated winnover	06/30/2011	20500	Good Condition
Chaff cutter with 2 HP ISI	08/26/2011	20500	Good Condition

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Tractor drawn 5 furrow opener	08/26/2011	31000	Good Condition
Disk harrow	06/22/2013	1455	Good Condition
Pruning saw - OM	09/12/2013	18723	Good Condition
Iron plough - 1 wing	12/19/2012	1600	Good Condition
Iron plough - 2 wings	12/19/2012	1900	Good Condition
AAS equipment & accessories	15.06.2016	1420000	Good Condition
V Guard Stabilizer	20.06.2016	2400	Good Condition
Battery 150 am with UPS	20.06.2016	54548	Good Condition
Studio master wireless	20.06.2016	3801	Good Condition
Podium Wireless mike	20.06.2016	6612	Good Condition
Aqua pearl RO+UV water purifier	30.06.2016	16157	Good Condition
Canon 226 DN Laser All-in-one printer (print/copy/scan/duplex network)	26.09.2016	28000	Good Condition
HP Desktop computer Intel core-i3, 4 GB RAM, 1TB HDD, 20 monitor, key board & mouse	30.09.2016	96900	Good Condition
Dell Laptop, Core @ i3, 1 TB, 4GB RAM	04.10.2016	48500	Good Condition
Dell LCD Projector	04.10.2016	38500	Good Condition
Pulverizer	25.02.2017	29770	Good Condition
Bag Sealer	25.02.2017	21984	Good Condition
Weighing balance	25.02.2017	10076	Good Condition
Hot case	03.03.2017	17935	Good Condition
Deck Oven	03.03.2017	50640	Good Condition
Moulds & Trays	03.03.2017	8440	Good Condition
Extruder	09.03.2017	74425	Good Condition
Deep Fat Fryer	09.03.2017	20381	Good Condition
Godrej F/F Refrigerator	10.03.2017	26201	Good Condition
Usha Mixer Grinder	10.03.2017	5450	Good Condition
Kraft Chopper	10.03.2017	2490	Good Condition
Acrylic display name board	10.03.2017	12000	Good Condition
1 TB Hard Disk External	14.03.2017	5900	Good Condition
Sony 40" LED TV + stabilizer	16.03.2017	48500	Good Condition
Setup box	20.03.2017	2743	Good Condition
Canon Camera	20.03.2017	19408	Good Condition
Whirlpool Refrigerator + V Guard Fridge + stand	23.03.2017	26550	Good Condition
Samsung T 355 TAB – 4G	23.03.2017	18623	Good Condition
Canon 2900-B Laser printer (2 Nos.)	16.11.2019	23559	Good condition
Dell 19" LED monitor	16.11.2019	6313	Good condition
Double deck destoner front side attached sieving unit -0.5 Hp electrical motor with 5 No. screen	11.12.2019	30350	Good condition
Destoner machine (3-5 qtl) Model-BI 2/DC/SV including blower	12.12.2019	94500	Good condition
Kyocera Photo Copier – 1800	07.01.2020	67420	Good condition
Ginger slicer making machine – Single phase current 0.5 HP motor, Heavy Duty	14.01.2020	88700	Good condition
Mum Ginger dryer making machine	16.01.2020	90500	Good condition

1.8. Details of SAC meeting conducted during 2019

Date	Number of Participants	Salient Recommendations	Action taken	Remarks, if any
02-07-2019	31	Conduct more number of training programmes on management of acid soils and study the impact of training programmes.	<ul style="list-style-type: none"> • 3 Training programmes conducted, 183 farmers were benefitted • Scientific advisories given to 1223 farmers • Given awareness on management of acid soils in all the trainings, field visits, seminar, world soil day and during the technology week programmes. 	
		Conduct more number of training programmes on protected cultivation	<ul style="list-style-type: none"> • Conducted 3 Training programmes, 72 farmers were benefitted. • Technical bulletin and folder on 'Protected Cultivation' were published • Advisories given to 27 farmers. • Farmers were taken to exposure visit to protected cultivation units at Shikaripura 	
		Suggested to write the project on Mechanized paddy cultivation and submit the proposal to Director of research	<ul style="list-style-type: none"> • 4 Training programmes were conducted, 109 farmers were benefitted. • Awareness created through group discussions, field visits, method demonstrations. • Video on Mechanized paddy cultivation was shown during the training programmes conducted at KVK 	
		Conduct demonstrations on Areca husk decomposition at taluk level	<ul style="list-style-type: none"> • 2 Training programmes conducted, 238 farmers were benefitted. • Folder on Areca husk compost was published • One demonstration unit is established at KVK premises • In each taluk one demonstration unit is established in progressive farmers' field. • Given radio talk on Areca husk compost • Advisories given to 285 areca growing farmers 	
		Identify the district progressive farmers and involve them as resource persons in the training programmes.	<p>Progressive farmers were identified from 7 taluks of Shivamogga District and involving them in various training programmes.</p> <ol style="list-style-type: none"> 1. Mr. Basavarajappa, Shikaripura 2. Mr. Raghu, M. G., Shivamogga 3. Mr. Madan, G. N., Thirthahalli 4. Mr. Shashikumar, Shikaripura 5. Mr. Manjappa, Sagar 6. Mr. Gururaj, Hosanagar 7. Mr. Ramesh, Thirthahalli 8. Mrs. Akkamma, Shivamogga 	

Date	Number of Participants	Salient Recommendations	Action taken	Remarks, if any
			9. Mr. Durgappa Angadi, Shikaripura 10. Mr. Lohith Kumar, Shikaripura 11. Mr. Umesh Reddy, Shikaripura 12. Mr. Venkatesh Naik, Shivamogga 13. Mr. Jagadeesh Naik, Shivamogga 14. Mr. Ravi kumar, Bhadravathi 15. Mrs. Meenakshamma, Bhadravathi 16. Mrs. Girijamma, Shivamogga 17. Mrs. Pushpa, Shikaripura 18. Mr. Mallikarjun, Shivamogga	
		Conduct more number of training programmes on water management, reuse and recharge of borewells	<ul style="list-style-type: none"> 5 trainings were conducted on Water management and 221 farmers were benefitted. 	
		Conduct the campaign about control of Mangana Khayile (Kysanur Forest disease) in collaboration with Veterinary College and Veterinary Department.	Published popular article about 'KFD' in Negila Midditha monthly magazine published by University of Agricultural and Horticultural Sciences, Shivamogga.	Planned awareness campaign programme during February and March-2020
		Conduct the training programmes on poultry farming and preserving the breeds of Malenadu Gidda	<ul style="list-style-type: none"> 8 Training programmes on poultry farming were conducted to 271 farmers. During technology week lecture delivered on 'Disease control in livestock and artificial insemination' to 85 farmers and farm women. 5 Field visits were made 20 Scientific Advisories were given National Animal Disease control programme conducted by involving 156 farmers and farm women. In all on and off training programmes information on preservation of Malenadu Gidda breeds were given. 	
		Prepare small video clippings about new technologies and achievements of progressive farmers.	Video clippings of IFS and progressive farmers were prepared and shown during the training programmes at KVK (1) Mr. Ramesh, Thirthamattur, (2) Mr. Mathews, Hosanagar, (3) Mr. Durgappa Angadi, Shikaripura (4) Mr. Venkatesh Naik, Shettihalli, Shivamogga	
		All the scientists are informed to publish the paper on extension	Published 3 papers in NAAS rated referred journals 1) Impact of research and extension activities in production of chilli and	

Date	Number of Participants	Salient Recommendations	Action taken	Remarks, if any
		and impact studies in a NAAS rated referred journals	turmeric in Shivamogga District of Karnataka. Journal of Pharmacognosy and Phytochemistry. NASS Rating : 5.21 2) Management of major pest and disease in paddy – an impact study : NAAS rating : Journal of Entomological Research NAAS : 5.05 3) Impact of Frontline Demonstration on French Bean Variety Arka Sharath - International journal of pure and applied bio-science : NAAS Rate : 4.74	
		Write a project proposal for improvement of fisheries unit	Project demonstration cum training on different crops reading taken under GoK.	
		Conduct the demonstrations on borewell recharge at Nanjuvalli village	Established borewell recharge demo unit at progressive farmer's field at Nanjuvalli	
		Conduct the exposure visits to the progressive farmers	In 4 Exposure visits 180 farmers were taken to different farm institutions, research stations, progressive farmers' field within the state and out of the state.	
		Conduct the training programmes on nutrition garden and study the impact of this on health of the students	Conducted two training programmes on nutrition garden	The impact study will be conducted.
		Conduct the training programmes on Bamboo cultivation	Bamboo seedlings were planted at University main campus at Iruvakkki during '1000 trees plantation programme'	
		Give more information on management of soil and water through training programme	<ul style="list-style-type: none"> • 7 trainings were conducted on Water management to 404 farmers. • Given awareness on soil management in all the trainings, field visits, seminars, world soil day and during the technology week programmes. • Totally 1972 soil and 782 water samples were analysed and given advisories on soil and water management 	
		Conduct the trainings on Fodder crops especially on multicut sorghum	Fodder Multicut Sorghum Demonstration plot established at KVK farm.	
		Plan for vocational and skill oriented training programme on sheep and goat rearing	<ul style="list-style-type: none"> • 2 Trainings programmes were conducted to 88 farmers. • Scientific Advisories given to 15 farmers 	
		Conduct the training programmes on quality milk production and value addition of milk	Conducted one training programme on 'Value addition in Milk' to the 64 farm women.	
		Conduct the training programmes	Planned to conduct the programmes during the month of February, 2020.	

Date	Number of Participants	Salient Recommendations	Action taken	Remarks, if any
		on sericulture and tree mulberry cultivation in association with the sericulture department		
		Conduct need based training programmes to the members of farmers producers organizations	Conducted 2 trainings on improved production technology of Banana and Tomato to the FPO farmers.	
		Conduct training programmes on Integrated farming system to increase the income of farmers.	<ul style="list-style-type: none"> • 4 training programmes were conducted to 76 farmers • Technical bulletin on IFS was published • During technology week given the talk on IFS • Radio talk on IFS was given • Two TV programmes on IFS were telecasted. • Booklet on IFS progressive farmers was published 	
		Conduct the training programmes on value addition of cashew apple		The cashew apple will be available during April month. So it is planned to conduct training programme during April month
		Conduct the training programmes on value addition to the self help groups and give the importance on kitchen garden.	Conduct one training to 45 members on Kitchen Garden	

PART II - DETAILS OF DISTRICT

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

Sl. No	Farming system/enterprise
1.	Rice based cropping system
2.	Maize based cropping system
3.	Pulses and oilseeds
4.	Areca nut and Coconut based cropping system
5.	Vegetables, fruits and spice crops cultivation
6.	Value addition
7.	Floriculture
8.	Dairying
9.	Poultry farming
10.	Sheep and goat rearing
11.	Apiary

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

S. No	Agro-climatic Zone	Characteristics
1.	Southern Transition Zone (Zone - 7)	<ul style="list-style-type: none"> • The total geographical area of Southern Transition Zone (STZ) (Zone-7) is 13.09 lakh ha. Shivamogga, Bhadravathi and Shikaripur taluks of Shivamogga District comes under this zone. KVK, Navile, Shivamogga is located in this zone. • The zone 7 has varying altitude ranging from as low as 547 m. in the North to as high as 1050 m. in the South. • The soils of the zone are predominantly sandy soils, shallow to moderate deep, reddish brown to black in colour, slightly acidic in pH and low in organic matter. Soils are generally medium in fertility and respond well to irrigation, manuring and management practices. • The climate of the zone is basically tropical benefited by the two monsoons accounting for major part of the rainfall. The zone receives an average annual rainfall of 580.6 mm. The lowest minimum temperature ranges from 14.9°C (December) to 23.2°C (April) while the maximum temperature ranges from 28.4 °C (July) to 39.1 °C (April).
2.	Hilly Zone (Zone - 9)	<ul style="list-style-type: none"> • The total geographical area of hilly Zone (Zone-9) is 22.90 lakh ha. Soraba, Sagara, Thirthahally and Hosanagara taluks of Shivamogga District comes under this zone. • The zone - 9 has varying altitude ranging from as low as 700 to as high as 1050 m. above mean sea level. • The soils of the zone are predominantly sandy loamy or sandy clay loam soils, shallow to moderate deep, yellow, reddish brown to black in colour, low in cation exchange capacity, low in water holding capacity, moderately to highly acidic in pH, low in organic matter and deficient in zinc and boron. Generally, the soils are low in fertility and respond well to irrigation, manuring and management practices. • The climate of the zone is basically tropical benefited by the two

		monsoons accounting for major part of the rainfall. The zone receives an average annual rainfall of 2308 mm with a minimum of 922 mm and maximum of 3695 mm. The lowest minimum temperature of 100 °C will be observed during winter.
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S. No	Agro ecological situation	Characteristics
1	Lateritic gravelly soils with high rainfall based (Thirthahally, part of Hosanagara, Sagara and Soraba taluks)	Comparatively dense forest based, hilly tracks, moderate temperature region, high rainfall. The soils under this AES are yellow, reddish brown surface sandy loamy soils or sand clay loam texture. These soils are low in cation exchange capacity with medium water holding capacity and low in fertility status i.e. low in organic matter, and deficiency in zinc and boron. The Western Ghats regions are rich in flora and fauna. Medicinal plants and herbs like, Asana, Amla, Sandal, Anale, Sarpagandhi, Terminalia, Bixa, etc
2	Red loamy soil with medium rainfall (Parts of Sagara, Soraba, Shikaripura and Hosanagara)	This AES's comprises of medium rainfall area with medium temperature. The soils are medium, shallow to moderate deep with reddish brown to black in colour. Medium in water holding capacity, low in organic matter, only in some patches deficient in Zinc and Boron.
3	Red and Black mixed soils with medium rainfall (Parts of Shivamogga, Bhadravathi, Shikaripura)	The soils under this AES are derived from Ignatius rocks and montmorillonite clay with high in fertility status, high in water holding capacity and cation exchange capacity. These soils are deep and sufficient in micronutrients except some patches.
4	Irrigated red sandy with medium rainfall (Parts of Shivamogga and Bhadravathi)	Comparatively plain lands. Less vegetation, higher temperature. Soils of this situation are predominantly sandy soils, shallow to moderate deep, reddish brown to acidic in pH. Soils are medium in fertility level and respond well for irrigation, manuring and other management practices.

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha
1	Red Sandy	Red sandy soils are derived from acidic rock materials, reddish brown to dark reddish brown in colour and gravelly loamy sand to sandy loam in texture. They are neutral to acidic in reaction with low cation exchange capacity, low base saturation and low water holding capacity. The soils are well drained and respond well to irrigation, manuring and other management practices. These soils are found in the eastern parts of Shikaripur and entire Shivamogga and Bhadravathi Taluks.	Red gravelly loam – 61546 Red loamy – 22819 Red gravelly clay – 6357 Red gravelly mixed with deep black – 58849 Red clayey – 33904 Red gravelly clay – 14491 Red clayey – 14167 Laterite gravelly clay – 13524 Laterite clayey – 118301 Laterite gravelly clay – 19904 Black clayey – 22358 Alluvial loamy – 61133 Alluvial black clayey – 12087 Alluvial clayey – 25660 Forest brown clayey – 15441 Red gravelly clayey – 36446
2	Mixed Red and Black	The soils are derived from igneous rocks and montmorillonite clay with high fertility status, high in water holding capacity and cation exchange capacity. The soils are deep and sufficient in	

S. No	Soil type	Characteristics	Area in ha
	Soils	micronutrients except in some patches. These soils are found in the eastern parts of Shikaripur and entire Shivamogga and Bhadravathi Taluks.	
3	Red loamy Soils	The soils are medium, shallow to moderate, deep with reddish brown to Black in colour. They are Medium in water holding capacity, low in organic matter, deficient in Zinc and Boron in some patches. These soils are found in the eastern parts of Sagar, Soraba, Shikaripur and Hosanagar Taluks.	
4	Lateritic gravelly soils	Laterite soils are derived from acidic igneous rocks, sand stones and sedimentary rocks, yellowish red to reddish brown in colour. They are dominated with kaolinite clay mineral. The soils are acidic with low cation exchange capacity and medium water holding capacity. These soils are found in the western parts of Shikaripur taluk, Thirthahalli and parts of Hosanagar, Sagar and Soraba Taluks.	

2.4. Area, Production and Productivity of major crops cultivated in the district

Sl. No	Crop	Area (ha)	Production (Metric tons)	Productivity (kg /ha)
Field Crops				
1.	Paddy	120629	394521	3332
2.	Hybrid Jowar	100	698	1918
3.	Bajra	2	5	1416
4.	Maize	47254	191117	3074
5.	Ragi	501	1115	1736
6.	Redgram	254	234	965
7.	Horse gram	50	19	541
8.	Black gram	83	32	602
9.	Green gram	920	182	197
10.	Avare	42	45	1008
11.	Cowpea	276	88	406
12.	Bengal Gram	11	36	806
13.	Groundnut	341	388	862
14.	Sunflower	842	1971	2241
15.	Safflower	11	6	828
16.	Caster	2	5	966
17.	Sesame	9	7	559
18.	Niger	5	28	262
19.	Flax seeds	1	1	308
20.	Cotton	845	1796	435
21.	Sugarcane	6736	583656	125000
22.	Tobacco	6	2	850

Source: Director of Economic and statistics

Horticultural Crops				
Sl. No	Crop	Area (ha)	Production (tons)	Yield (t/ha)
1.	Mango	3959	53065	30.40
2.	Banana	5204	138125	26.54
3.	Guava	17	340	20
4.	Sapota	693	9536	13.76
5.	Pineapple	1411	84660	60
6.	Pomegranate	9	90	10
7.	Jack	13	520	40
8.	Limes and lemon	10	250	25
9.	Sweet orange	3	54	18
10.	Pepper	1354	450.54	0.33
11.	Cardamom	376	56.35	0.14
12.	Tamarind	4.5	22.50	5
13.	Ginger	5892	58920	10
14.	Turmeric	38	570	15
15.	Cinnamom	2	0.3	0.15
16.	Vanilla	53	15.9	0.3
17.	Coconut	6500	715	0.11
18.	Arecanut	50820	72726	1.43
19.	Betelvine	150	2580	17.20
20.	Cocoa	509	305.4	0.6
21.	Oil Palm	617	1611	2.61
22.	Cashew	1226	1839	1.5
23.	Tomato	116	2650	22.84
24.	Brinjal	42	840	20
25.	Green chilli	138	1992	14.43

Source: Department of Horticulture, Shivamogga

2.5. Weather data

Month	Rainfall (mm)	Temperature °C		Relative Humidity (%)	
		Max. Temp	Min. Temp	RH-I	RH-II
January-2019	27	37.0	21.7	72	39
February-2019	4.4	36.7	22.6	69	41
March-2019	55.8	32.2	22.6	82	71
April-2019	164.6	27.9	21.3	89	86
May -2019	446.8	27.3	21.0	89	87
June-2019	140.8	28.8	21.2	88	78
July-2019	336.6	29.8	20.3	88	80
August-2019	6.1	30.7	18.8	84	66
September-2019	10.2	30.0	17.6	91	67
October-2019	0	31.8	16.3	84.3	50.4
November-2019	0	32.7	16.6	76.5	41.7
December-2019	13.4	35.0	19.4	74.6	38.4
Total / mean	1205.7	31.7	19.9	82.5	62.3

* Source : Gramin Krishi Mausam Sewa Unit, University of Agricultural & Horticultural Sciences, Shivamogga

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district (2018)

Category	Population	Production	Productivity
Cattle			
<i>Crossbred</i>	112108	242 thousand	10 l/day/animal
<i>Indigenous</i>	456368		
Buffalo	149515		
Sheep			
<i>Crossbred</i>	1158		
<i>Indigenous</i>	35633	3430 thousand tons	
Goats	58034	kg/animal	38 kg / animal
Pigs			
<i>Crossbred</i>	142		
<i>Indigenous</i>	3865		
Rabbits	685		
Poultry			
Hens	1739272	977 lakhs	340 eggs / year
<i>Desi</i>		260 eggs / year	
<i>Improved/broiler</i>			
Ducks			
Turkey and others	70392		

Category	Area	Production	Productivity
Fish			
<i>Marine</i>	--	--	
<i>Inland</i>	14957 ha	21568.08 mt.	1.37 mt/ha
Prawn			
Scampi			
Shrimp			

Source: Department of Animal husbandry and veterinary sciences and Department of fisheries

2.7 District profile maintained in the KVK has been **Updated** for 2019: Yes / No : **YES**

2.8 Details of Operational area / Villages

Sl. No.	Taluk	Name of the block	Name of the village	How long the village is covered under operational area of the KVK (specify the years)	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1.	Shivamogga	Holaluru	Sominakoppa, Holaluru, Harnahalli, Malavagoppa, Thyajuvalli, Harnahalli, Mallapura	5	Maize, Paddy, vegetables, banana, arecanut, Ginger, dairy, pulses,	Bacterial wilt problem in solanaceous vegetables, hidimundige in arecanut, murda complex in chilli, Lack of knowledge on high yielding varieties in vegetables, Stem borer, Rhizome rot and less awareness on value addition	Integrated Crop Management , Integrated Pest Management and Integrated Disease Management, value addition
2.	Bhadravathi	Kasaba	Agasanahalli, Karehalli, Segebaagi	4	Paddy, sugarcane, arecanut, banana, vegetables	Inflorescence dieback and caterpillar in arecanut,	Integrated Pest and Disease Management
3.	Sorab	Anavatti	Samanavalli Gunjanuru	1	Paddy, arecanut, pineapple, ginger, banana, vegetables	Pest and disease problem in paddy, ginger	Integrated Pest and disease Management
4.	Sagar	Anandapura	Nanjuvalli, Nedaravalli, Karkikoppa, Yadehalli, Iruvakki, Thyagarthi	2	Pineapple, arecanut, Paddy, black pepper, banana	Heart rot disease in pineapple, arecanut root grub, Root grub, wilt, thirps, stem borer	Integrated crop management, Integrated Pest and Disease Management

5.	Thirthahalli	Bejuvalli	Thanikal, Mandagadde,	3	Paddy, arecanut, banana, ginger, black pepper	Pest and disease problem in paddy, Koleroga in arecanut, psudostem weevil in banana, rhizome rot in ginger, wilt in black pepper	Integrated crop management, integrated pest and disease management
6.	Shikaripura	Anjanapura	Nimbegondi, Isoor, Harogoppa, Elegere, Thogarsi, Kalavanka	3	Groundnut, maize, sunflower, vegetables, ginger, arecanut	Rhizome rot, bud necrosis, low yielding in vegetables, yellow leaf disease in arecanut, low yielding varieties in ginger, Lack of knowledge on short duration pulses varieties	Integrated crop management, Integrated pest and disease management , resource conservation
7.	Hosanagar	Ripponpet	Jayanagar, Humcha, Gartikere, Ripponpet, Kerehalli	2	Paddy, ginger, arecanut, Banana	Pest and disease problem in paddy, Koleroga in arecanut, psudostem weevil in banana	Integrated Pest and disease Management

2.8 Details of Benchmark Information collected from DFI villages

Sl. No.	Taluk	Name of the block	Name of the village	Name of the head of household	Annual Gross Income (Rs.)	Annual Expenditure (Rs.)	Annual Net Income (Rs.)
1.	Hosanagar	Kerehalli	Nanjuvalli	Ganapathi	66000	24000	42000
2.	Hosanagar	Kerehalli	Nanjuvalli	Mohan kumar	144000	66000	78000
3.	Hosanagar	Kerehalli	Nanjuvalli	Kumar gowdru	146400	186000	-39600
4.	Hosanagar	Kerehalli	Nanjuvalli	Shivakumar	132000	86400	45600
5.	Hosanagar	Kerehalli	Nanjuvalli	Gangadhar	156000	60000	96000
6.	Hosanagar	Kerehalli	Nanjuvalli	Chandrappa	48000	24000	24000
7.	Hosanagar	Kerehalli	Nanjuvalli	Shivappa	150000	72000	78000
8.	Hosanagar	Kerehalli	Nanjuvalli	Omprakash	240000	84000	156000
9.	Hosanagar	Kerehalli	Nanjuvalli	Devaraj	120000	84000	36000
10.	Hosanagar	Kerehalli	Nanjuvalli	K sheshappa	120000	60000	60000
11.	Hosanagar	Kerehalli	Nanjuvalli	Chowdappa	216000	108000	108000
12.	Hosanagar	Kerehalli	Nanjuvalli	Jagadish	360000	72000	288000

13.	Hosanagar	Kerehalli	Nanjuvalli	Puttaswamy	144000	132000	12000
14.	Hosanagar	Kerehalli	Nanjuvalli	Nagaraja hadar	126000	96000	30000
15.	Hosanagar	Kerehalli	Nanjuvalli	Kallappa	60000	18000	42000
16.	Hosanagar	Kerehalli	Nanjuvalli	Suresh	72000	96000	-24000
17.	Hosanagar	Kerehalli	Nanjuvalli	Nagendra	120000	72000	48000
18.	Hosanagar	Kerehalli	Nanjuvalli	Nagaraja	72000	60000	12000
19.	Hosanagar	Kerehalli	Nanjuvalli	Manjunatha	240000	114000	126000
20.	Hosanagar	Kerehalli	Nanjuvalli	Satish	144000	372000	-228000
21.	Hosanagar	Kerehalli	Nanjuvalli	Nagaraj	144000	156000	-12000
22.	Hosanagar	Kerehalli	Nanjuvalli	Rama	72000	36000	36000
23.	Hosanagar	Kerehalli	Nanjuvalli	Krishnamurthy	132000	72000	60000
24.	Hosanagar	Kerehalli	Nanjuvalli	Nagamma	0	48000	-48000
25.	Hosanagar	Kerehalli	Nanjuvalli	Haleshappa	54000	43200	10800
26.	Hosanagar	Kerehalli	Nanjuvalli	Ananth b p	168000	72000	96000
27.	Hosanagar	Kerehalli	Nanjuvalli	Guruva pujari	600000	156000	444000
28.	Hosanagar	Kerehalli	Nanjuvalli	Ganapathi	120000	48000	72000
29.	Hosanagar	Kerehalli	Nanjuvalli	Premkumar	72000	60000	12000
30.	Hosanagar	Kerehalli	Nanjuvalli	Thimmappa	127200	84000	43200
31.	Hosanagar	Kerehalli	Nanjuvalli	Gururaj	480000	216000	264000
32.	Hosanagar	Kerehalli	Nanjuvalli	Ragavendra	720000	120000	600000
33.	Hosanagar	Kerehalli	Nanjuvalli	Rudra murthy	1200000	84000	1116000
34.	Hosanagar	Kerehalli	Nanjuvalli	Veerabhadra n b	132000	72000	60000
35.	Hosanagar	Kerehalli	Nanjuvalli	Suresh h m	50400	48000	2400
36.	Hosanagar	Kerehalli	Nanjuvalli	Hemappa	240000	132000	108000
37.	Hosanagar	Kerehalli	Nanjuvalli	Anche manjappa	180000	156000	24000
38.	Hosanagar	Kerehalli	Nanjuvalli	Seethamma	19200	36000	-16800
39.	Hosanagar	Kerehalli	Nanjuvalli	N s putta swamy	600000	120000	480000
40.	Hosanagar	Kerehalli	Nanjuvalli	Krishnamurthy	24000	84000	-60000
41.	Hosanagar	Kerehalli	Nanjuvalli	Girijamma	54000	24000	30000

42.	Hosanagar	Kerehalli	Nanjuvalli	N b ramachandra	96000	48000	48000
43.	Hosanagar	Kerehalli	Nanjuvalli	Manjappa	240000	72000	168000
44.	Hosanagar	Kerehalli	Nanjuvalli	N t rajappa	600000	60000	540000
45.	Hosanagar	Kerehalli	Nanjuvalli	Umesh n b	144000	120000	24000
46.	Hosanagar	Kerehalli	Nanjuvalli	Ravikumar h	132000	99600	32400
47.	Hosanagar	Kerehalli	Nanjuvalli	Puttaswamy gowdru	360000	69600	290400
48.	Hosanagar	Kerehalli	Nanjuvalli	Shekarappa	300000	48000	252000
49.	Hosanagar	Kerehalli	Nanjuvalli	N m ramappa	60000	84000	-24000
50.	Hosanagar	Kerehalli	Nanjuvalli	Manjappa	240000	120000	120000
51.	Hosanagar	Kerehalli	Nanjuvalli	Murthy	72000	138000	-66000
52.	Hosanagar	Kerehalli	Nanjuvalli	Basavaraj n b	69600	138000	-68400
53.	Hosanagar	Kerehalli	Nanjuvalli	Swami gowda	69600	138000	-68400
54.	Hosanagar	Kerehalli	Nanjuvalli	Rajeshwari t	39600	91200	-51600
55.	Hosanagar	Kerehalli	Nanjuvalli	Abhi lalithamma	30000	96000	-66000
56.	Hosanagar	Kerehalli	Nanjuvalli	Jagadesh basappagowda	16800	144000	-127200
57.	Hosanagar	Kerehalli	Nanjuvalli	Hulakod nagaraj gowdru	270000	216000	54000
58.	Hosanagar	Kerehalli	Nanjuvalli	Rajendra n f	304800	492000	-187200
59.	Hosanagar	Kerehalli	Nanjuvalli	Danappa	139200	420000	-280800
60.	Hosanagar	Kerehalli	Nanjuvalli	Jana pujar	279600	192000	87600
61.	Hosanagar	Kerehalli	Nanjuvalli	Nagaratna pujari	180000	108000	72000
62.	Hosanagar	Kerehalli	Nanjuvalli	Lokesh hulakod	36000	198000	-162000
63.	Hosanagar	Kerehalli	Nanjuvalli	Yallappa naik	360000	66000	294000
64.	Hosanagar	Kerehalli	Nanjuvalli	Hendegadde hucchappa	540000	79200	460800
65.	Hosanagar	Kerehalli	Nanjuvalli	Puttu pujeri	180000	86400	93600
66.	Hosanagar	Kerehalli	Nanjuvalli	Ganapati pujari	60000	204000	-144000
67.	Hosanagar	Kerehalli	Nanjuvalli	Veda pujari	156000	96000	60000
68.	Hosanagar	Kerehalli	Nanjuvalli	Ganapati	396000	174000	222000
69.	Hosanagar	Kerehalli	Nanjuvalli	Shanmukappa	372000	138000	234000
70.	Hosanagar	Kerehalli	Nanjuvalli	Suleman	180000	144000	36000

71.	Hosanagar	Kerehalli	Nanjuvalli	Pratima	16800	144000	-127200
72.	Hosanagar	Kerehalli	Nanjuvalli	Danappa	16800	144000	-127200
73.	Hosanagar	Kerehalli	Nanjuvalli	Nagaraj gowda	16800	144000	-127200
74.	Hosanagar	Kerehalli	Nanjuvalli	Parameshwara	468000	470000	-2000
75.	Hosanagar	Kerehalli	Nanjuvalli	Bhoja pujari	14400	26400	-12000
76.	Hosanagar	Kerehalli	Nanjuvalli	Basava poojari	66000	42000	24000
77.	Hosanagar	Kerehalli	Nanjuvalli	Skekranna	276000	54000	222000
78.	Hosanagar	Kerehalli	Nanjuvalli	Chandrashekar	300000	180000	120000
79.	Hosanagar	Kerehalli	Nanjuvalli	Kumar	150000	108000	42000
80.	Hosanagar	Kerehalli	Nanjuvalli	Bhojappa	216000	96000	120000
81.	Hosanagar	Kerehalli	Nanjuvalli	Ramachandra	300000	144000	156000
82.	Hosanagar	Kerehalli	Nanjuvalli	Paddamma	96000	60000	36000
83.	Hosanagar	Kerehalli	Nanjuvalli	Ramappa	144000	60000	84000
84.	Hosanagar	Kerehalli	Nanjuvalli	Thimmanna N J	180000	96000	84000
85.	Hosanagar	Kerehalli	Nanjuvalli	jayamma	120000	54000	66000
86.	Hosanagar	Kerehalli	Nanjuvalli	Manjappa	960000	300000	660000
87.	Hosanagar	Kerehalli	Nanjuvalli	Shivappa	204000	108000	96000
88.	Hosanagar	Kerehalli	Nanjuvalli	Manjunath	204000	114000	90000
89.	Hosanagar	Kerehalli	Nanjuvalli	Babu	180000	96000	84000
90.	Hosanagar	Kerehalli	Nanjuvalli	Renukesh	420000	240000	180000
91.	Hosanagar	Kerehalli	Nanjuvalli	Shivaram	120000	48000	72000
92.	Hosanagar	Kerehalli	Nanjuvalli	Vasudeva	444000	216000	228000
93.	Hosanagar	Kerehalli	Nanjuvalli	Puttappa	198000	120000	78000
94.	Hosanagar	Kerehalli	Nanjuvalli	Ramesh Y	87480	50400	37080
95.	Hosanagar	Kerehalli	Nanjuvalli	Nagaraj	145920	64800	81120
96.	Hosanagar	Kerehalli	Nanjuvalli	Ramesh C	300000	199200	100800
97.	Hosanagar	Kerehalli	Nanjuvalli	Umapathi	199800	127920	71880

2.9 Priority thrust areas

S. No.	Thrust area
1.	Integrated Crop Management
2.	Soil acidity management
3.	Integrated nutrient management
4.	Integrated pest and disease management
5.	Variety / hybrid introduction
6.	Quality seed / seedling production
7.	Fodder production and enrichment of dry fodder crops
8.	Value addition
9.	Post harvest technology
10.	Infertility management in dairy animals
11.	Poultry management
12.	Resource conservation

PART III - TECHNICAL ACHIEVEMENTS (2019)

3.A. Target and Achievements of mandatory activities

OFT				FLD			
1				2			
OFTs (No.)		Farmers (No.)		FLDs (No.)		Farmers (No.)	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
3	3	9	9	15	15	114	114

Training				Extension Programmes			
3				4			
Courses (No.)		Participants (No.)		Programmes (No.)		Participants (No.)	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
85	91	3000	3216	35	30	5000	7331

Seed Production (Q)				Planting material (Nos.)			
5				6			
Target		Achievement		Target		Achievement	
10		10.10		6000		6672	

Livestock, poultry strains and fingerlings (No.)				Bio-products (Kg)			
7				8			
Target		Achievement		Target		Achievement	
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3.B1. Abstract of interventions undertaken

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products	
													No.	Kg
1.	Varietal evaluation	Paddy	Low yield, Susceptible to pest and diseases, non availability of improved red rice varieties	Assessment of Red Rice Varieties	-	1	0	0	4	0.63	-	-	-	-
2.	Hybrid introduction	Chilli	Low yield and Less adoption of suitable hybrids	Assessment of Chilli hybrids for suitability	-	1	0	0	2	--				
3.	Hybrid introduction	Ridge Gourd	Low yield, unaware of improved hybrids	Assessing the performance of Ridge gourd hybrids	-	2	0	0	6	0.05	--	--	-	-
4.	Integrated Nutrient Management	Paddy	Imbalanced nutrient application 2. Non application of RDF 3. Apply 'K' fertilizer as basal dose only 4. No foliar spray of nutrients & 5. Low yield	-	Integrated Nutrient Management in RICE	4	0	0	5	-	-	-	3	3
5.	Variety Introduction	Paddy	Low yield, higher pest and disease incidence	-	Demonstration of paddy variety – KKP-5	2	0	0	1	2.5	-	-	-	-
6.	Resource conservation	Black gram	Non adoption of short duration pulse varieties for paddy fallows	-	Demonstration on Black Gram variety Rashmi (LBG – 625)	2	0	0	0	1				
7.	Variety introduction	Red gram	Low yield, susceptible to wilt	-	Demonstration of Red gram variety BRG-5	2	0	0	2	0.5	-	-	-	-
8.	Variety	Groundnut	Low yield, susceptible	-	Demonstration of	1	0	0	2	3 (pods	-	-	1	5

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions										
				Title of OFT if any	Title of FLD if any	Number of Training (farmers)	Number of Training (Youths)	Number of Training (extension personnel)	Extension activities (No.)	Supply of seeds (Qtl.)	Supply of planting materials (No.)	Supply of livestock (No.)	Supply of bio products	
													No.	Kg
	introduction		to pest and disease incidence		Ground nut variety GKVK-5									
9.	Variety introduction	Gaillardia	Lack of new flower crops for garland		Demonstration of Gaillardia variety DGS-1	1	0	0	0	0.02	-	-	-	-
10.	Pest Management	Arecanut	Root grub		Management of Root grub in areca nut	3	0	0	4	-	-	-	2	425
11.	Integrated crop management	Black Pepper	Foot rot, Micro-nutrient deficiency, Improper filling of spikes, Irregular growth of berries, Lower yield.		Integrated Crop Management in Pepper	2	0	0	3	-	-	-	1	45
12.	Variety Introduction	Amaranthus	Lack of knowledge on high yielding and short duration varieties		Demonstration of High yielding AMARANTHUS variety 'ARKA SAMRAKSHA'	2	0	0	2	0.01	-	-	-	-
13.	Integrated pest and disease management	Paddy	Stem borer, leaf roller, blast, sheath blight		Major Pest and disease management in Paddy	2	0	0	3	-	-	-	1	5 ltr.
14.	Integrated Crop Management	Sunflower	Boron and zinc deficiency, Powdery mildew, Leaf spot, Bud necrosis, Low yield		Integrated Crop Management in Sunflower	1	0	0	2	-	-	-	-	-
15.	Integrated Pest Management	Tomato	Sucking pests incidence Indiscriminate use of pesticides Low yield		Management of sucking pests in Tomato	3	1	0	3	-	-	-	2	16 Ltr. + 16 Kg.

3.B2. Details of technology used during reporting period

S.No	Title of Technology	Source of technology	Crop/ enterprise	No. of programmes conducted			
				OFT	FLD	Training	Others (Specify)

1	2	3	4	5	6	7	8
1.	Assessment of Red Rice Varieties	KAU, Thrissur , UAHS, Shivamogga	Paddy	3	-	1	Field visit, Advisories, Farmers visit to KVK
2.	Assessing the performance of Ridge Gourd hybrids	IIHR, Bengaluru (2016), TNAU, Coimbatore (2018)	Ridge Gourd	3	-	2	Field visit, Advisories, Farmers visit to KVK
3.	Integrated Nutrient Management in RICE	UAHS, Shivamogga	Paddy	-	10	4	Field visit, Advisories, Farmers visit to KVK,
4.	Demonstration of paddy variety – KKP-5	UAHS, Shivamogga	Paddy	-	5	2	Field visit, GD, Advisories, Farmers visit to KVK, Field day
5.	Demonstration on Black Gram variety Rashmi (LBG – 625)	UAHS, Shivamogga	Black gram	-	10	2	Field visit, Advisories, Farmers visit to KVK
6.	Demonstration of Red gram variety BRG-5	UAS, Bengaluru	Red gram	-	10	2	Field visit, Advisories, Farmers visit to KVK
7.	Demonstration of Ground nut variety GKVK-5	UAS, Bengaluru	Groundnut	-	5	1	Field visit, Advisories, Farmers visit to KVK
8.	Demonstration of Gaillardia variety DGS-1	UAS, Dharwad	Gaillardia	-	10	1	Field visit, Advisories, Farmers visit to KVK
9.	Management of Root grub in areca nut	UAHS, Shivamogga	Arecanut	-	5	3	Field visit, GD, MD, Advisories, Farmers visit to KVK
10.	Integrated Crop Management in Pepper	IISR, Calicut IIHR, Bengaluru	Black Pepper	-	5 (25 vines / demonstration)	2	Field visit, Advisories, Farmers visit to KVK, GD

11.	Demonstration of High yielding Amaranthus variety 'Arka Samraksha'	IIHR, Bengaluru	Amaranthus	-	10	2	Advisories, Farmers visit to KVK
12.	Major Pest and disease management in Paddy	UAHS, Shivamogga	Paddy	-	5	2	Field visit, Advisories, Farmers visit to KVK, GD, MD
13.	Management of sucking pests in Tomato	IIVR, Varanasi	Tomato	-	8	3	Field visit, Advisories, Farmers visit to KVK, GD, MD

3.B2 Contd

	No. of farmers covered															
	OFT				FLD				Training				Others (Specify)			
	General		SC/ST		General		SC/ST		General		SC/ST		General		SC/ST	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1.	2		1						28	6	3	2	32	2	8	1
2.	3								17	3						
3.									32	18	11	5	28	3	11	6
4.					4	1	0	0	76	21	16	6	18	6	8	2
5.					10	1	0	0	43	22	9	6	22	15	8	3
6.					9	1	0	0	26	18	2	0	12	3	2	1
7.					5	0	0	0	32	6	2	0	11	2	5	1
8.					2	7	0	1	18	6	1	2	6	11	2	6
9.					2	3	0	0	61	18	16	5	26	0	5	0
10.					5	0	0	0	46	12	8	3	15	2	8	2
11.					3	0	0	0	26	22	6	8	11	3	6	1
12.					4	1	0	0	32	6	2	0	10	2	4	1
13.					1	-	6	1	76	18	18	5	20	3	8	2

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

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

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

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

4.B. Achievements on technologies Assessed and Refined

4.B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trial covering all the Technological Options)	
Integrated Nutrient Management						
Varietal Evaluation	Paddy	Assessment of Red Rice Varieties	3	3	1.20 ha. (10 gunta/tech) = 30 gunta/trial	
					Tech. Options	Details of technology
					Tech. Option 1	Kempu Sanna
					Tech. Option 2	Shreyas
					Tech. Option 3	Sahyadri Megha
	Ridge	Assessing performances of	3	3	1.00 ha	

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trial covering all the Technological Options)	
					Tech. Options	Details of technology
	gourd	ridge gourd hybrids			Tech. Option 1	Rama
					Tech. Option 2	Arka Vikram
					Tech. Option 3	CO H 1
Integrated Pest Management						
Integrated Crop Management						
Integrated Disease Management						
Small Scale Income Generation Enterprises						
Weed Management						
Resource Conservation Technology						
Farm Machineries						
Integrated Farming System						
Seed / Plant production						
Value addition						
Drudgery Reduction						
Storage Technique						

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

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

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

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

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

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

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

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

Small scale income generating enterprises				
Total				

4.C1.Results of Technologies Assessed

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Source of technology	Yield	Unit of yield	Observations other than yield	Gross Return Rs. / unit	Net Return Rs. / unit	BC Ratio (Gross income/ Gross Cost)
1	2	3	4	5	6	7	8	9	10	11	12	13
Paddy	Irrigated	Low yield, Susceptible to pest and diseases, non availability of improved red rice varieties	Assessment of Red Rice Varieties	3	T.O.1: Kempu Sanna	Farmers practice	53.28	q/ha	Productive tillers/m2 =253 Panical length (cm)=21.50 Stem bore incidence (%)=4 Blast incidence (%)=2.0 Plant height(cm)=76.30	106560	53930	2.02
					T.O.2 : Shreyas	KAU, Thrissur	69.45	q/ha	Productive tillers/m2 =324 Panical length (cm)=23.20 Stem bore incidence (%)=2.0 Blast incidence (%)=2.0 Plant height(cm)=82.50	138900	81972	2.43
					T.O.3 : Sahyadri Megha	UAHS, Shivamogga	62.53	q/ha	Productive tillers/m2 =298 Panical length (cm)=22.30 Stem bore incidence (%)=2.0 Blast incidence (%)=2.0 Plant height(cm)=79.10	125060	70245	2.28
Ridge Gourd	Irrigated	Low yield, unaware of improved hybrids	Assessing the performance of Ridge	3	T.O.1: Rama	Farmers' Practice	24.04	t/ha	Fruit fly incidence (%) 10.00	408708	291358	3.48
					T.O.2: Arka Vikram	IIHR, Bengaluru	22.65	t/ha	Fruit fly incidence (%) 7.0	385191	267141	3.26

			Gourd hybrids		(2016)						
				T.O.3: CO H 1	TNAU, Coimbatore (2018)	20.75	t/ha	Fruit fly incidence (%) 13.75	473500	249290	3.00

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

1.	Title of Technology Assessed	1.	Assessment of Red Rice Varieties
		2.	Assessing the performance of Ridge Gourd hybrids
2.	Performance of the Technology on specific indicators	1.	Technology Option (2) : Shreyas red rice variety performed superior with respect to yield and yield attributing characters. Pest and disease incidence was also less compared to other two varieties.
		2.	Technology Option (1) : Rama performed good and recorded higher yield
3.	Specific Feedback from farmers	1.	Farmers opined that, variety Shreyas gives higher yield, and fetches higher market price. Less incidence of pest and disease was noticed.
		2.	Technology option (2) : Arka Vikram hybrid is preferred in local market by consumers, because of small to medium size fruit, taste, keeping and cooking quality
4.	Specific Feedback from Extension personnel and other stakeholders	1.	The paddy variety Shreyas is a high yielding variety and the farmers are readily accept to grow this variety
		2.	Arka Vikram hybrid is preferred in local market by consumers. Stakeholders ready to accept the hybrid
5.	Feedback to Research System based on results and feedback received	1.	Pest and disease tolerant red rice varieties are to be developed
		2.	Develop the High yielding hybrids in Ridge gourd

4.D1. Results of Technologies Refined : NIL

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

4.D.2. Details of Technologies refined:

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

PART V - FRONTLINE DEMONSTRATIONS (2019)

5.A. Summary of FLDs implemented : 2018-19

Sl. No.	Category	Farming Situation	Season	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		Farmers (No.)		Farmers (No.)	
									Proposed	Actual	SC/ST	Others	Small/Marginal	Others
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Plantation Crops	Irrigated	Summer	Arecanut	Tarikere local	-	Integrated crop management	<ul style="list-style-type: none"> Application of FYM @ 20 kg/plant 100g + 40g + 140g NPK + 20g Borax / plant Spraying with Carbendazim 12% + Mancozeb 63 % WP @ 2.0 g/l + Chlorpyriphos 20 EC @ 2.0 ml /l 	2.0	2.0	2	8	8	2
2	Fodder	Irrigated	Kharif	Fodder sorghum	COFS-29	-	Nutritional management	<ul style="list-style-type: none"> Introduction of multicut COFS-29 fodder sorghum 	20	20	4	16	20	-
3	Dairy	-	-	-	Cross breeds	HF jersey	Infertility management	<ul style="list-style-type: none"> Mineral mixture feeding, deworming, Hormonal treatment & artificial insemination 	20 nos	20 nos	2	14	-	-
4	Sheep and goat	-	-	-	-	-	Fodder enrichment	<ul style="list-style-type: none"> Silage preparation in drums 	5 units	5 units	2	3	5	-

5.A. Summary of FLDs implemented : 2019-20

Sl. No.	Category	Farming Situation	Season	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		Farmers (No.)		Farmers (No.)	
									Proposed	Actual	SC/ST	Others	Small/Marginal	Others
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Oilseeds	Semi irrigated	Summer	Groundnut	GKVK – 5	-	Variety Introduction	<ul style="list-style-type: none"> Demonstration of Ground nut variety – GKVK-5 Seed treatment with bio-fertilizers Borax spray @ 0.2 % 	2.0	2.0	-	5	5	-
2	Pulses	Rice Fallow	Summer	Black gram	Rashmi (LBG-625)	-	Resource conservation	<ul style="list-style-type: none"> Demonstration of short duration black gram variety Rashmi (LBG – 625) in rice fallows Seed treatment with bio-fertilizers 	4.0	4.0	-	11	8	3

Sl. No.	Category	Farming Situation	Season	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		Farmers (No.)		Farmers (No.)	
									Proposed	Actual	SC/ST	Others	Small/ Marginal	Others
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		Limited irrigation	<i>Kharif</i>	Red Gram	BRG-5	-	Variety introduction	1. Demonstration of Redgram variety–BRG-5. 2. Seed treatment with bio-fertilizers. 3. Spraying of Profenophos for pod borer and sucking pests.	4.0	4.0	-	10	8	2
3	Cereals	Irrigated	<i>Kharif</i>	Paddy	KKP-5	-	Variety Introduction	Demonstration of Paddy variety – KKP-5	4.0	4.0	-	10	10	-
		Irrigated	<i>Kharif</i>	Paddy	JGL-1798	-	Integrated Nutrient Management	<ul style="list-style-type: none"> • Soil test based fertilizer application (RDF-100:50:50 kg NPK/ha, ZnSO4-20 kg) • 1% 19:19:19 spray @ maximum tillering stage • 1% 13:0:45 @ grain filling stage • Bioinoculation of Effective Microbial Consortium 	2.0	2.0	-	5	5	-
		Irrigated	<i>Kharif</i>	Paddy	JGL-1798	-	Integrated pest and disease management	<ul style="list-style-type: none"> • IPM-Cultural and mechanical methods • Spraying of Azadirachtin @ 2.5 ml/l • Application of Fipronil 0.3 G @ 10 kg/ac • Seed treatment with Carbendazim 50 WP @ 4 g/kg of seeds • Poison bait (20 kg rice bran, 2 kg jaggery, 100 ml Chlorfenopyr 10 SC) • Spraying of Propiconazole 25 EC @ 1 ml/l 	2.0	2.0	-	5	5	-
4	Millets													
5	Vegetables	Irrigated	<i>Kharif</i>	Tomato	-	JK-818	Integrated pest management	Installation of sticky trap, Neem soap spray 5 gm/l, <i>Leccanicillium leccanii</i> 0.2%, Emamectin Benzoate 5 SG 0.05 %	1.6	1.6	5	3	7	1
		Irrigated	<i>Summer</i>	Amaranthus	Arka Samraksha	-	Variety Introduction	<ul style="list-style-type: none"> • Demonstration of high yielding, multicut Amaranthus variety– ‘Arka Samraksha’ 	2.0	2.0	3	7	8	2

Sl. No.	Category	Farming Situation	Season	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		Farmers (No.)		Farmers (No.)	
									Proposed	Actual	SC/ST	Others	Small/ Marginal	Others
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
27	Sericulture													
28	Apiculture													
29	Implements													
30	Others (specify)													

5.A. 1. Soil fertility status of FLDs plots, if analysed : 2018-19

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
1.	Plantation Crop	Irrigated	Summer-2019	Arecanut	Tarikere local	-	Integrated crop management	<ul style="list-style-type: none"> Application of FYM @ 20 kg/plant 100g + 40g + 140g NPK + 20g Borax / plant Spraying with Carbendazim 12% + Mancozeb 63 % WP @ 2.0 g/l + Chlorpyriphos 20 EC @ 2.0 ml/l 	Summer-2019	M	H	M	Arecanut

5.A. 1. Soil fertility status of FLDs plots, if analysed: 2019-20

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
	Oilseeds	Semi irrigated	Summer-2020	Groundnut	GKVK - 5		Variety Introduction	<ul style="list-style-type: none"> Demonstration of Ground nut variety – GKVK-5 Seed treatment with bio-fertilizers Borax spray @ 0.2 % 	Summer-2020	L	H	M	Paddy
	Pulses	Rice Fallow	Summer-2020	Black gram	Rashmi (LBG – 625)		Resource conservation	<ul style="list-style-type: none"> Demonstration of short duration black gram variety Rashmi (LBG – 625) in rice fallows Seed treatment with bio-fertilizers 	Summer-2020	L	H	M	Paddy
		Limited irrigation	<i>Kharif</i>	Red Gram	BRG-5		Variety introduction	<ul style="list-style-type: none"> Demonstration of Redgram variety–BRG-5. Seed treatment with bio-fertilizers. Spraying of Profenophos for pod borer and sucking pests. 	<i>Kharif-2019</i>	L	H	M	Maize
	Cereals	Irrigated	<i>Kharif-2019</i>	Paddy	KKP-5		Variety Introduction	Demonstration of Paddy variety – KKP-5	<i>Kharif-2019</i>	M	H	M	Paddy, Pulses
		Irrigated	<i>Kharif-</i>	Paddy	JGL-1798		Integrated Nutrient	<ul style="list-style-type: none"> Soil test based fertilizer application 	<i>Kharif-</i>	M	H	M	Paddy

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
			2019				Management	(RDF-100:50:50 kg NPK/ha, ZnSO4-20 kg) <ul style="list-style-type: none"> • 1% 19:19:19 spray @ maximum tillering stage • 1% 13:0:45 @ grain filling stage • Bioinoculation of Effective Microbial Consortium 	2019				
		Irrigated	Kharif-2019	Paddy	JGL-1798		Integrated pest and disease management	<ul style="list-style-type: none"> • IPM-Cultural and mechanical methods • Spraying of Azadirachtin @ 2.5 ml/l • Application of Fipronil 0.3 G @ 10 kg/ac • Seed treatment with Carbendazim 50 WP @ 4 g/kg of seeds • Poison bait (20 kg rice bran, 2 kg jaggery, 100 ml Chlorfenopyr 10 SC) • Spraying of Propiconazole 25 EC @ 1 ml/l 	Kharif-2019	L	M	H	Paddy
	Millets												
	Vegetables	Irrigated	Kharif-2019	Tomato		JK-818	Integrated pest management	Installation of sticky trap, Neem soap spray 5 gm/l, <i>Leccanicillium leccanii</i> 0.2%, Emamectin Benzoate 5 SG 0.05 %	Kharif-2019	L	H	M	Ridge Gourd
		Irrigated	Summer-2020	Amaranthus	Arka Samraksha		Variety Introduction	<ul style="list-style-type: none"> • Demonstration of high yielding, multicut Amaranthus variety- 'Arka Samraksha' • RDF (100:50:50 kg. NPK /ha) + FYM 25 t/ha • IHR vegetable special @ 5 gm / ltr. • Azadiractin 5000 PPM @ 2.5 ml / ltr. 	Summer-2020	L	H	M	Tomato
	Flowers	Irrigated	Kharif-2019	Gaillardia	DGS-1		Varietal introduction	<ul style="list-style-type: none"> • Demonstration of high yielding Gaillardia variety-'DGS-1' • RDF (100:50:50 NPK kg/ha) + FYM 15 t/ha 	Kharif-2019	L	H	M	Tomato
	Ornamental												
	Fruit												
	Spices and condiments	Irrigated	Kharif-2019	Black pepper	Panniyur-1		Integrated crop management	<ul style="list-style-type: none"> • Soil test based fertilizer application • Application of <i>Trichoderma harzianum</i> around the base of the vine @ 50 g/vine • Soil drenching with potassium phosphonate (0.3%) @ 5-10 litres / vine. • Drenching of Bordeaux mixture and Arka microbial consortia 20 gm/l (June & 	Kharif-2019	L	H	M	Black pepper

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
								September) for leaf rot and quick wilt <ul style="list-style-type: none"> • Metalaxyl MZ 8% + Mancozeb 64% and Bordeaux mixture (1%) spray • 'Pepper special' – micro nutrient mixture spray with 5 gm/l. (1st spray during spike initiation with onset of monsoon, 2nd spray 2 months after first spray) 					
	Commercial												
	Medicinal and aromatic												
	Fodder												
	Plantation	Irrigated	<i>Kharif-2019</i>	Arecanut	Sagara local	-	Pest management	<ul style="list-style-type: none"> • Soil application of neem cake @ 2 kg/palm + <i>Metarhizium anisopliae</i> @ 20 gm/palm • Drenching of Imidacloprid 3L solution/palm @ 0.5 ml/L 	Kharif 2019	L	H	M	Arecanut
	Fibre												

5.B. Results of FLDs

5.B.1. Crops : 2018-19

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (q/ha)			Check	% Increase	Economics of demonstration (Rs./ha) Demo			Economics of demonstration (Rs./ha) Check		
							H	L	A			Gross Return	Net Return	BCR	Gross Return	Net Return	BCR
Plantation crop	Integrated crop management in arecanut of Maidan Area	Tarikere local	-	Irrigated	10	2.0	10.8	9.8	10.19	8.34	22.18	234370	179670	4.30	191820	142920	3.93
Fodder	Introduction of CoFS 29, Cowpea and Sesbenia fodder tree as border crop	CoFS 29	-	Irrigated	20	20 unit	168	149	162	-	-	49020	25920	2.4	-	-	-

5.B.1. Crops : 2019-20

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (q/ha)		% Increase	Economics of demonstration (Rs./ha) Demo	Economics of demonstration (Rs./ha) Check
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Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (q/ha)			% Increase	Economics of demonstration (Rs./ha) Demo			Economics of demonstration (Rs./ha) Check			
							Demo				Check	Gross Return	Net Return	BCR	Gross Return	Net Return	BCR
							H	L	A								
Others																	

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

H – Highest Yield, L – Lowest Yield A – Average Yield

Data on additional parameters other than yield (viz., reduction of percentage in weed/pest/diseases etc.) : 2019-20

Demonstration of paddy variety KKP-5			
Parameter with unit	Demo		Check
Stem borer incidence (%)	5.23		6.86
Blast incidence (%)	3.00		4.00
Plant Height (cm)	97.3		92.20
Panicle length (cm)	23.21		21.40
Crop Maturity (Days)	145		138

Integrated Nutrient Management in Rice			
Parameter with unit	Demo		Check
Stem borer incidence (%)	4.8		17.6
Blast incidence (%)	4.8		12.2

5.B.2. Livestock and related enterprises : 2018-19

Type of livestock	Name of the technology demonstrated	Breed	No. of Demo	No. of Units	Name of the parameter with unit	Yield (kg/animal)			% Increase	*Economics of demonstration (Rs./unit)			*Economics of check (Rs./unit)			
						Demo				Check if any	Gross Return	Net Return	** BCR	Gross Return	Net Return	** BCR
						H	L	A								
Dairy	Estrous synnchronization in crossbreed cows	HF jersy	20	20	1) Conceive %	70	62	68	22	46	90000	58000	2.81	32000	14000	1.78
					2) No. of AI/conceive	3	2	2	5	-						
					3) Fertility %	55	47	52	20	32						
Sheep and goat	Silage preparation in drums	Native	5 unit	5 unit	1) Body weight (kg)	28	22	24	18	33.33	56400	27500	2.34	49000	21000	1.98
					2) Growth rate %	32	20	28	20							

5.B.2. Livestock and related enterprises

Type of	Name of the technology demonstrated	Breed	No. of Demo	No. of	Name of the	Yield (kg/animal)	% Increase	*Economics of demonstration (Rs./unit)	*Economics of check (Rs./unit)
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livestock				Units	parameter with unit	Demo			Check if any		Gross Return	Net Return	** BCR	Gross Return	Net Return	** BCR
						H	L	A								
Dairy																
Poultry																
Rabbitry																
Pigerry																
Sheep and goat																
Duckery																
Others																

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

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

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

5.B.3. Fisheries : 2018-19

Type of Breed	Name of the technology demonstrated	Breed	No. of Demo	Units/ Area (m ²)	Name of the parameter with unit	Yield (q/ha)			% Increase	*Economics of demonstration (Rs./unit)			*Economics of check (Rs./unit)		
						Demo		Check if any		Gross Return	Net Return	** BCR	Gross Return	Net Return	** BCR
						H	L								
Common carps	Demonstration of 'Amur Carp' In poly-culture of fish	Amur Carp	3	4000	1.Fish yield (kg)	3420	1925	2422	--	290640	200640	2.2	-	-	-
					2. Survivability %	62	48	53							

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

				demo in ha	with unit	Demo	Check			Gross Return	Net Return	** BCR	Gross Return	Net Return	** BCR

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

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

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Local

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

Sl. No.	Activity	No. of activities organised	Number of participants	Remarks
1.	Field days	3	186	-
2.	Farmers Training	25	817	-
3.	Media coverage	4	-	-
4.	Training for extension functionaries	-	-	-
5.	Others (Please specify)	-	-	-

Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production	1	4	6	10	2	4	6	8	10	18
Apiculture	1	17	2	19	0	0	0	17	2	19
Others	1	2	17	19	7	0	7	24	2	26
Capacity Building and Group Dynamics										
Leadership development	1	28	13	41	7	6	13	37	19	56
Group dynamics	1	18	6	24	5	8	13	24	14	38
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths	1	35	0	35	32	0	32	67	0	67
Others	2	26	19	45	25	13	38	53	33	86
Agro-forestry										
Production technologies	2	21	6	27	14	5	19	35	11	46
Nursery management										
Integrated Farming Systems	6	90	16	106	30	1	31	120	17	137
Others										
TOTAL	55	709	586	1295	417	255	638	1166	836	2002

Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other										
TOTAL	2	1	51	52	1	19	20	2	70	72

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other	2	30	19	49	3	11	14	33	30	63
Total	2	30	19	49	3	11	14	33	30	63

8.a.	Farm machinery, tools and implements										
8.b.	Others										
9.	Livestock and fisheries	1	13	2	15	4	1	5	17	3	20
10	Livestock production and management										
10.a.	Animal Nutrition Management										
10.b.	Animal Disease Management										
10.c.	Fisheries Nutrition										
10.d.	Fisheries Management										
10.e.	Others										
11.	Home Science										
11.a.	Household nutritional security										
11.b.	Economic empowerment of women										
11.c.	Drudgery reduction of women										
11.d.	Others										
12	Agricultural Extension										
12.a.	Capacity Building and Group Dynamics										
12.b.	Others										
	Total	2	41	2	43	4	1	5	45	3	48

Details of sponsoring agencies involved

1. Dept. of Agriculture
2. Dept. of Horticulture
3. Coconut Development Board, Bangalore
4. SAMETI (S), UAS (B)
5. Government of Karnataka
6. MANAGE, Hyderabad
7. ASCI, GoI
8. NFDB
9. DCCD, Cochin

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

S.No.	Area of training	No. of Courses	No. of Participants										
			General			SC/ST			Grand Total				
			Male	Female	Total	Male	Female	Total	Male	Female	Total		
1	Crop production and management												
1.a.	Commercial floriculture												
1.b.	Commercial fruit production												
1.c.	Commercial vegetable production												
1.d.	Integrated crop management												
1.e.	Organic farming												
1.f.	Others												
2	Post harvest technology and value addition												
2.a.	Value addition	1	0	24	24	0	10	10	0	34	34		
2.b.	Others												
3.	Livestock and fisheries												
3.a.	Dairy farming												
3.b.	Composite fish culture												
3.c.	Sheep and goat rearing												
3.d.	Piggery												
3.e.	Poultry farming												
3.f.	Others Bee Keeping	1	21	3	24	4	2	6	25	5	30		
4.	Income generation activities												
4.a.	Vermi-composting												
4.b.	Production of bio-agents, bio-pesticides, bio-fertilizers etc.												
4.c.	Repair and maintenance of farm machinery and implements												
4.d.	Rural Crafts												
4.e.	Seed production												
4.f.	Sericulture												
4.g.	Mushroom cultivation												
4.h.	Nursery, grafting etc.												
4.i.	Tailoring, stitching, embroidery, dying etc.												
4.j.	Agril. para-workers, para-vet training												
4.k.	Others												
5	Agricultural Extension												
5.a.	Capacity building and group dynamics												
5.b.	Others												
	Grand Total	2	21	27	48	4	12	16	25	39	64		

7.F. Details of Skill Training Programmes carried out by KVKs under ASCI

S. No.	Name of Job Role	Date of Start	Date of Close	Total Participants	No. of Participants									Date of Assessment	No of Participants passed assessment
					General			SC/ST			Grand Total				
					Male	Female	Total	Male	Female	Total	Male	Female	Total		

16-10-2019 – World food day	1	75	47	122	32	25	57	0	0	0
15/10/2019 to 19/10/2019 – Technology Week-2019	1	247	240	487	123	136	259			
04-12-2019 – Women in agriculture Day	1	4	42	46		12	12			
05-12-2019 – World Soil Day-2019	1	38	35	73	25	18	43			
23-12-2019- Farmers Day-2019	1	28	72	100	52	31	83	18	12	30
Any Other (Specify)										
Total	367	4143	1968	6111	652	403	1055	115	50	165

8.2 Special Extension Programmes

Nature of Extension Programme	Date(s) conducted	No. of farmers (General)			No. of farmers SC / ST			No. of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Jal Shakti Abhiyan		-	-	-	-	-	-	-	-	-
Fertilizer Use Awareness Campaign	22-10-2019	25	45	70	18	36	54	3	2	5
National Animal Disease Control Programme	11-09-2019 (183 Nos.)	76	21	97	36	20	56	3	0	156
Tree Plantation Campaign	17-09-2019 (45 Nos.)	22	8	30	9	3	12	8	2	10
Any other, Pl. specify										
Awareness on Fall Army worm management in Maize	29-07-2019	54	2	56	17	0	17	5	0	5
Parthenium Awareness week-20019	21-08-2019	43	29	72	23	8	31	0	3	3

PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIAL (2019)

9.A. Production of seeds by the KVKs

Crop category	Name of the crop	Name of the Variety	Name of the Hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers to whom provided
Cereals (crop wise)						
Finger millet	Ragi	GPU-28 and GPU-67	-	0.75	5750.00	10
Oilseeds	Ground nut	GKVK-5		3.00	19800.00	05
Pulses	Pigeon pea	BRG-5		0.60	5600.00	12
	Hebbal Avare	HA-4		0.70	12600.00	14
	Green gram	KKM-3		3.15	28980.00	40
	Black gram	Rashmi		0.10	700.00	05
	Cowpea	UAHS-28		1.40	11102.00	22
Commercial crops						
Vegetables	French bean	Arka Sharath		0.75	7800.00	05
Flower crops						
Spices						
Fodder crop seeds	Fodder Sorghum	CoFS-31		0.25	15000.00	18
Fiber crops						
Forest Species						
Others (specify)						
TOTAL				10.70	107332	131

9.B. Production of planting material by the KVKs

Crop category	Name of the crop	Variety	Hybrid	Number	Value (Rs.)	Number of farmers to whom provided
Commercial						
Vegetable seedlings	Drumstick	PKM-1 and Bhagya		2800	33600.00	18
Fruits	Papaya		Thaiwan Red Lady	3250	48750.00	22
Ornamental plants						
Medicinal and						

Aromatic						
Plantation	Coconut	Arasikere tall		522	26100.00	15
	Mango	Alfanzo		15	750.00	3
Spices	Curry leaf	Suhasini		75	1050.00	10
Tuber						
Fodder crop saplings						
Forest Species						
Others(specify)						
Total				6662	110250.00	68

9.C. Production of Bio-Products : NIL

	Name of the bio-product	Quantity (q)	Value (Rs.)	Number of farmers to whom provided
Bio Products				
Bio Fertilizers				
Bio-pesticide				
Bio-fungicide				
Bio Agents				
Others (specify)				
Total				

9.D. Production of livestock : NIL

Particulars of Livestock	Name of the breed	Number	Value (Rs.)	Number of farmers to whom provided
Dairy animals				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
Poultry				

Broilers				
Layers				
Duals (broiler and layer)				
Japanese Quail				
Turkey				
Emu				
Ducks				
Others (Pl. specify)				
Piggery				
Piglet				
Others				
Fisheries				
Fingerlings				
Others (Pl. specify)				
Total				

**PART X – PUBLICATIONS, SUCCESS STORY, INNOVATIVE
METHODOLOGY, ITK, TECHNOLOGY WEEK**

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

(A) KVK Newsletter: **SPANDANA**

Date of start: 2006 Periodicity: Quarterly Copies printed in each issue : 1000

(B) Literature developed/published

Item	Number
Research papers- International	
Research papers- National	
Technical reports	
Technical bulletins	4
Popular articles - English	
Popular articles – Local language	2
Extension literature	5
Others (Pl. specify)	
Abstract	2
TOTAL	13

10.B. Details of Electronic Media Produced :

S. No.	Type of media	Title	Details
	CD / DVD	IFS, Intercrops in arecanut	IFS: 1) Durgappa Angadi, Sahasravalli, Shikaripura taluk 2) Venkatesh Naik, Shettihalli, Shivamogga 3) Mathews, Baruve, Hosanagar taluk Inter crops in arecanut : Ramesh, Thirthamatthur, Thirthahalli taluk
	Mobile Apps	--	--
	Social media groups with KVK as Admin	Bee Keepers Plant protection ASCI-Poultry Soil Health ARYA (4 groups) Samrudhi Krishi bandhu, Krishi Vikas Namma KVK	Issues on agriculture and allied subjects, trainings, Soil and water testing, weather information marketing linkage
	Facebook account name		
	Instagram account name		

10.C. Success Stories / Case studies, if any (two or three pages write-up on each case with suitable action photographs. The Success Stories / Case Studies need not be restricted to the reporting period).

(1) Integrated Farming System - Escalates the revenue

Background

Mr. Durgappa Angadi is an enthusiastic progressive and innovative farmer from Sahasravalli village in Shikaripura taluk of Shivamogga District, Karnataka State. He owns 1.95 hectares of land cultivating different crops viz., coccinia, maize, arecanut, rearing cattle and producing vermicompost. He attended a training organized by KVK during 2015 on Integrated Farming System.

KVK Intervention

After the KVK intervention, he started growing different intercrops in younger arecanut garden viz., banana, fodder crops and vegetable crops like drumstick, yard long bean, cluster bean, chilli and bitter gourd as main crops. He planted different forest species like teak, silver oak and melia dubia as border crops. Timely guidance by KVK scientists, he has produced and used the organic manures to enrich the soil fertility, the bio-pesticides and botanicals for management of pest and diseases in different crops. He started subsidiary enterprises like bee keeping, fishery, backyard poultry and dairy units as income generating activities. By practicing IFS technology, he harvested the bumper yield in banana, vegetable crops and getting additional income from subsidiary enterprises. KVK is utilizing his service in IFS and organic farming related training programmes as resource person.

The economics of cultivation is presented in table

Income realized from IFS unit			
Sl. No.	IFS components	Area / Nos.	Net profit (Rs. In lakhs)
I	Before KVK intervention		
1.	Maize	1.4 ha	0.87
2.	Arecanut	0.4 ha	1.50
3.	Coccinia	0.15 ha	1.40
4.	Cattle	1 H.F.	0.20
5.	Vermi compost	2 tonnes	0.07
	TOTAL		Rs. 4.04
II	After KVK intervention		
1.	Maize	0.4 ha	0.25
2.	Arecanut	0.4 ha	1.60
3.	Coccinia	0.15 ha	1.90
4.	Yard long bean	0.15 ha	0.65
5.	Ginger	0.4 ha	0.60
6.	Inter crop in younger arecanut with banana	0.4 ha	1.36
7.	Cattles	1 H.F. + 1 buffalo	0.33
8.	Honey bee colonies	8 unit	0.16
9.	Poultry	40 Nos.	0.11
10.	Fishery	15x15 mtr.	0.10
11.	Vermi compost	3 tonnes	0.10
	TOTAL		Rs. 7.16

Horizontal spread: He disseminated the technologies and ICM practices to his neighbour farmers and surrounding villages. Totally 1520 farmers are benefited from the IFS technologies.

(2) Integrated Farming System – A Sustainable Life

Mr. Mathews is a progressive, awardee and innovative farmer from Baruve village in Hosanagara taluk of Shivamogga district of Karnataka state. He owns 0.60 hectare of land cultivating different crops like Elephant foot yam, tapioca, arecanut, coconut, pepper, rubber, banana, forest species, sheep rearing, goat rearing, rabbit rearing, backyard poultry, fish rearing in farm pond and producing vermi compost.

KVK intervention

After KVK intervention, he started growing intercrops in younger arecanut garden mainly banana and elephant foot yam. He planted different fruit crops like mango, sapota, jack fruit, guava and also planted different forest species like teak and neem as border crops. He started subsidiary enterprises like back yard poultry, bee keeping, fishery, sheep rearing and goat rearing as income generating activities and also producing vermi compost. He harvested bumper yield in banana, elephant foot yam and getting additional income from subsidiary enterprises.

Income from IFS unit

Sl. No.	Components	Areas/Nos.	Net profit (Rs. In lakhs)
I.	Before KVK intervention		
1.	Arecanut	0.40 ha	
2.	Rubber	0.20 ha	0.40
3.	Coconut	15	0.08
4.	Goat	4	0.20
5.	Vermicompost	1 unit	0.07
Total			0.75
After KVK intervention			
1.	Intercrop in younger arecanut with banana	0.20 ha	0.80
2.	Intercrop in younger arecanut with elephant foot yam	0.20 ha	0.60
3.	Rubber	0.20 ha	0.40
4.	Coconut	15	0.08
5.	Goat	8	0.40
6.	Vermi compost	2 unit	0.14
7.	Sheep	1	0.06
8.	Poultry	50	0.10
9.	Fish	1 (10X 10 mt.)	0.10
10.	Rabbit	30	0.06
11.	Honey bee	2 box	0.04
Total			2.78

Horizontal spread: He disseminated the technologies and ICM practices to his neighbour framers and surrounding villages. Totally 215 farmers are benefited from this IFS technologies.

3. Success Story of KVK Nursery

During 2008-09 National Horticulture Mission (NHM) has sanctioned a project on Model Horticulture Nursery to KVK, Shivamogga. In this project different propagating structures viz., mist chamber, poly house and shed nets were constructed. The main objective of the project is to produce elite horticultural planting material for the needy

farmers of the district. KVK, Shivamogga has taken initiative in production of different horticultural plants viz., mango, sapota, papaya, drumstick, vegetable seedlings, curry leaf and flowering plants. Among these different seedlings / grafts production, papaya and drumstick seedlings were major part because of demand by the farmers.

For successful horticulture crop production, supply of elite planting material and training to growers are very essential. In this regard, from 2010-11 to 2019-20 KVK conducted 28 training programmes on topics related to “Improved production technologies of papaya and drumstick”. During the training programmes about 848 farmers/farm women / rural youth were trained. By realizing the immense scope and potentiality of growing papaya and drumstick as a sole / intercrop farmers purchased quality planting material from KVK, Shivamogga. Totally, 45863 drumstick (PKM-1 & Bhagya) seedlings of worth Rs. 511000/- were sold to more than 143 farmers by covering an area of about 128 ha. as sole crop or intercrop in younger arecanut gardens. Similarly, 76442 papaya seedlings (Arka Surya and Taiwan–786) of worth Rs.9,60,195/- were sold to 165 farmers by covering in area of about 678 ha as intercrop in younger arecanut gardens. By growing papaya and drumstick as intercrops farmers have obtained Rs. 1,55,000/- and Rs. 1,45,000/- per ha respectively as a additional income in arecanut apart from protecting younger arecanut plants from scorching sun, reducing weed menace and creating better micro climate for areca growth. Due to concerted efforts of KVK intercropping of papaya and drumstick in younger areca gardens has spread to more than 540 ha in the district with an additional income of Rs. 8.5 to 10.0 crores.

2. Upliftment of farm families through Integrated Farming System Demonstration project by KVK.

Introduction : Historically, India’s crop production scenario has been dominated by food grains more especially cereals. The country has registered a declining trend in crop and livestock production and per head food production, while maintaining increase in cereal productivity over the past decade. Sustainable development in agriculture must include integrated farming systems with efficient soil, water, crop and pest management practices, which are environmentally sound, economically viable and socially acceptable. The future agricultural system should reorient from the single commodity system to food diversification approach for sustaining food production and income generation. Integrating crops and cropping systems, horticulture, livestock, sericulture, agro-forestry, aquaculture, etc., therefore, assume greater importance for conserving and recycling of farm resources to enhance farm productivity, which will reduce environmental degradation and maintain agricultural sustainability by providing nutritional and livelihood security. Realizing the importance of integrated farming system, Government of Karnataka under RKVY project supported financial assistance for implementing the IFSD project through Agricultural Universities. University of Agricultural Sciences, Bangalore

has initiated integrated farming system through 12 KVKs, 3 EEU's and FTI, GKV with the involvement of Scientists / Teachers working at ZARS / ARS and Colleges coming under different agro-climatic zones. KVK, Shivamogga is one of the implementing centre under UAS, Bangalore.

Need for IFS : A large gap exist between potential, on-farm and farmers yields of post crop varieties developed during the green revolution. FARMSCAPE (Farmers, Advisors, Researchers, Monitoring, Communication and Performance Evaluation) of programme of participatory transfer of technology with the farming community could be successful in translating technological development on the farmers' fields. Improving the productivity of the whole farm is of larger concern today than ever before for the reason of Total Factor Productivity (TFP). Although, the overall production of food grains and milk are the highest, the per hectare productivity is low. Thus, augmenting production through efficient management of natural resources, human resources through IFS approach would meet the present requirement of livelihood security and farm profitability.

Objectives

- To attain sustainable improvement in productivity and income by adopting IFS model.
- To ensure livelihood security of farm families and landless labourers in the project area.

Location : The programme was implemented in Konagavalli Gramapanchayath of Shivamogga Taluk. Total of 10 villages (1515 farm families) comprising 1058 agriculturists and 457 landless agricultural laborers were covered under the project.

Duration : The project was initiated in the year 2011-12. The total duration of project is three years.

Activities carried out under IFSD project.

- Orientation about IFSD schedule to the data collecting volunteers.
- Collected bench mark information of IFSD villages (1515 families)
- Orientation on the PRA techniques to all the implementing staff of the project.
- Analysis of the collected data through outsourcing.
- Capacity building of farmers / farm women through various trainings, demonstrations and exposure visits.
- Distribution of critical inputs to the farmers as per their needs.
- Conduct of field days before harvest of the demonstration plot.
- Selection of model stake holders for showcasing / impact analysis
- Formation and strengthening of the commodity based association / agro service centres.

Critical inputs supplied

I. Crop Component

- 1) Cereals – Paddy, Ragi, Maize
- 2) Pulses – Black gram, Redgram, Green gram
- 3) Oil seeds – Groundnut

II. Horticulture component

- 1) Planting materials : Drumstick, papaya, mango, Coconut, sapota, curry leaf, lime.

III. Animal component

- 1) Sheep – (Bandur cross breed),
- 2) Poultry birds – Giriraja, Swarnadhara
- 3) Mineral mixture, feed additives and deworming agents

IV. Other components

- 1) Micro nutrients – Zinc sulphate, gypsum, Boron
- 2) Bio-Fertilizers
- 3) Foliar sprays
- 4) Mobile vermicompost unit with earthworms
- 5) Plant protection chemicals
- 6) Small Agricultural equipments

V. Initiation of Commodity Based Associations (CBAs) / Agro Service Centres (ASCs)

In order to provide inputs at desired level and also interlink the sale of produce two CBAs/ ASCs were started in two villages of the project area. Each CBA is having 15 members and the members contributed Rs.1.00 lakh. Seed money of Rs. 1.00 is contributed from the project to each of the CBA.

Impact of the IFSD project

- 1) Seed replacement with improved varieties of crops
- 2) Increase in yield of crops (8-10 %) due to use of supplied critical inputs
- 3) Improvement in soil health by use of micronutrients, bio-fertilizers and organic fertilizers (Vermi Compost)
- 4) Improvement in long term assets of farming communities through Horticulture plant seedlings.
- 5) Additional income to the landless labourers and small farmers through rearing of sheep and poultry birds.
- 6) Increase in knowledge, skill development through capacity building programmes and exposure visits.

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

Areca Husk composting

Problems identified	:	Wastage of areca husk (1.75 t/ha) through improper utilization. Huge quantity of Areca husk thrown on road sides, slow degradation and it is burnt. It creates water and air pollution
Arecanut Area	:	52000 ha
Innovation	:	Decomposition of areca husk by using compost culture (<i>Pleurotus</i>)

		<i>sps. and Phenerochaete chrysosporium</i>)
Source	:	UAHS, Shivamogga
Nature of activities	:	3 OFT, 1 FLD, 15 trainings, 25 method demonstrations, 15 field visits, 35 Group discussions, 8 media coverage
Inputs	:	Decomposing culture (Microbial consortia) (3 kg/t of areca husk)
Output	:	(1) Areca husk decomposed in 170 days, usually it takes more than 2 years because of high lignin content (2) Produced 1200 Kgs. of compost/ha, it is worth of Rs.5800/- (3) Contains more potassium (1.85) compared to other composts
Horizontal spread	:	7250 Kgs. of decomposing culture was used by 465 areca farmers for 1450 ha. and produced 1850 tons of areca husk compost.

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

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK	Scientific Rationale

10 F. Technology Week celebration during 2019:

Period of observing Technology Week: From 15-10-2019 to 19-10-2019

Total number of farmers visited : 746

Total number of agencies involved : 5

Number of demonstrations visited by the farmers within KVK campus : 12

Other Details

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Gosthies			
Lectures organized	5	746	1) Soil and water conservation in Agriculture and effect of climate change on agriculture 2) Value addition – Attracting youths to agriculture and self-employment & World Food Day – tackling global hunger 3) Integrated crop management in arecanut 4) Mechanized agriculture 5) Disease control in livestock and artificial insemination
Exhibition	1	746	Seeds and planting materials, fruits and vegetable crops, agriculture crops, horticulture crops, farm equipments and implements, medicinal plants, honey bee instruments, fertilizers, manures, animal husbandry equipments and instruments, value added products
Film show	5	746	
Fair			

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Farm Visit	12	746	KVK Demonstration plots, Terrace Garden, Kitchen Garden, SWT Lab, OFRC crop demonstration plots, Technology Park, Bakery / value addition equipments, IFS plot, Poultry unit, Fishery unit, Areca intercrop plot, paddy field
Diagnostic Practical			
Supply of Literature (No.)	8	746	Folders, Booklets and handouts
Supply of Seed (q)			
Supply of Planting materials (No.)			
Bio Product supply (Kg)			
Bio Fertilizers (q)			
Supply of fingerlings			
Supply of Livestock specimen (No.)			
Total number of farmers visited the technology week	746		

10 E. Recognition and Awards: Please give details about National and State level recognition and awards

1. **Dr. B.C.Hanumanthaswamy**, Senior Scientist and Head, ICAR-Krishi Vigyan Kendra, Shivamogga received best poster presentation award for the topic entitled **“Impact of frontline demonstration on Management of inflorescence dieback and caterpillar in arecanut”**– at International Conference on Extension For Strengthening Agricultural Research And Development (e-SARD) – 2019, held at ICAR-JSS KVK, Mysuru during 14-16 December, 2019.
2. **Dr. Jyoti M. Rathod**, Scientist (Home Science), ICAR-Krishi Vigyan Kendra, Shivamogga received the best oral presentation award for the topic entitled **“Impact of frontline demonstration on Soya based Health Food”** at International Conference on Extension For Strengthening Agricultural Research And Development (e-SARD) – 2019, held at ICAR-JSS KVK, Mysuru during 14-16 December, 2019.

PART XI – SOIL AND WATER TEST

11.1 Soil and Water Testing Laboratory

A. Status of establishment of Lab :

1. Year of establishment : 2006
2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost	Status
1.	Conductivity meter	1 No.	7,400	Good
2.	Physical balance (KROY)	1 No.	12,000	Good
3.	Chemical balance (Shimadzu)	1 No.	48,900	Good
4.	Water distillation still	1 No.	48,850	Good
5.	Shaker	1 No.	27,600	Good
6.	Hot air oven	1 No.	20,000	Not working
7.	Magnetic stirrer with hot plate	1 No.	5,500	Good
8.	Spectrophotometer	1 No.	42,000	Good
9.	Flame photometer	1 No.	35,200	Good
10.	Macro digestion system	1 No.	52,118	Good
11.	Automatic distillation system	1 No.	85,232	Good
12.	Electronic Acid neutralizer scrubber	1 No.	23,909	Good
13.	Hot plate Rectangular	1 No.	9,600	Good
14.	Ind. & Comml.	1 No.	26,400	Good
15.	Refrigerator	1 No.	18,133	Good
16.	Digital Micro pipette set	1 No.	21,180	Good
17.	pH Meter	1 No.	6,600	Good
18.	Soil testing kit	1 No.	72,000	Good
19.	Electrical conductivity meter	1 No.	12,022	Good
20.	AAS with accessories	1 No.	14,20,000	Good
21.	UPS with battery	1 No.	54,548	Good
22.	LG Ikon split 3 star AC	1 No.	27,000	Good
23.	V-Guard stabilizer	1 No.	2,400	Good
24.	pH meter (MKV-1)	1 No.	10,305	Good
Total			20,88,897	

B. Details of samples analyzed since establishment of SWTL:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages
Soil Samples	12498	8419	2877
Water Samples	4768		
Plant samples	33		
Manure samples	30		
Others (specify)	43		
Total	17372	8419	2877

C. Details of samples analyzed during the 2019:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages
Soil Samples	1972	846	846
Water Samples	782	594	594
Plant samples	3	1	1
Manure samples	3	2	2
Others (specify)			
Total	2760	1443	1443

11.2 Mobile Soil Testing Kit**A. Date of purchase and current status**

Mobile Kits	Date of purchase	Current status
1. PUSA STFR Kit	21-01-2016	Not in use
2. Mrid Parikshak	28-05-2018	Not in use

B. Details of soil samples analyzed during 2019 and since establishment with Mobile Soil Testing Kit:

	Progress during 2019	Cumulative progress
Samples analyzed (No.)	NIL	180
Farmers benefited (No.)	NIL	180
Villages covered (No.)	NIL	49

11.3 Details of soil health cards issued based on SWTL & Mobile Soil Testing Kit during 2019:

Particulars	Date (s)	Villages (No.)	Farmers (No.)	Samples analyzed (No.)	Soil health cards issued (No.)
SWTL	01-01-2019 to 31-12-2019	846	846	1972	1972
Mobile Soil Testing Kit	0	0	0	0	0

11.4 World Soil Health Day celebration

Sl. No.	Farmers participated (No.)	Soil health cards issued (No.)	VIPs (MP/Minister/MLA attended (No.)	Other Public Representatives participated	Officials participated (No.)	Media coverage (No.)
1.	116	15	-	-	4	2

PART XII. IMPACT

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Demonstration of photoperiod insensitive, less string, high yield French bean variety Arka Sharath	20	75%	1,22,710/- per ha.	2,48,950/- per ha.
Nitrogen use efficiency in paddy	5	40%	57,480/- per ha	77,400/- per ha
Inter-cropping of Field Bean variety Hebbal Avare-4 (HA-4) in younger arecanut gardens	10	30 %	-	31,578/- per ha
Management of arecanut root grub	5	45%	1,50,200/- Per ha	1,95,200/- per ha

NB: Should be based on actual study, questionnaire/group discussion etc. with ex-participants.

11.B. Cases of large scale adoption

1) Profitability and productivity enhancement of demonstrating farmers through leaf spot resistant groundnut variety GPBD – 4 for Shivamogga district

Shivamogga is one of the districts in Karnataka where groundnut is being grown both in *kharif* and summer seasons. As the district's groundnut growing area falls under southern transition zone with assured rainfall and prevalence of cloudy weather during cropping season of groundnut is very common. Under such climatic conditions occurrence of leaf spot disease in groundnut variety TMV-2 predominantly (released during 1960) quite obvious which results in substantial yield loss with reference to pod and haulm yield.

Over a period of time, the yields of TMV-2 have been gradually decreasing owing to various reasons *viz.*, non availability of pure seed, loss of genetic vigor in the available seed, small size of pods and kernels and susceptibility to pests and diseases owing to continuous cultivation and its removal from the government subsidy programme.

The programme : Understanding the need for an improved groundnut variety suitable to Shivamogga district, a programme on assessment of groundnut varieties was launched during 2005.

The process : To start with an awareness meeting was held with farmers. Farmers identified constraints in groundnut, production and also ways to mitigate them. Based on the problems and possible solutions it was decided to conduct frontline demonstrations in farmers field with improved variety GPBD - 4 released by UAS, Dharwad during 2005, which is having resistance to leaf spot disease.

Intervention :

KVK, Shivamogga conducted frontline demonstration on groundnut variety GPBD - 4 during the years 2005-06 to 2015-16 in summer / Kharif seasons involving 92 farmers in 11 years. Totally 92 demonstrations on groundnut crop in an area of 38.00 hectares by involving 92 farmers in all the ten years of demonstration were conducted in 3 taluks of Shivamogga district (Soraba, Shikaripura and Shivamogga taluks).

Output / results :

FLD results showed that GPBD-4 performed consistently better as the average pod yield of 92 demonstrations in an area of 38.00 ha. ranged from 19.37 to 28.94 q/ha. There was 16.02 % increase in pod yield in demonstrated groundnut GPBD - 4 variety which was found economically superior with higher BC ratio of 3.55 against the lower BC ratio of 3.03 in TMV-2. Incidence of leaf spot disease was not noticed in GPBD-4 as compared to severe incidence of 60 % in local check (TMV-2)

Outcome

Field days in all the years in collaboration with Department of Agriculture were conducted for larger spread of this variety. Printed literature was also provided to the needy farmers. Performance of this variety was also published in local print and electronic media. For promoting this better variety across the district, Department of Agriculture took interest in spreading the variety along with Karnataka Oil Federation (KOF).

Following are some of the efforts made to spread the variety

- ✓ Identification of farmers interested in this new variety
- ✓ Supply of foundation seeds by KVK to its contact farmers through IFSD programme
- ✓ Procuring the seeds from farmers and distributing to other farmers through FLD
- ✓ Giving wide publicity through news letter and media

By summer 2016, the variety has spread to 52 villages extending over an area of 1800 acres. It is very appreciable to note the sustained performance of GPBD - 4 groundnut variety even in adverse conditions and the increasing demand for the seed.

Table 1: Yield performance of groundnut varieties demonstration under FLD programme in Shivamogga district of Karnataka

Year	Name of the block / village	Variety	No. of demonstration	Area (ha)	Pod Yield			
					Demonstration		Check	% increase in yield
					Maximum	Average	Average	Average
2005-06	Bedarahosally, Shivamogga Tq.	GPBD - 4	12	4.80	31.80	28.94	23.38	23.78
2006-07	Devikoppa, Soraba Tq.	GPBD - 4	12	4.80	37.50	26.25	22.25	17.97
2007-08	Tumarikoppa, Soraba Tq.	GPBD - 4	12	4.80	30.00	24.75	19.87	24.55
2008-09	Mallapura, Soraba Tq.	GPBD - 4	12	4.80	27.50	23.55	19.37	21.57
2009-10	Begur, Shikaripura Tq.	GPBD - 4	12	4.80	29.12	26.08	22.27	17.10
2010-11	Haramghatta, Shivamogga Tq.	GPBD - 4	7	4.00	27.25	25.57	22.76	12.35
2011-12	Nimbegondi, Shikaripura Tq.	GPBD - 4	7	2.80	25.00	23.39	20.86	12.13
2012-13	Hirakasavi, Soraba Tq.	GPBD - 4	5	2.00	27.00	24.50	22.00	11.36
2013-14	Basavanaganguru, Soraba Tq.	GPBD - 4	5	2.00	27.00	24.50	22.00	11.36
2014-15	Halemugalagere, Shikaripura Tq.	GPBD - 4	5	2.00	27.00	24.50	22.00	11.36
2015-16	Eleneerukoppa, Shikaripura Tq.	GPBD - 4	3	1.20	22.00	20.66	18.33	12.71
Total			92.00	38.00	28.29	24.79	21.37	16.02

Table 2: Cost economics of Groundnut varieties demonstrated under FLD programme in Shivamogga district

Years	Demonstration	Control / check	B:C ratio
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	Total cost (Rs/ha)	Gross return (Rs/ha)	Net income (Rs/ha)	Total cost (Rs/ha)	Gross return (Rs/ha)	Net income (Rs/ha)	Demonstration	Check
2005-06	19000	54986	35986	19500	44422	24922	2.89	2.27
2006-07	19500	52500	33000	19750	44500	24750	2.69	2.25
2007-08	18150	53213	35062	19750	42720	22970	2.93	2.16
2008-09	18500	58875	40375	21500	48425	26925	3.14	2.21
2009-10	19560	69200	45700	17775	55675	37900	3.34	3.13
2010-11	17000	56254	39254	19000	50072	31072	3.30	2.63
2011-12	16000	81865	65865	17500	73010	55510	5.12	4.17
2012-13	18000	85750	67750	19000	77000	58000	4.76	4.05
2013-14	21250	74118	52868	195850	62700	43200	3.49	3.21
2014-15	21350	81660	60310	19950	74360	54410	3.82	3.73
2015-16	19666	71000	51334	17850	63666	45816	3.61	3.56
TOTAL	18907	67220	47955	35220	57868	38680	3.55	3.03

2. Green gram (KKM-3) – Better crop for paddy fallows

Krishi Vigyan Kendra, Shivamogga had demonstrated on the use of short duration green gram variety KKM-3 for paddy fallows under NFSM scheme. It was taken up in different clusters of Shivamogga district viz., Shikaripura, Shivamogga, Sagar taluks. Since 2015-16 and 2018-19 totally 275 demos covering an area of 275.00 acres.

Crop was sown during January under residual soil moisture after the harvest of paddy grown during Kharif. Available soil moisture facilitated better establishment and growth of the crop. During the demonstration period soil moisture reseeded soon as there was a high temperature. In spite of this, KKM-3 could yield filled grains due to its short duration nature. KKM-3 is a short duration green gram variety released during 2010-11. Along with the varietal introduction to farmer's fields several low cost technologies and precautionary measures were demonstrated as a capsule to make the farmer partners understand the concept of integrated crop management. Seeds were treated with bio-inoculates viz., *Rhizobium*, PSB and *Trichoderma* @ 500 gm / 6 kg seeds per acre which were sufficient to sow in an acre area. Application of recommended dose of nutrients foliar spray of nutrients with water soluble fertilizers at flower initiation stage and prophylactic spray of PPC against pod borer and sucking pests were demonstrated. KKM-3 was compared with local check with 10-12 days longer duration. Green gram demonstration on paddy fallows was taken up with least inputs supply and with no irrigation facility. Green gram variety KKM-3 was accepted by farmer friends due its short duration and small, shiny seeds which fetches better price in the market compared to local check. Seeds produced were shared among fellow farmers with and / without payment.

Green gram and specially KKM-3 variety was accepted for this short duration which facilitates to take up and additional crop without leaving it fallow for the want of resources.

Green gram variety KKM-3 grow under paddy fallows was popularized to many farmers for the villages and the neighbouring villages through several extension activities like training, method demonstration, field visits, field day and by organizing a Krishimela on large scale. This encouraged fellow farmers of the villages to know the technology.

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

1) Dissemination of improved variety of French bean through Frontline demonstration

Background

The low productivity in French bean is due to non-adoption of high yielding and disease tolerant varieties. Even though many technologies for cultivation have been evolved for increasing the productivity but farmers have hardly adopted them. The present study on photo insensitive, stringless and high yielding French bean variety 'Arka Sharath' was conducted by Krishi Vigyan Kendra (KVK), Shivamogga in Karnataka.

Interventions

A total of 41 demonstrations were conducted in 41 farmers fields in an area of 16.6 ha from 2012-2017. To demonstrate the improved French bean production, the constraints were identified through participatory approach.

The data was collected from both FLD and farmers practice to know extension gap (Demonstration yield-Farmers yield), Technology gap (Potential yield-Demonstrated yield), Technology index (Potential yield-Demonstrated yield)/Potential yield x 100), per cent increase in yield and B:C. (Table-1)

Table-1 : Comparison of improved French bean production practices and farmers practice.

Sl. No.	Technology	Improved production practice	Farmers practice
1.	Seed rate (kg/ha)	40	50-60
2.	Seed treatment with Rhizobium	Followed	Not followed
3.	Use of improved variety	Arka Sharath / Arka Anoop	Local varieties
4.	Spacing (cm)	30 x 15	30 x 30
5.	Nutrient management (N:P:K kg/ha)	63 :100:75	100:50:50
6.	Integrated pest and disease management	Followed	Not followed
7.	Harvesting	50-55 days from sowing	60 days from sowing
8.	Post harvest management	Sorting and grading followed	Sorting and grading not followed

Output / result

The results revealed that 2.50 to 19.17 per cent increase in yield over farmers practice with an average of 9.98 per cent. For the five years an average of 16.06 and 1.97 quintals of extension gap and technology gap were observed respectively. The extension gap ranging from 4.80 to 20.30 qha⁻¹ emphasizes the need to educate farmers through various means of adoption of improved techniques of production. The technology index varied from 2.50-4.75. The average technology index observed was 0.98 per cent during the five years of demonstration, which shows the performance of variety.

The results indicated that by adopting improved variety of French bean higher average B:C was recorded for five years of demonstration (3.59) compared to farmers practice (3.07). **(Table-2)**

Year	No. of demonstrations	Yield (q/ha ⁻¹)		Per cent increase over farmers plot	Potential yield (q/ha ⁻¹)	Extension gap (q/ha ⁻¹)	Technology gap (q/ha ⁻¹)	Tech index	B:C	
		Demo plot	Farmers Plot						DP	FP
2012-13	10	190.50	170.20	11.93	200.00	20.30	9.50	4.75	3.38	2.90
2013-14	12	195.00	190.20	2.50	200.00	4.80	5.00	2.50	3.17	2.80
2014-15	10	192.50	181.68	10.59	200.00	10.82	7.50	3.75	3.46	3.01
2015-16	4	204.55	193.50	5.71	200.00	11.00	-4.55	-2.27	4.5	3.9
2016-17	5	207.60	174.20	19.17	200	33.40	-7.60	-3.80	3.45	2.77
Average	8.2	198.03	181.956	9.98	200	16.064	1.97	0.986	3.592	3.076

Outcome

The improved variety of French bean coupled with improved agronomic practices significantly increased the yield. Higher profitability and economic viability was noticed in demonstration plots apart from self satisfaction compared to the farmer's practice.

2. Impact of Demonstration on Arecanut Rootgrub Management

Arecanut is an important plantation crop grown in large scale in Malnad districts of Karnataka, particularly in Shivamogga. Farmers were getting low yield in spite of good cultivation practices. Although no major problems were observed in their cultivation, observations indicated that the trees show the symptoms like tapering towards tip, short internodes and yellow colored little leaves. Based on the symptoms the trees were examined and effected roots were severely infested with rootgrubs.

Intervention

Average yield (q/ha)	10	10	10.8	12.1	9.5	10.48	6.75	8	8.5	9.4	6.4	7.81
Percent increase in yield over Farmers' Practice	32.5	25	27.06	28.72	26.56	27.97	-	-	-	-	-	-
Cost of production (Rs.)	65000	63000	62200	75400	47800	62680	55000	54000	52600	67000	41800	54080
Gross income (Rs.)	120000	200000	388800	314600	243000	253280	81000	160000	306000	244400	192000	196680
Net profit (Rs.)	55000	137000	326600	239200	195200	190600	26000	106000	253400	177400	150200	142600
B:C Ratio	1.84	3.14	6.25	4.17	5.06	4.09	1.47	2.96	5.82	3.65	4.57	3.69

The cost of production was slightly more under demonstration plot (Rs.62680/ha) in comparison to farmers practice (Rs.54080/ha). But net profit was more under demonstrated technology (Rs.190600/ha) compared to farmers practice with a lesser profit of Rs.142600/ha. The cost : benefit ratio obtained was 1:4.09 as against 1:3.69 in farmers practice (Table-2)

Outcome

The study indicated that the trees in the treated gardens showing the symptoms of untapering towards tip, larger internodes, greenish colored healthy and normal sized leave and the garden was completely free from root grubs infestation.

3. Intercropping of Field bean variety Hebbala Avare-4 in younger arecanut

In Shivamogga arecanut is the major plantation crop covering an area of 54000 ha. Predominantly arecanut is grown as sole crop in some parts of district. Most of the farmers are not interested in putting effort or getting money from intercrops in younger Arecanut garden. Only their interest is in minimizing weed infestation, moisture conservation and fertility maintainance. They want easy ways for getting above results. Hence, field bean variety Hebbal Avare-4, a pulse crop can satisfy all the above requirements with minimum care and cost. As per the mandate of Krishi Vigyan Kendra, Shivamogga introducing the field bean crop as intercrop in younger arecanut garden.

This programme is important for the benefit the farmers because field bean variety Hebbal Avare-4 is pulse crop able to fix the atmospheric nitrogen in the soil and it needs less care and less susceptible to pod borer damage. This will reduce the weeds, reduces moisture loss and fallen foliage or green mulching will improves the soil fertility.

KVK Intervention

Our KVK has conducted the front line demonstration on "Intercropping of Field bean variety Hebbal Avare-4 in younger arecanut garden".

Outcome Impact:

Farmer Sri Rangayya, Sominakoppa village of Shivamogga taluk not practiced intercropping in younger arecanut garden. He contacted KVK, Shivamogga scientists and enquired intercrops in younger arecanut garden and other pulse crops. Scientists were visited his field and suggested him to cultivate Field bean variety Hebbal Avare-4 during Kharif, 2016 and also laid demonstration trials (FLD) in his field. He earned net profit of Rs. 32,450/- by adopting the improved technology under the supervision of KVK scientists.

The other farmers of Sominakoppa village and the surrounding villages were inspired about the technology and showed their interest to take up the field bean variety Hebbal Avare-4 in younger arecanut garden.

4. Impact of management of Heart rot disease in pineapple

Pineapple is an economically important tropical fruit crop grown in different parts of Karnataka. In Shivamogga district it is grown in Sagara and Soraba taluks. Heart rot caused by *Phytophthora* sp. may lead to reduced crop yields and crop failures. The infection process and intensity of this disease mainly depends on the management practices undertaken. Knowledge on the symptoms, severity of the disease and management practices is very important. Hence, to impart the knowledge technology intervention has been carried out.

Interventions:

The front line demonstration was conducted in farmers' field during 2012-13, 2014-15 and 2015-16 in different villages of Soraba and Sagara taluks of Shivamogga district. Farmers were educated about the disease identification, symptoms, nature of damage; critical stages / intervention were briefed to the farmers. The benefits of technology demonstrated in minimizing the disease incidence was done through meetings, training programme, field visits and group discussions. The demonstrations were conducted in disease affected plots and the treatments were imposed. The farmers practice was included as check for comparison. The incidence of rotting of leaves and plants were recorded at 30 days interval after treatment imposition. In demonstration plots the management strategy includes soil application of *Trichoderma* enriched Neem cake @ 20 gm/hill + Sucker treatment with Metalaxyl MZ @ 0.3%, Drenching with Metalaxyl MZ. The farmers practice included Application of Bordeaux mixture and Mancozeb followed in front line demonstration.

Results:

The results revealed that the technology demonstrated minimized the incidence of heart rot disease when compared to farmers practice. The technology demonstrated was effective and was convinced by the farmers mainly because of the intervention made at the right time during the season. Treating the suckers with Metalaxyl – MZ @ 0.3% and application of *Trichoderma* enriched Neem cake @ 20 g/hill and drenching with Metalaxyl

– MZ minimized the infection both in suckers and in soil. There was an increased in yield of about 26.81 % when compared to farmers practice. There was a net return of about Rs. 377733/ha with B:C of 3.29 (Table-1).

The treatment imposed resulted in reduced rot incidence and increased in the yield. The maximum yield of 531 q/ha was a recorded when compared to 453 q/ha in farmers practice registering an increase in yield of 26.81% over farmers practice.

The net profit was more under demonstration technology (Rs. 377733/ha) compared to farmers practice with a lesser profit of Rs. 327906 / ha. The cost benefit ratio obtained was 1 : 3.29 as against 1:2.90 in farmers practice (Table-1).

Parameters	Demonstrated technology				Farmers practice			
	2012-2013	2014-2015	2015-2016	Mean	2012-2013	2014-2015	2015-2016	Mean
Yield % q/ha	495	505.4	498	499.46	340	435	419.6	398.2
% increase in yield	45.59	16.18	18.68	26.81	-	-	-	-
Cost of production (Rs.)	185000	184600	178400	182000	175000	180000	175000	176666
Gross returns (Rs.)	594000	606960	597600	599500	480000	522000	503520	501840
Net returns (Rs.)	409000	423400	419200	294500	305000	347000	331720	327906
B:C	3.2	3.32	3.35	3.29	2.8	2.98	2.93	2.90

Impact on Integrated crop management in Tomato

Vegetable production is one of the important components of agriculture and also an essential part of a balanced human diet. In recent years, vegetable production has also become an income generating enterprise for those farmers who are located close to markets and road sides. Local varieties and practices are of low productivity, prone to pests and diseases and grown without proper cultivation practices, resulting in poor yield. In order to manage the problem participatory technology dissemination was conducted through frontline demonstration in farmers' field during the year 2017-18.

The main objective of frontline demonstration (FLD) was to demonstrate newly released tomato hybrid Arka Samrat crop production and protection technologies and its management practices at the farmers' field under different farming situations.

Demonstrated technology interventions

Sl. No.	Technology intervention	Demonstrated technologies	Farmers' practice (Check)
1.	Selection of variety / hybrid	Arka Samrat (Triple diseases resistant)	Private hybrids (JK series, Alankar, Virag)
2.	Spacing	90 x 45 cms (High plant population per unit area)	120 x 45 cms (Low plant population / unit area)
3.	Growing of trap crop	Marry gold (16 : 1)	No trap crops

4.	Application of vegetable special	Foliar application	No application
5.	Plant protection measures	Need based application of chemicals	Unrelated and higher dose of chemical application

RESULT

Sl. No.	Parameters	Demo	Check
1.	Yield (t/ha)	73.50	47.73
2.	Gross Cost (Rs.in lakhs/ha)	280500	312500
3.	Gross Return (Rs.in lakhs/ha)	1263575	912750
4.	Net Return (Rs.in lakhs/ha)	983075	607250
5.	B : C	4.50	2.94

Outcome

About 24% of farmers were gained knowledge on tomato hybrid Arka Samrat and improved production technologies and 19% of farmers were adopted the technology. FLD was effective in changing of farmers towards the adoption of improved technologies which shows good impact. Higher profitability and economic viability was noticed in demonstration plots apart from self satisfaction compared to farmers' practice.

Impact on Management of Inflorescence Dieback and Inflorescence Caterpillar in Arecanut

Arecanut is one of the major plantation crops grown in Shivamogga district; it is grown in an area of 50820 hectares with 72726 tons of production. Low yield is due to various pest and diseases. Among these inflorescence dieback and inflorescence caterpillar are the major pest and diseases which are responsible for low yield. To educate the farmers on management of these pest and diseases, frontline demonstration was conducted on management of inflorescence dieback and inflorescence caterpillar during the year 2016-17 and 2017-18.

Technology intervention : Removal and burning of dried and infested inflorescence followed by spraying of Carbandazim 50 WP 12% + Mancozeb 63% WP @ 2g/l for inflorescence die back and Chlorpyriphos 20 EC @ 2ml/l for inflorescence caterpillar with 15 days intervals by using high power sprayers.

Result

Sl. No.	Parameters	Demonstrated technology	Farmers' practice (Check)
1.	Inflorescence dieback incidence (%)	7.45	19.20
2.	Inflorescence caterpillar incidence	6.25	17.30

	(%)		
3.	Yield (q/ha)	10.67	8.29
4.	% increase in yield	28.70	-
5.	Gross Cost (Rs./ha)	83300	70650
6.	Gross Return (Rs./ha)	295725	229700
7.	Net return (Rs./ha)	212425	78050
8.	B:C	3.7	3.3

Outcome : After the technology intervention, the farmers are getting 2-3 quintals / ha. of higher yield by giving 2-3 sprays during December and January at the time of disease and pest incidence. Farmers were impressed with the higher yield and also pest and disease free gardens. They motivated the other farmers of their neighbor villages to go for this method to get rid of inflorescence dieback and caterpillar menace. About 21% of farmers were gained knowledge on management of inflorescence dieback and inflorescence caterpillar in areca and 17% of farmers were adopted the technology.

PART XIII - LINKAGES

13A. Functional linkage with different organizations

Sl. No.	Name of organization	Nature of linkage
1.	Karnataka State Dept. of Agriculture	- Joint diagnostic survey - Joint implementation of FLD's - Bi-monthly workshops - Collaborative training programme under ATMA - Joint field visits - Demonstration under ATMA
2.	Karnataka State Dept. of Horticulture	- Joint diagnostic survey - Collaborative training under NHM project - Field visits - Technology Demonstration
3.	Karnataka state Dept. of Animal Health & Veterinary Sciences	- Collaborative training - Joint implementation of animal health camps, vaccination camps, mass deworming and nutrition management of dairy stock and calf management - Technology demonstration of Feed formulation etc.,
4.	Karnataka State Sericulture Dept.	- Collaborative training ; technology demonstration
5.	Karnataka State Dept. of Fisheries	- Technology demonstration and training under NFDB
6.	Dept. of Industries and commerce	- Collaborative training
7.	All India Radio	- Technology dissemination
8.	Doordarshan & Private TV Channels	- Technology dissemination
9.	Information and Broadcasting Dept.	- Technology dissemination & publicity
10.	Financial institutions like NABARD & Nationalized co-operative banks	- Formation of self help groups - Collaborative training programme
11.	Input agencies	- Collaborative farmers training programme - Technology dissemination
12.	Self Help Group	- Technology dissemination & organizing training

Sl. No.	Name of organization	Nature of linkage
13.	Non-Governmental Organisations	- Training programme
14.	Local village level youth clubs	- Organizing training programme & field demonstration
15.	Co-operative sectors viz., milk producers, co-operative society, water users co-operative society etc.,	- Health camps and training programmes
16.	College of Agriculture	Involving RAWEP in conducting - Training Programme - Method demonstration - Group meeting & field visits
17.	Dept. of marketing and Co-operation	- Awareness & training programme on go down schemes
18.	Department of Panchayath raj and rural development	Training
19.	Coconut development Board	Training
20.	Protection of Plant Varieties and Farmers' Rights Authority, New Delhi	Training
21.	UAHS, Shivamogga	Interaction Meet, Krishi Mela, Training, Seminar, Workshop
22.	Rural self employment training institute	Training

NB : The nature of linkage should be indicated in terms of joint diagnostic survey, joint implementation, participation in meeting, contribution received for infrastructural development, conducting training programmes and demonstration or any other

13B. List of special programmes undertaken by the KVK and operational now, which have been financed by State Govt./Other Agencies

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Short Term Certificate Course: Horticulture nursery management and plant propagation techniques for rural youths	January 2020	GoK	3.00
Establishment of crop technology and IFS demonstration unit in farmers fields through participatory mode	June 2019	GoK	9.00
Popularization of areca waste decomposition (Husk/leaf/leaf sheath) for value added compost	October 2019	GoK	3.00
Entrepreneurship development through spawn and mushroom production for unemployed rural youths in Shivamogga	December, 2019	GoK	2.00
Short term certificate course – value addition in ginger	December, 2019	GoK	3.00

Demonstration cum training on production of different quality carps and colour fish fingerlings in indoor rearing system	August-2019	GoK	6.00
Nutritional management to enhance the productivity and fertility in cross breed cows	September 2019	GoK	4.00

13C. Details of linkage with ATMA

Coordination activities between KVK and ATMA

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	Meetings	Action plan, Review meeting	2	-	-
02	Research projects				
03	Training programmes	Krishi Abhiyana	7	-	-
04	Demonstrations				
05	Extension Programmes				
	Kisan Mela				
	Technology Week				
	Exposure visit				
	Exhibition				
	Soil health camps				
	Animal Health Campaigns				
	Others (Pl. specify)				
06	Publications				
	Video Films				
	Books				
	Extension Literature				
	Pamphlets				
	Others (Pl. specify)				
07	Other Activities				
	Watershed approach				
	Integrated Farm Development				
	Agri-preneurs development				

13D. Give details of programmes implemented under National Horticultural Mission : **NIL**

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

14B. Performance of instructional farm (Crops) including seed production

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals									
Ragi	15-07-2019	20-11-2019	0.3	GPU-28, GPU-48 ML-365	TL	1.25	2500	5750	
Pulses									
Pigeon pea	20-07-2018	10-12-2018	0.3	BRG-5	TL	0.60	2520	5600	
Hebbal Avare	14-07-2019	28-10-2019	0.2	HA-4	TL	0.70	5670	12600	
Green gram	16-07-2019	05-10-2019	0.50	KKM-3	TL	3.15	15200	28980.0	
Black gram	16-07-2109	03-10-2019	0.2	Rashmi	TL	0.10	350	700	
Cowpea	23-07-2019	18-10-2019	0.4	UAHS-28	TL	1.40	5650	11102	
Oilseeds									
Ground nut	29-06-2019	10-10-2019		GKVk-5	TL	3.00	9250	19800	
Fibers									
Spices & Plantation crops									
Floriculture									
Coconut	15-01-2019		0.01	Tarikere tall	-	522	11700	26100	
Fruits									
Papaya	10-06-2019	-	0.01	Red lady taiwan	-	3250	19250	48750	
Mango	08-09-2019	-	0.001	Alfanso	-	15	320	750	
Vegetables									
Drumstick	20-07-2019	-	0.01	Bhagya, PKM-1	-	2800	12300	33600	
Others									
Curry leaves	15-08-2018	-	0.001	Suhasini	-	75	425	1050	
Fodder Sorghum									
TOTAL						6672.2	85135	194782	

14C. Performance of production Units (bio-agents / bio pesticides/ bio fertilizers etc.,) : NIL

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	

14D. Performance of instructional farm (livestock and fisheries production) : NIL

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	

14E. Utilization of hostel facilities**Accommodation available (No. of beds)**

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
January	4	4	NIL

PART XV – SPECIAL PROGRAMMES

15.1 Paramparagath Krishi Vikas Yojana (PKVY) : IN PROGRESS

Sl No.	Name of cluster village	Initial soil fertility status (Average of cluster village)				Facilities created for organic source of manure	Name of Crops cultivated	Variety	Organic inputs applied including bio-agents and botanicals treatment	Yield (q/ha)	Economics	
		Aval. N	Aval. P	Aval. K	OC %						Cost of cultivation (Rs/ha)	Net returns (Rs/ha)
1	Yalavatti	206.40	62.84	124	0.36	<ul style="list-style-type: none"> • Provided plastic barrels for preparation of Jeevamrutha, Bejamrutha and Panchagavya • Provided Areca husk decompose culture to composting by areca wastes 	1) Arecanut	Tarikere local	<ul style="list-style-type: none"> •Neem oil •Copper Oxychloride •Chelated organic micro-nutrient •PSB •Azospirillum •Areca husk decomposting culture •Neem Cake 			
							2) Paddy	Jyoti				

1. Arecanut crop is in inflorescence initiation stage
2. Paddy is in transplanting stage

15.2 District Agriculture Meteorological Unit (DAMU)

Sl. No.	Agro advisories			Farmers awareness programmes	
	No of Agro advisories generated	No of farmers registered for agro advisories	No of farmers benefitted	No. of programmes	No. of farmers benefitted
1.					
2.					
3.					

4.					
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15.3 Fertilizer awareness programme 2019

State	Name of KVK	Details of Activities/programme Organised	Number of Chief Guests	No. of Farmers attended program	Total participants
Karnataka	KVK, Shivamogga	Lecture on : 1) Imbalanced use of major and micro nutrients to crops, decline response ratio of soil to fertilizer application 2) Importance of soil test and soil health card 3) Farmers-scientists interaction 4) Visit to KVK demonstration plots	5	124	129

15.4 Seed Hub : NIL

Crops	Variety	Year of release	Production				Remarks
			Target (q)	Area (ha.)	Actual Production (q)	Category (FS/CS)	

15.5 CFLD on Oilseed : Not sanctioned. Hence Nil report

15.6 Seed on Pulses : IN PROGRESS

15.7 Krishi Kalyan Abhiyan : Not sanctioned. Hence Nil report

Type of Activity	Date(s) conducted	No. of farmers (General)			No. of farmers SC / ST			No. of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total

15.8 Micro-Irrigation : NIL

Type of Activity	Date(s) conducted	No. of farmers (General)			No. of farmers SC / ST			No. of extension personnel		
		Male	Female	Total	Male	Female	Total	Male	Female	Total

PART XVI - FINANCIAL PERFORMANCE**16A. Details of KVK Bank accounts**

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute	Canara Bank	S.M.Circle, Shivamogga	524	SB A/c	0524101038350	577015205	CNRB 0000524
With KVK	Canara Bank	S.M.Circle, Shivamogga	524	SB A/c	0524101032710	577015205	CNRB 0000524

16B. Utilization of KVK funds during the year 2018-19(Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	143.27	143.27	107.28
2	Traveling allowances	0.65	0.65	0.42
3	Contingencies			
<i>A</i>	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	2.00	2.00	1.94
<i>B</i>	POL, repair of vehicles, tractor and equipments	1.75	1.75	1.31
<i>C</i>	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	0.75	0.75	0.55
<i>D</i>	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	0.50	0.50	0.40
<i>E</i>	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	1.30	1.30	1.52
<i>F</i>	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	0.20	0.20	0.19
<i>G</i>	Training of extension functionaries	0.05	0.05	0.04
<i>H</i>	Extension Activities	0.40	0.40	0.23
<i>I</i>	Maintenance of buildings	0.50	0.50	
<i>J</i>	EDP (1 No.) / Innovative activities	0.26	0.26	0.26
<i>K</i>	Soil & water testing & issue of Soil Health Cards	0.60	0.60	0.21
<i>L</i>	Nutrigardens	0.25	0.25	0.13
<i>M</i>	Library (Purchase of Journal, Periodicals, News Paper & Magazines)	0.02	0.02	0.02
TOTAL (A)		152.50	152.50	114.50

B. Non-Recurring Contingencies				
1	Works			
2	Equipment including SWTL & Furniture			
3	Vehicle (Four wheeler/Two wheeler, please specify)			
4	Library (Purchase of assets like books & journals)			
TOTAL (B)				
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		152.97	152.97	114.50

16C. Status of revolving fund (Rs. in lakh) for the last three years

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
April 2017 to March 2018	7.96	8.71	6.41	10.26
April 2018 to March 2019	10.25	5.69	3.65	12.29
April 2019 to December, 2020	12.29	7.05	7.09	12.25

17. Details of HRD activities attended by KVK staff

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Dr. B.C.Hanumanthaswamy	Senior Scientist and Head	Maize fall army worm management workshop	GKVK, UAS, Bengaluru	10-07-2019
Dr. B.C.Hanumanthaswamy	Senior Scientist and Head	Adoption of e-SAP	UAHS, Shivamogga	12-07-2019
Dr. M. Basavaraja,	Scientist (Agronomy)	Orientation programme for newly joined KVK staff	CPCRO, Kasaragod	23-09-2019 to 27-09-2019
Dr. Nagaraja R	Programme assistant	Faculty development programme for increasing efficiency and effectiveness in teaching, Research and extention	UAHS,Shivamogga (ICAR-NAARM)	04.02.2019 to 08.02.2019
Dr. Nagaraja R	Programme assistant	Biodiversity and plant genetic resource conservation for future	UAHS,Shivamogga	15.03.2019 to 16.03.2019

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