

Annual Progress Report 2020

(FOR THE PERIOD FROM 01 January 2020 TO 31 December 2020)

Submitted to:

Director

Indian Council of Agricultural Research

Agricultural Technology Application Research Institute (ATARI)

MRS, HA Farm Post, Hebbal

BANGALURU – 560 024

Submitted by:

ICAR-TaralabaluKrishiVigyan Kendra, Davanagere

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

Davanagere - 577 004

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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 Kadalivana, LIC Colony Layout, B.I.E.T. Road, Davanagere – 577 004 Davanagere-Dist.	08192 – 263462	08192 – 297142	kvk.Davanagere@icar.gov.in	www.taralabalukvk.com
			dvgtkvk@yahoo.com	

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

Address	Telephone		E mail	Web Address
	Office	Fax		
Taralabalu Rural Development Foundation Sirigere – 577541 Chitradurga (Dist.)	08194 – 268829, 268842	08194 - 268847	ao@taralabalu.org (kvk.Davanagere@icar.gov.in)	http://www.taralabalu.org

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. Devaraja T.N.	--	94498 – 56876	tngdevaraja@gmail.com

1.4. Year of sanction: 2004

1.5. Staff position as on 31 December 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 Devaraja T N	Senior Scientist-Cum-Head	M	Fishery	Ph.D. in Fisheries & Aquaculture	37400-67000	55580	17-05-2005	Permanent	Others
2	Scientist/SMS	Basavanagowda M G	Subject Matter Specialist	M	Horticulture	M.Sc. [Horti.]	15600-39100	27520	21-11-2006	Permanent	Others
3	Scientist/SMS	Mallikarjuna B O	Subject Matter Specialist	M	Agronomy	M.Sc. [Agri.] - Agronomy	15600-39100	26520	09-01-2008	Permanent	Others
4	Scientist/SMS	Dr G K Jayadevappa	Subject Matter Specialist	M	Animal Science	M.V.Sc. Animal Nutrition	15600-39100	26520	29-01-2008	Permanent	Others
5	Scientist/SMS	Raghuraja J	Subject Matter Specialist	M	Agri. Extension	M.Sc. [Agri.] – Agri. Extn.	15600-39100	25590	23-06-2008	Permanent	Others
6	Scientist/SMS	H.M. Sannagoudra	Subject Matter Specialist	M	Soil Science	M.Sc. [Agri.] – Soil Science & Agri. Chemistry	15600-39100	20640	01-07-2013	Permanent	Others
7	Scientist/SMS	VACANT	Subject Matter Specialist		Plant Protection	--	15600-39100	--	--	VACANT	--
8	Programme Assistant (Home Science)	VACANT	Programme Assistant		(Home Science)	-	-	-	-	VACANT	-
9	Programme Assistant (Computer)	Santhosh B	Programme Assistant	M	Computer	B.Sc. (Computer Science)	9300-34800	15710	05-09-2008	Permanent	Others
10	Programme Assistant/ Farm Manager	Vijayakumar S B	Farm Manager	M	Farm Manager	M.Sc. [Agri.] – Plant Breeding & Genetics	9300-34800	15120	23-06-2008	Permanent	Others
11	Assistant	Mallikarjuna S Gudihindala	Assistant / Superintendent	M	Assistant/ Superintendent	Bachelor in Commerce	9300-34800	19640	01-06-2005	Permanent	Others
12	Jr. Stenographer	Mamatha H Melmalagi	Stenographer Gr.III	F	Stenographer Gr.III	Bachelor in Commerce	5200-20200	13330	27-06-2005	Permanent	Others
13	Driver - 1	VACANT	Driver (Jeep)		Driver (Jeep)	-	-	-	-	VACANT	-
14	Driver - 2	S Shivakumar	Driver (Tractor)	M	Driver (Tractor)	S.S.L.C.	5200-20200	10860	01-06-2005	Permanent	Others
15	SS-1	B Shivakumar	Grade-I	M	Grade-I	S.S.L.C.	5200-20200	9540	01-06-2005	Permanent	Others
16	SS-2	S E Shivakumar	Grade-I	M	Grade-I	S.S.L.C.	5200-20200	9540	01-06-2005	Permanent	Others

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

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

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	04.01.2008	550	29.37			Completed
2.	Farmers Hostel	ICAR	04.01.2008	300	18,82,000.00			Completed
3.	Staff Quarters	ICAR	04.01.2008	400	19,40,000.00			Completed
	1. Vacant							
	2. SMS (Agri. Extension)							
	3. SMS (Soil Science)							
	4 Farm Manager							
	5. Office Assistant							
	6. Vacant							
4.	Demonstration Units							
	1. Dairy with modern facilities	ICAR	04.01.2008	160	6,41,000.00			Completed
	2. Shade Home	DBT	29.03.2013	1000	2,10,000.00			Completed
	3. Azolla bulk production unit	RF	2010	3	3,000.00			Completed
	4. Azolla production unit	NICRA	28.03.2013	3.53	20,000.00			Completed
	5. Ornamental fish breeding unit	DBT	2010	700	1,49,955.00			Completed
	6. Fish polyculture pond with horti integration	DBT	2010	600				Completed
7.	Guava Scion Block	RF	2018	1,000	1,00,000/-			Completed
	8. Portable Carp hatchery	ICAR	31-03-2011	--	2,25,000-00			Completed
	9..Fodder demo units	RF	2010	4000	41,428.00			Completed

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
	10. Biogas unit	RF	2011	04	29920.00			Completed
	11. Fish cum paddy cultivation unit	RF	2011	421	13071.00			Completed
	12. Vermicomposting units	RF	2008	121	60000			Completed
	13 .Vermicomposting unit	DBT	2010	60	15000			Completed
5	Fencing	ICAR	31-03-2011	930 feet	11,00,000			Completed
6	Rain Water harvesting system	--	--	--	--	To be sanctioned	--	
7	Threshing floor	ICAR	31-03-2011		2,00,000-00			Completed
8	Farm godown	ICAR	--	--	--	To be sanctioned	--	
9	Bore wells (2 No.s)	ICAR	31-03-2011		3,00,000-00			Completed
10	Irrigation system	ICAR	31-03-2011		1,00,000-00			Completed
11	Borewell recharge unit	RF	01-06-2011		64,585-00			Completed
12	Plant Health Clinic	ICAR	01.04.2012		10,00,000.00			Completed
13	Orchards and agro forestry							Completed
	1. Mango	RF	2005	12000	53215.00			Completed
	2. Sapota orchard	RF	2010	4000	44775.00			Completed
	3. Hexagonal and penta planting of coconut garden, Germ plasm coconut	RF	2009	4000	9035.00			Completed
	4. Arecanut garden	RF	2007	8000	72228.00			Completed
	5.Tarmarind garden, Medicinal plants	RF	2005	2000	--			Completed
	6.Curry leaf garden	RF	2007	500	--			Completed
	7. Agro forestry with biofuel plants	RF	2013	24000	13,166-00			Completed
14	Miyawaki (2 unit)	RF	31-8-2019	1066 sq mts	65333			Completed
15	Truss work and Building above Administration Building	MP and MLA Grants	October 2020	-	15,00,000			Completed
16	Ultra High Density Mango	RF	2018	4000 sq.m	14,920			Completed
17	Jack orchard	RF	2018	1000 sq. m	5511			Completed
18	Lime orchard	RF	2018	1000 sq. m	2147			Completed
19	Mixed Fruit Orchard	RF	2015	4000 sq.m	6811			Completed

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
20	High Density Mango Orchard	RF	2018	4000 sq. m	14,920			Completed
21	Jamun Orchard	RF	2018	1000 sq. m	8,000			Completed
22	Cashew Orchard	RF	2019	4000 sq. m	12,500			Completed

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Tractor and Trailer	2005	4,99,995-00	3994 hr	Good
Power tiller Funded by FLD cotton	2008	99400-00	-	Good
Power Tiller	2010	131500-00	-	Good
Mahindra Bolero	2017	8,00,000-00	92070	Good
Hero Honda CD Deluxe	2006	39,298-00	79533	Good
Yamaha Alba	2009	48,309-00	67150	Good

C) Equipment & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Mixer	2005	3,300/-	Good
Xerox Machine	2006	73,840/-	Not in working condition
Digital Camera	2006	19,900/-	Not in working condition
Over Head Projector	2006	19,935/-	Not in working condition
TV with DVD Player (Funded by SHIMUL)	2006	11,350/-	Not in working condition
Refrigerator (LG)	2007	10,000/-	Good
Deep Freezer + Stabilizer (Funded by ATMA)	2013	16,650/-	Good
Computer +LCD	2007	1,00,103/-	Good
Fax (4 in one)	2009	15,000/-	Good
Generator	2011	100000/-	Good
Sony Digital GPS Camera	2017	28,500/-	Good
Computer	2017	27,800/-	Good
UPS	2017	72,100/-	Good
Xerox Machine	2017	65,000/-	Good
LCD Projector	2017	32,100/-	Good
RO Water Purifier	2017	65,000/-	Good
Hard Disks (2 No.s)	2017	9,500/-	Good

1.8. Details of SAC meeting conducted during 2020

Date	Number of Participants	Salient Recommendations	Action taken	Remarks, if any
21-12-2019	38	Bench mark information of each farmer selected from DFI villages should be considered for DFI works.	<ul style="list-style-type: none"> • Based on Bench mark survey in Rameshwara and Agasanakatte villages (50 farmers each) and problems are recorded. • The activities of Krishi Vigayn Kendra, NICRA project and PKVY project are taken up to address these problem. 	
		To create awareness on soil analysis and to conduct soil health awareness programmes.	<ul style="list-style-type: none"> • 932 Soil samples are analyzed and soil health cards distributed. • All the FLD and OFT farmers were given soil health cards. 4 campaigns are conducted in 4 adopted villages. • 75 + Training programmes were conducted on soil test based fertilizer application in collaboration with Department of Agriculture. • Training on ‘methods of soil sampling’ was organised on 28-5-2020 (23 farmers) 	
		To provide good quality seeds and seedlings to farmers from KVK.	<ul style="list-style-type: none"> • Quality seedlings from nursery were produced and distributed to farmers (Coconut 2544 seedlings 87 farmers, Arecanut 4680 seedlings 20 farmers, Drumstick 23868 seedlings-107 farmers. Velvet beans 9.53 quintal 68 farmers. 	

		<p>Try to practice and demonstrate more technologies in the KVK Instructional Farm.</p>	<ul style="list-style-type: none"> • Following demonstrations taken up in instructional farm depicting various technologies. - Dairy with modern facilities - Shade Home / Polyhouse - Azolla production unit - Ornamental fish breeding unit - Fish polyculture pond with horti integration - Guava Scion Block (2 varieties, Lalima & Keertima) - Portable Carp hatchery - Fodder demo units (CoFS 29 & 31, Guinea grass, NapierX) - Biogas unit - Vermicomposting units - Rain Water harvesting system - Threshing yard - Irrigation system - Borewell recharge units - Plant Health Clinic Orchards and agro forestry - Arecanut garden - Mango - Sapota orchard - Hexagonal and penta planting of coconut garden - Germ plasm coconut - Arecanut garden with varying spacings - Tamarind garden, Medicinal plants - Curry leaf garden - Agro forestry with biofuel plants - Miyawaki miniforests (2 unit) - Ultra High Density Mango (Alfanzo) - Jack orchard (27 varieties) 	
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			<ul style="list-style-type: none"> - Lime orchard (2 varieties) - Mixed Fruit Orchard (32 varieties) - High Density Mango Orchard (5 varieties) - Jamun Orchard (2 varieties) - Avenue & bund planting with drumstick and hybrid dwarf coconut. - Bamboo - Teak block - <i>Melia dubia</i> block - Kitchen garden <p>Other structures</p> <ul style="list-style-type: none"> - Trench cum bunds - Dubble pits - Silt traps pits - Crescent basins - Check dam - Farm ponds 	
		Create awareness to reduce indiscriminate use of fertilizers.	<ul style="list-style-type: none"> • 7 trainings on ‘Fertilizer management in crops’ were conducted (227 Participants FLD and OFT farmers). • A seminar on this topic was organized during technology week celebration on 5-12-2020 (171 Participants). 	
		Create awareness among farmers to reduce the cost of cultivation.	<ul style="list-style-type: none"> • Guest lecture on ‘Cost reduction in Paddy’ was given on 18-11-2020 at Satyanarayanapura camp (121 participants) and on 3-12-2020 at Irrigation department, Davanagere organised by district administration on the subject ‘DSR for command area’. • MLA, Members, Zilla Panchayath, Farmer leaders, Department Officials participated in the programme. 	

			<ul style="list-style-type: none"> • Both the programmes were well covered by print media. • Elaborated this issue in DFI strategy document (Both in Kannada and English). • FLD – Mechanization in Paddy 	
		To create awareness among farmers for using residual moisture to cultivate Bengalgram.	<ul style="list-style-type: none"> • Initiated demonstration on ICM of Bengalgram in Rameshwara village in Rabi 2019-20 and 2020-21. (50 farmers each year) under NFSM.(40 ha.) 	
		To give information on economics of crop cultivation/ enterprise in each training programme.	<ul style="list-style-type: none"> • Economics of crop cultivation is covered in every training programme. • Training on ‘Production technology of Mushroom’ was organized in collaboration with Horticulture Department and UAHS, Shivamogga. (78 Participants) 	
		Suggested to promote cultivation of multiple crops and avoid mono cropping system.	<ul style="list-style-type: none"> • Velvet beans as intercrop in arecanut was promoted. • 9.53 Quintal of Seeds and 68 farmers). • Redgram as intercrop in Maize FLDs were takenup in Siddanur, Agasanakatte and PR Halli (110 farmers) and Rameshwara (50 farmers-NFSM). • FLD on Pepper as intercrop in Arecanut was conducted in Kukkawada village (5 farmers) (Avare as intercrop in Agro forestry system in Siddanuru village. 	

		Give information to farmers about Bank Linkages and schemes available for farmers on various enterprises/crop cultivation and suggested to use Bank finance judiciously.	<ul style="list-style-type: none"> • 11 reverse migrants from Kalledevarapura village were linked to KCC to start Sheep rearing. Further, efforts are on to link more migrants. 	
		Suggested the KVK to organize a separate meeting (Brain Storming Session) for developing action plan in DFI villages.	<ul style="list-style-type: none"> • DFI strategy documents prepared and shared with Development Departments. • Action plan 2020-21 discussed in Bi-Monthly meeting. 	
		Encourage climate smart agriculture among farmers.	<ul style="list-style-type: none"> • Encouraged in-situ moisture conservation technologies in crop cultivation. • Cultivation of Redgram as intercrop in Maize with more than 200 Farmers. • Production of drought tolerant variety of perennial fodder crops (COFs-29/31) with 100 Farmers. • Encouraged dry fodder enrichment with 50 Dairy Farmers. • Cultivation of drought tolerant Ragi ML-365 with 250 farmers. 	
		Suggested to develop Public- Public understanding system. Local officials should be involved for disseminating the information.	<ul style="list-style-type: none"> • 5 Whats App groups crated by KVK (659 participants) facilitated exchange of ideas related to traditional seeds availability, organic farming and livestock etc. • The group also includes local level officials like AAOs, AOs, ATMA functionaries, AHO's and scientists of SAUs. 	

		Encourage Mango, Cashew and other less water requiring crops in drylands.	<ul style="list-style-type: none"> • 2 FLDs on Cashew is going on in Goudikatte, Venkateshpura and Tuppadahalli villages (6 farmers) • Drumstick at Marikunte (5 farmers). • Under NICRA project: Mango (150 seedlings)-3 farmers, Drumstick (1100 seedlings) 5 farmers, also Sandalwood, Raktha Chandana, Silver Oak promoted through Forestry Department with 3 farmers (1240 trees). 	
		Recommend only crops that are suitable to that area and encourage alternate crops wherever necessary.	<ul style="list-style-type: none"> • Successfully grown Potato and DSR rice by Sri Dyamanna, Haluverthy village. (Rainfed situation) in place of Maize under KVK guidance. • Cashew and Drumstick FLDs are in progress in rainfed situation alternative to arecanut. 	
		Encourage soil fertility management through green manure crops cultivation.	<ul style="list-style-type: none"> • To promote green manure crop in Arecanut and Coconut, KVK produced 9.53 q velvet beans seeds and supplied to 68 farmers. • Training on 'Role of green manure crop in enriching soil fertility' was orgnaized in Ramehswara village (31-1-2020, 44 participants). • Under PKVY-Green manure crops were demonstrated. 	
		Encourage organic farming among farmers.	<ul style="list-style-type: none"> • 50 Farmers are promoted in Rameshwara village in organic farming through PKVY project. 	

			<ul style="list-style-type: none"> Continued Saturday Organic Bazaar in KVK since 2012. Training on 'Organic Farming' was conducted in Rameshwara village on 10-3-2020 (27 participants), 28-1-2020. (46 participants). 	
		Introduce New Variety of onion developed by IIHR (Lalima / Keertima).	<ul style="list-style-type: none"> Requested Arka Niketan seeds from the Institute. But not implemented due to non availability of seeds. 	
		Suggested to popularize the Nutrigarden (Vertigarden) in rural areas.	<ul style="list-style-type: none"> Nutrigarden Demonstration is conducted in Rameshwara village (25 families). The trainings sponsored by Department of Horticulture on Nutrigarden were organized (9-3-2020-102 Participants, 17-9-2020, 58 Participants) 	
		Livestock are suffering from nutritional imbalances and to create more awareness programmes on these issues.	<ul style="list-style-type: none"> All these issues are covered under OFT, FLD, Training Programmes (10), FAS 400 during the year 2020-21 with 550-600 farmers from 26 villages. 	
		Suggested to organize Siridhanya Melas.	<ul style="list-style-type: none"> Not organized yet, will organize in coming days, However Saturday Organic Bazaar is continued where in millets are sold directly to consumers. 	
		Suggested to popularize cashew crop instead of Arecanut crop. Conduct Awareness Programmes on this regard.	<ul style="list-style-type: none"> Gave awareness programme (2 no) in Jagalur taluk in collaboration with Horticulture Department on 3-9-2020 and 25-9-2020. 	
		Encourage NRM works with farmers.	<ul style="list-style-type: none"> It is being done under NICRA Project construction of Farm Ponds (3 No.s) and developing check dams (2 Nos) in NICRA villages. Collaborative programmes with Department of Agriculture Department under NREGS. 	

		To provide assistance to farmers for creating onion storage structures from Department of Horticulture.	<ul style="list-style-type: none"> • State level proposal to construct 150 small onion storage structure in collaboration with Horticulture Department by KVK under small processing unit of ATMA Nirbar Yojana was prepared and submitted to ATARI. • 12 unit of onion storage structure will be establishing in DFI village Rameshwara. 	
		To use forest plants for farm boundaries from Department of Social forestry.	<ul style="list-style-type: none"> • 2000 forest species (Honge, Neem, Shimaruba, Jamoon, Silveroak Amla, Glyricidia) were collected from Forestry Departments Distributed to farmers. • Planting of 5000 forest species was initiated along with Department in Daginakatte village on the occasion of 'World Biofuel Day' • Created Miyawaki Mini Forests in 3 locations of KVK farms with 8,000 forest saplings. 	
		Encourage hydroponic fodder production among farmers during summer.	<ul style="list-style-type: none"> • Encouraged the Hydroponic fodder production through Farm Advisories and Training programme. especially in ASCI-Dairy Farmer TP. 	
		Suggested to encourage farmers to construct farm ponds and to take help from Development Department.	<ul style="list-style-type: none"> • Through NiCRA Project we have been doing these activities – 3 Farm ponds constructed in 2019-20. • 2 huge ponds in Neerthadi village with the help of Horticulture and Fisheries Department. 	

		Under cashew mission from Department of Horticulture use cashew seedlings (alternate to arecanut crop) and processing units can be established.	<ul style="list-style-type: none"> • Proposal prepared and will be submitted to Department of Horticulture. 	
		Fisheries activity in farm ponds should be encouraged for additional income.	<ul style="list-style-type: none"> • OFT on fisheries is in progress in Haluvarthy, Kandagal and Hanagawadi village in farm ponds. • Two farmers in NICRA village Siddanur, demonstrated high value fish culture in farm ponds. 	
		Suggested to popularize medicinal plants cultivation among farmers. Give more awareness programmes in this regard.	<ul style="list-style-type: none"> • Awareness programme medicinal plants was organised on 04-12-2019 in collaboration with Department of Agriculture (57 Participants). • Shatavari and Turmeric is being promoted at Siddanuru. • One webinar on medicinal plants was addressed by SSH in collaboration with Ayurvedic college, Gulberga on 17-6-2020. 	
		Suggested to organize workshop for sellers and buyers (interacting session) on Agriculture/Horticulture commodities.	<ul style="list-style-type: none"> • Will be organized in coming days 	
		Millet processing units should be encouraged with the help of Department of Agriculture.	<ul style="list-style-type: none"> • Will be taken up. • Awareness videos are uploaded on You tube Channel. 	

Date	Number of Participants	Salient Recommendations	Action taken	Remarks, if any
21-12-2020	41	Group-1: To be addressed through extension activities of KVK:	On going	
		Take FPOs feedback and send to Government for policy making.		
		Transplanter servicing Training to be organized from KVK (Machinery camp) Eg.: Sprayer camp (free service is provided)		
		Call other village farmers and officials for Field days which is very important. Invite Bank Branch Manager also for the Field days.		
		Negliamiditha is there for all 7 districts use it, each scientist can give more than 10 programmes.		
		Farmers professor: Identify good farmers and send to UAHS, Shivamogga for teaching students.		
		Case studies, Special projects, Research publication etc. to be uploaded to website.		
		Nutrition garden-Awareness programme required.		
		Awareness to avoid pesticides sprays (Cost of cultivation reduces) in is Paddy required.		
		Promote Fodder crops seeds production and supply to farmers from KVK.		
		Approach us for wider publicity and increase the number of programmes.		
		Krishi Vigyan Kendra can utilize services of District publicity centre to reach maximum farmers. Send news item before 3.00 pm to us whenever any activity is conducted in KVK.		
		Training on quality management is required (e.g.: Maize).		
		To promote small ruminants and poultry especially among reverse migrants.		

		Group-II: To be addressed through action plan of Krishi Vigyan Kendra:		
		Increase HRD works (Other KVK visit).		
		Take up Seed production activity in a participatory mode. (Processing unit at Kattalagere).		
		Kindly promote cultivation of Cashew crop.		
		Coconut – White flies problem is increasing, do demonstration regarding this issue.		
		Maize –Tur inter-cropping – to be increased (3 acre maize and 2 acre tur)- Government scheme.		
		Group-III: To be initiated in collaboration with Development:		
		Get accreditation of nursery in KVK instructional farm. Increase Horticulture nursery activities. Model nursery project proposal to be submitted to Department of Horticulture.		
		Cashew germplasm-tie up with Bavikere research station – Try to keep V- 4 & V-7 varieties		
		Indent driven system –Supply to farmers. Do the work collaboratively with University and Department.		
		KVK should have one FPO in the premises (NABARD should help in this regard).		
		Website protocols needs to be followed (Dynamic and Interactive website, Word files, not PDF format for uploading).		
		KCC is extended to AH activities and Fisheries, also landless workers can take Rs. 3,600 through Kisan Credit Card. Two months working capital through KCC to address the technical problem –giving guidance for sustainable production.		

PART II - DETAILS OF DISTRICT

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

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

Davanagere district is at the centre of the state and lies in between latitude of 75^o.30' and 76^o.30' and longitude of 13^o.45' and 14^o.50' with MSL of 602.5 m. The annual average rainfall of the district 678 mm (actual 826 mm in 2020). The variety of soil is medium to deep black and red sandy loam. The district is essentially kharif region and majority rabi crops will be taken up with the help of irrigation from lower Bhadra canal (Irrigation-33%). The district consist of 6 taluks, 810 villages, 418692 holdings with gross cropped area of 460772 ha. Majority of holding are marginal (135246, 47.84 %), followed by small (84521, 29.9%) semi-medium (45905, 16.24%). The total population of the district was 1945497 (According to 2011 censuses) with majority 67.66 % lives in rural areas and 32.34 % lives in urban areas.

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

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

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

2.3 Soil type/s

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

2.4. Area, Production and Productivity of major crops cultivated in the district (2019-20)

S. No	Crop	Area (ha)	Production (Metric tons)	Productivity (kg /ha)
1	Maize	127415	535587	4203.48
2	Rice	104505	488499.5	4674.41
3	Finger Millet	9040	21999	2433.52
4	Sorghum	8386	17579.6	2096.31
5	Bajra	580	928	1600
6	Wheat	695	1083	1558.27
7	Redgram	7265	8931	1229.45
8	Bengalgram	5070	5227.5	1031.06
9	Horsegram	1335	699	523.59
10	Blackgram	254	238.6	939.37
11	Greengram	440	437.2	993.63
12	Cowpea	3635	3870.6	1064.81
13	Avare	1637	1438.1	878.49
14	Groundnut	17052	24610.5	1443.26
15	Sesamun	435	652.5	1500
16	Sunflower	5850	7314.5	1250.34
17	Castor	355	390.5	1100

18	Cotton	10427	4197.25/bales	402.53 bales/ha
19	Sugarcane Planted	1732	206.48	119.21
20	Sugarcane Ratoon	2984	324.68	108.807

* Source : Department of Agriculture, Davanagere

Sl. No	Crop	Area (ha)	Production (Metric tons)	Productivity (t/ha)
1	Arecanut	57248	96382	1.68
2	Coconut	8095	19,562 Lakhnuts	2.42 t/ha
3	Banana	4319	105970	24.53
4	Mango	3608	33860	9.38
5	Sapota	500	5414	10.82
6	Pomegranate	621	6694	10.78
7	Tomato	5016	172715	34.44
8	Onion	7554	135392	17.92
9	Green Chilli	1523	36526	23.98
10	Betervine	1125	6533 Lakh leaves	5.81
11	Marigold	657.6	3194.85	4.86
12	Oil palm	727.71	1340	1.84
13	Cocoa	394.93	57.19	0.14
14	Cashew	129.86	50.59	0.39
15	Black Pepper	690.1	223.16	0.32
16	Papaya	318	17165	54.05
17	Cabbage	300	6479	2160
18	Drumstick	2833	15650 lakh	5.52
19	Ridge gourd	132	965	7.32
20	Cocumber	210	2984	14.22

Department of Horticulture, Davanagere

2.5. Weather data

Source: Department of Agriculture, Davanagere and AHRS, Kathalagere

Month	Rainfall (mm)		Temperature ° C		Relative Humidity (%)
	Normal	Actual	Maximum	Minimum	
January 2020	1	0	15.93	31.63	98.77
February 2020	1	0	17.47	31.87	96.62
March 2020	4	8	19.67	32.76	99.44
April 2020	36	27	21.05	33.64	99.32
May 2020	75	79	21.73	34.19	31.00
June 2020	76	80	21.59	30.88	99.16
July 2020	116	147	21.45	28.99	99.36
August 2020	91	104	21.18	27.80	99.57
September 2020	109	210	20.92	29.24	99.59
October 2020	120	159	19.71	29.49	99.57
November 2020	44	8	-	-	-
December 2020	5	5	-	-	-
Total	678	826	-	-	-

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

Category	Population	Production	Productivity
Cattle			
<i>Crossbred</i>	124184	238880 t	6 liter/day
<i>Indigenous</i>	207891		
Buffalo	175896		
Sheep			
Crossbred	167	4229.25 t	--
<i>Indigenous</i>	343011		--
Goats	103187		--
Pigs			
<i>Crossbred</i>	144	--	--
<i>Indigenous</i>	3684	--	--
Poultry			
Hens	31,93,472	5168.99 Lakh Eggs	--
<i>Inland fisheries</i>	--	16052.53 t	800

Source: Department of Statistics, Davanagere

2.7 District profile maintained in the KVK has been **Updated** for 2019: **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	Nyamathi	Rameshwara	Rameshwara	4	Pulses	• Incidence of stored grain pests	Storage pests
2	Nyamathi	Rameshwara	Rameshwara	4	Groundnut	• Low yield	Low yield
3	Davanagere	Angod	Agsankatte	4	Maize	• Improper nutrient management	Nutrient Management
4	Davanagere	Angod	Agsankatte	4	Maize	• Army worm incidence and fall army worm (60-100 %).	Low yield and IPM
5	Davanagere	Angod	Chandranahalli	2	Paddy	• No mechanization and no timely transplanting low yield	Low yield and mechanization
6	Nyamati	Rameshwara	Rameshwara	4	Redgram	• Low yield improper nutrient management • No IPM measures.	Low yield and IPM
7	Nyamati	Rameshwara	Rameshwara	1	Bengalgram	• Low yield improper nutrient management. • No IPM measures	Low yield
8	Jagalur	Marikunte	Marikunte	3	Drumstick	• Imbalanced Nutrient management, Flower dropping	INM
9	Channgiri	Tyavanagi	Navilehal	3	Arecanut	• Disposal and Burning of arecanut husk in road sides.	INM
10	Davanagere	Angod	Agasankatte	4	Tomato	• Calcium deficiency • Wilt • Scaking pests	ICM
11	Davanagere	Angod	Siddanur	10	Banana	• Higher incidence of sigatoka leaf spot.	IPDM

12	Jagalur	Marikunte	Marikunte	3	Cotton	<ul style="list-style-type: none"> • Improper spacing (21 row spacing); • Improper nutrient management (140:100:75 kg N:P2O5:K2/ha); • Incidence of sucking pest (10-30% yield bales) • • Leaf reddening (Mg deficiency); • Square drying (25% yield loss) 	ICM
13	Jagalur	Marikunte	Marikunte	3	Cotton	<ul style="list-style-type: none"> • Improper spacing (21 row spacing); • Improper nutrient management (140:100:75 kg N:P2O5:K2/ha); • Incidence of sucking pest (10-30% yield bales) • • Leaf reddening (Mg deficiency); • Square drying (25% yield loss) 	ICM
14	Jagalur	Marikunte	Marikunte	4	Chilli	<ul style="list-style-type: none"> • Improper nutrient management (70:100:40 kg N:P2O5:K2/ha); • Calcium, Boron and Zinc deficiency (20% yield loss); • Incidence of sucking pest (20-60% yield loss) 	ICM
15	Harihara	Harihara	Harihara & Rajanahalli	3	--	<ul style="list-style-type: none"> • Low yield in fish farming 	ICM
15	Davanagere	Davanagere	Kandagallu	9	--	<ul style="list-style-type: none"> • Low yield in fish farming 	ICM
16	Jagaluru	Marikunte	Marikunte	3	Onion	<ul style="list-style-type: none"> • Imbalance nutrient management • Sulphur deficiency 	INM
17	Jagaluru	Marikunte	Asagodu	1	Cotton	<ul style="list-style-type: none"> • Improper spacing (21 row spacing); • Improper nutrient management (140:100:75 kg N:P2O5:K2/ha); • Incidence of sucking pest (10-30% yield bales) • • Leaf reddening (Mg deficiency); • Square drying (25% yield loss) 	ICM
18	Nyamthi	Rameshwara	Rameshwara	4	Redgram	<ul style="list-style-type: none"> • Low yield improper nutrient management • No IPM measures. 	ICM
19	Nyamthi	Rameshwara	Rameshwara	4	Bengalgram	<ul style="list-style-type: none"> • Low yield improper nutrient management. • No IPM measures 	ICM

2.9 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	Davanagere	Anagodu	Agasanakatte	Marulasiddesh H. M.	180000	156000	24000
2				Shivakumar B. C.	315912	120000	195192
3				Baramappa H.S.	60000	37200	22800
4				Shivakumar B.S.	96000	72000	24000
5				Arun H.N.	90744	51600	39144
6				Kotrappa C.	432000	240000	192000
7				Hanumanthappa A.S.	81996	54000	27996
8				Marulasiddappa P M	307992	216000	91992
9				Nagaraja H.S.	151992	84000	67992
10				Rudresh K.H.	51912	36000	15192
11				Bheemappa A.K.	120996	76560	44436
12				Smt. Meenakshamma	132996	96000	36996
13				Santhosh H.S.	103992	120000	16008
14				Shivakumar H.G.	73992	48000	25992
15				Lingaraj B.S.	160992	120000	40992
16				Smt. Kamalamma	108000	60000	48000
17				Siddaveerappa H.S.	111996	84000	27996
18				Hanumanthappa H.B.	276000	96000	180000
19				Haleshappa H.C.	300000	180000	120000
20				Basavarajappa B.	255960	180000	75960
21				Basavaraju B.C.	48000	36000	12000
22				Revanasiddappa B.	127992	120000	7992
23				Ravi H.S.	183600	120000	147600
24				Nagaraj H.B.	63996	36000	27996
25				Malleshappa R.C.	247920	198000	49920
26				Veerabhadrappe K.N.	48000	42000	6000
27				Marulasiddappa C	42620	36000	6620
28				Kallappa D.G.	25500	18000	7500

29				Siddappa H.S.	144000	74400	69600
30				Kalleshappa R.C.	247992	184200	63792
31				Channappa R.C.	210000	172200	37800
32				Maheshwarappa M.S.	216000	72600	143600
33				Marulasiddappa P.B.	102000	72000	30000
34				Vamadevappa B.	279996	180000	99996
35				Revanasiddappa B.	33996	30000	3996
36				Vasantakumar B.S.	303996	99600	204396
37				Shivanandappa B.	38496	26496	12000
38				Marulasiddappa C.C.	108000	90000	18000
39				Marulasiddaiah C.S.	90744	43200	47544
40				Siddalingappa B.S.	108000	90000	18000
41				Shivakumaraiah G.S.	120000	96000	24000
42				Siddesh K.G.	159996	114000	45995
43				Shivakumara A.S.	159600	138000	216000
44				Nagarajappa P.B.	124800	72996	51804
45				Shivanandappa R.V.	49500	36000	13500
46				Durgappa A.K.	144396	114000	30396
47				Shivakumara S.B.	57000	42000	15000
48				Shivanandappa H.S.	447996	216000	231996
49				Devendrappa A.B.	64800	44400	20400
50				Karibasamma	180000	30000	150000
1	Nyamathi	Rameshwara	Rameshwara	Chandrashekhara H.	138000	90000	48000
2				Smt. Suvarnamma G.	156000	134400	216000
3				Shankarappa J.	194400	144000	50400
4				Shantaraj R. N.	120000	114000	6000
5				Maheshwarappa H.S.	202800	132000	70800
6				Smt. Lalithamma N.	792000	684000	108000
7				Ramachandrappa M.	102000	102000	6000
8				Prakash P.G.	144000	136320	7680
9				Parameshappa D.	135000	102000	33000
10				Gurumurthy N.G.	120000	102000	18000

11			Ravi H.R.	342000	318000	24000
12			Smt. Kamalamma D.	414000	121200	292800
13			Mallesappa R.G.	292800	64000	228800
14			Eshwarappa D.	101000	96000	5000
15			Mallesappa C.	177600	168000	9600
16			Godappa G.	114000	96000	18000
17			Budyappa B.	72000	4800	67200
18			Smt. Parvathamma	610000	282000	328000
19			Shanmukhappa D.	216000	144000	72000
20			Maheshwarappa B.	234000	216000	18000
21			Mallesappa B.	348000	300000	48000
22			Mallesappa D.M.	684000	420000	264000
23			Rangappa S.	156000	15000	6000
24			Maheshwarappa A.	300000	276000	24000
25			Smt. Shantamma	228000	132000	96000
26			Karibasappa D.	216000	162000	54000
27			Theerthappa B.	318000	186000	132000
28			Shivamurthyappa R.D.	186000	114000	72000
29			Dyaneshappa V.	138000	102000	36000
30			Yogeshwarappa N.	936000	636000	300000
31			Mallikarjuna D.G.	228000	111600	116400
32			Smt. Chandramma	138000	126000	12000
33			Maheshwarappa S.	216000	145200	70800
34			Jagadeesha S.	57600	56400	1200
35			Maheshwarappa B.	301800	180000	121800
36			Parameshwarappa H.T.	189000	126000	63000
37			Mallesappa B.	315600	168000	147600
38			Gurubasappa B.G.	258000	234600	24000
39			Prabhudevappa	357600	225600	189900
40			Smt. Gangamma	348000	228000	120000
41			Maheshwarappa D.	164400	102000	62400
42			Jagadeeshappa Bhavi	206400	126000	80400

43				Gangadharappa D.G.	240000	228000	12000
44				Rajappa D.	84000	66000	18000
45				Nagarajappa G.	204000	162000	42000
46				Shivakumar D.	290400	14400	276000
47				Mallikarjunappa G.	516000	366000	150000
48				Mruthyunjayappa D.G.	156000	12000	36000
49				Onkeshappa D.O.	242400	176400	66000
50				Gangadharappa B.	127200	114000	13200

2.10 Priority thrust areas

S. No	Thrust area
1.	Integrated Crop Management in Rice, Maize, Finger Millet, Tomato, Redgram, Bengalgram, Arecanut, Onion, Cotton, Groundnut, Tomato, Betelvine
2.	Integrated Nutrient Management in Drumstick, Arecanut,
3.	Dairy Management
4.	Nutrition Management in Dairy Animals, Sheep and Goat.
5.	Production and Management of Fishes.

PART III - TECHNICAL ACHIEVEMENTS (2020)

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
2 (2019-20)	2	10	10	2 (2018-19)	2	20	20
5 (2020-21)	5	21	21	6 (2019-20)	6	43	43
				14 (2020-21)	14	180	180
				4 (NFSM, (2019-20)	4	145	167
				2 (NFSM, (2020-21)	2	90	85

Training				Extension Programmes			
3				4			
Courses (No.)		Participants (No.)		Programmes (No.)		Participants (No.)	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
114	85	2905	3107	629	787	26210	3084

Seed Production (Q)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement
10	15.48	40,000	30,517

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
15,000	-	30	66.59

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			
1	Storage pests	Post harvest technology	•Incidence of stored grain pests		Super grain bags to prevent stored grain pests											On going
2	Low yield	Groundnut	Use of local variety TMV-2 Low yield	Performance assessment of groundnut varieties for better yield.		03		02	Method demonstrations -2 Field visits -08 Field Day -01 No.= 11	Pods – 3.6	-			No.	Kg Trichoderma Rhizobium 13 kg	
3	Improper Nutrient Management	Maize	Improper nutrient management	Effect of Nano fertilizer (N and Zn) on Growth and Yield in Hybrid Maize		02		02	Method demonstrations 1 Field visits -06 Field Day -01 No.=08	--	-	-	-	-	-	
4	Low yield and IPM	Maize	Army worm incidence and fall army worm (60-100%)		Integrated crop Management in Maize	02		10	Method demonstrations -02 Field visits -05 Field Day -01 No. -08	-				Traps – 5/acre		
5	Low yield and mechanization	Paddy	No mechanization and no timely transplanting Low yield		Integrated crop management in Rice	04		10	Method demonstrations -5 Field visits -07 Field Day -01 No.-13	-				Traps – 5 /acre		
6	Low yield and IPM	Redgram	Low yield Improper nutrient management No IPM measures		Integrated crop management in Redgram	04		7	Method demonstrations -2 Field visits -07 Field Day -01 No.= 10	Seeds- 2.5					Trochoderma PSB Rhizobium 150 kg	
7	Low yield and IPM	Bengal gram	Low yield Improper nutrient management No IPM measures		Integrated crop management in Bengalgram	03		8	Method demonstrations -4 Field visits -3 No. = 07	Seeds- 8.0				Traps- 5/acre	Trochoderma PSB Rhizobium 120 kg	

8	INM	Drumstick	Imbalanced Nutrient management, Flower dropping	Assessment of crop management strategies in drumstick for higher yield	1. Demonstration on drumstick variety KDM-1 (Bhagya) (2019-20) 2. Integrated Crop Management in Drumstick	3			12				Seedlings 1800	
9	INM	Arecanut	Disposal and Burning of arecanut husk in road sides	Evaluation of performance of different compost cultures to decompose arecanut husk				4					Waste decomposer	5 bottle
													Compost culture	10 kg
10	ICM	Tomato	<ul style="list-style-type: none"> • Calcium deficiency • Wilt • Sucking pests 	-	ICM in Tomato	02	-	-	07	-	-	-	Arka Microbial Consortium	75 l
11	IPDM	Banana	Higher incidence of sigatoka leaf spot	-	Management of Sigatoka leaf spot disease in Banana	01			03					
12	ICM	Cotton	<ul style="list-style-type: none"> Improper spacing (21 row spacing); Improper nutrient management (140:100:75 kg N:P2O5:K2/ha); Incidence of sucking pest (10-30% yield bales) Leaf reddening (Mg deficiency); Square drying (25% yield loss) 	-	ICM in Cotton	04	-	-	08	-	-	-		
13	ICM	Cotton (2019-20)	<ul style="list-style-type: none"> Improper spacing (21 row spacing); Improper nutrient management (140:100:75 kg N:P2O5:K2/ha); Incidence of sucking pest (10-30% yield bales) Leaf reddening (Mg deficiency); Square drying (25% yield loss) 	-	ICM in Cotton	03	-	-	06	-	-	-		

14	INM	Chilli (2019-20)	Improper nutrient management (70:100:40 kg N:P2O5:K2/ha); • Calcium, Boron and Zinc deficiency (20% yield loss); • Incidence of sucking pest (20-60% yield loss)	-	Micronutrient management in Chilli	02	-	-	05	-	-	-	Arka Microbial consortium	30
15	Low yield and IPM	Redgram	Low yield Improper nutrient management No IPM measures		Integrated crop management in Redgram	05		-	Method demonstrations -3 Field visits -08 Field Day -01	2.5 seeds				Trochoderma PSB Rhizobium 150 kg
16	Low yield and IPM	Bengal gram	Low yield Improper nutrient management No IPM measures		Integrated crop management in Bengalgram			-	Method demonstrations -3 Field visits -4 No. = 07	Seeds- 8.0				PSB Rhizobium 120 kg
17	ICM	Fishries	Low yield	--	Integrated Management of fish culture in ponds	03	-	-	Method demonstrations -1 Field visits -5 No. = 6	-	-	25000 No	-	-

3.B2. Details of technology used during reporting period

S.No	Title of Technology	Source of technology	Crop/enterprise	No.ofprogrammes conducted				Extension
				OFT	FLD	Training	Others (Specify) activities	
1	2	3	4	5	6	7	8	
1.	Performance assessment of groundnut varieties for better yield.	UAS, Dharawad	Groundnut	01	-	03	11 no.	
2.	Effect of Nano fertilizer (N and Zn) on Growth and Yield in Hybrid Maize	IFFCO NBRC , Gujarath	Maize	01	-	02	08. No.	
3.	Integrated crop Management in Maize	UAHS, Shivamogga	Hybrid Maize	-	01	02	08 No.	
4.	Integrated crop management in Rice	UAHS, Shivamogga	Rice	-	01	03	13 No.	
5.	Integrated crop management in Redgram	UAHS, Shivamogga	Red gram	-	01	04	10 No.	
6	Integrated crop management in Bengalgram	UAHS, Shivamogga	Bengal gram	-	01	03	07 No.	
7	Integrated crop management in Redgram	UAHS, Shivamogga	Red gram		01	05	12 No	
8	Integrated crop management in Bengalgram	UAHS, Shivamogga	Bengal gram		01	04	08 No	

3.B2 contd..

No. of farmers covered															
OFT				FLD				Training				Others (Method demonstration ,Field visit and Field day)			
General		SC/ST		General		SC/ST		General		SC/ST		General		SC/ST	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
03	-	-	-					67	08	02	-	48	21	01	-
05	-	-	-					31	-	01	-	74	-	06	02
				10				42	-	01	01	84	-	7	02
				20				136	04	10	-	70	27	12	-
				34	05		01	127	27	02	-	69	08	-	-
				39	01	-	-	67	04	-	-	32	04	-	-

S.No	Title of Technology	Source of technology	Crop/enterprise	No.ofprogrammes conducted			
				OFT	FLD	Training	Others (Specify)
9	2	3	4	5	6	7	8
10	ICM in tomato	UAHS, Shivamogga	Tomato		1	03	
11	ICM in Chilli	UAHS, Shivamogga	Chilli		1	02	
12	ICM in Cotton	UAHS, Shivamogga	Cotton		1	04	
13	ICM in Drumstick	UAHS, Shivamogga	Drumstick		1	02	
14	Micronutrient Managemnt	TNAU	Drumstick	1		01	
15	Drumsick var KDM-1 (Bhagya)	UHS, Bagalakot	Drumstick			01	
16	Sigatoka leaf spot management	UHS, Bagalakot			1	01	
17	Compost culture	UAHS, Shivamogga, UAD, Dharwad, NCOF		1		01	
18	Integrated management of fish culture in ponds	KVAFSU, Bidar	Fisheries	-	1	01	19
19	Assessment of growth performance of improved carps, pangasius and farmed tilapia in farm ponds	KVAFSU Bidar, UAS (B), FRIC, Hebbal & KVAFSU Bidar, CIFA, Bengaluru	Fisheries	1	-	01	07

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
-	-	-	-	10	-	-	-	16	-	-	-	-	-	-	-
-	-	-	-	14	02	04	-	36	05	14	04	-	-	-	-
-	-	-	-	05	-	-	-	13	-	-	-	-	-	-	-
05	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-
-	-	-	-	03	-	-	-	05	-	-	-	-	-	-	-
-	-	-	-	05	-	-	-	06	-	-	-	-	-	-	-
05	-	-	-	-	-	-	-	05	-	-	-	-	-	-	-
--	-	-	-	03	-	02	-	01	-	1	-	13	-	13	-
3	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-

PART IV - On Farm Trial (2020)

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management	1				1			1		3
Varietal Evaluation			1							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										
Mushroom cultivation										
Total	1		1		1			1		4

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

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

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

Thematic areas	Cattle	Poultry	Piggery	Rabbit	Fisheries	TOTAL
Evaluation of Breeds						
Nutrition Management	01	-	-	-	-	01
Disease of Management						
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
Dairy						
Others (Pl. specify)						
TOTAL	01	-	-	-	-	01

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 Technological Options in a farm)
Integrated Nutrient Management	Hybrid Maize	Effect of NANO fertilizer (N and Zn) on Growth and Yield in Hybrid Maize	05	05	0.4
	Drumstick	Assessment of crop management strategies in drumstick for higher yield	03	05	0.6
	Arecanut	Evaluation of performance of different compost cultures to decompose arecanut husk	04	05	0.1
	Onion	Assessment of sulphur role in Onion	03	05	0.6
Varietal Evaluation	Groundnut	Performance assessment of groundnut varieties for better yield (GPBD-4,G-252).	03	03	1.2
Integrated Pest Management					
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Value addition					

Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total					

4.B.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					

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	Crossbred Dairy Cattle	Effect of feeding Urea-Treated Paddy straw along with grain mixture in dairy animals	05	05
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.B.5. Technologies assessed under various enterprises by KVKs : Nil

Sl.	Thematic areas	Name of the enterprise	Name of technology(s)	No. of trials	No. of locations
1	Drudgery reduction				
2	Entrepreneurship Development				
3	Health and nutrition				
4	Processing and value addition				
5	Energy conservation				
6	Small-scale income generation				
7	Storage techniques				
8	Household food security				
9	Organic farming				
10	Agroforestry management				
11	Mechanization				
12	Resource conservation technology				
13	Value Addition				
14	Others				

4.B.6. Technologies assessed under various enterprises for women empowerment: Nil

	Thematic areas	Name of enterprise	Name of technology(s)	No. of trials	No. of locations
1	Drudgery Reduction				
2	Entrepreneurship Development				
3	Health and Nutrition				
4	Value Addition				
5	Women Empowerment				
6	Others(Home science)				

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
Groundnut	Rainfed	Use of local variety TMV-2 Low yield	Performance assessment of groundnut varieties for better yield	03	T.O.1 : Farmers practice) : TMV-2	UAHS, Shivamogga	24.9	q/ha	Plant height - 71.7 cm Haulm Yield -7.63 t/ha	93696.67	42813.33	1.84
					T.O.2 : GPBD-4	UAS, Dharwad	30.2	q/ha	Plant height - 75.56 cm Haulm Yield -13.46 t/ha	117090	60290	2.06
					T.O.3- G-2-52	UAS, Dharwad	32.9	q/ha	Plant height - 76.06 cm Haulm Yield -13.76 t/ha	126766.67	69966.67	2.23
Selling price : Groundnut Pod :Rs. 3500/q												

Maize	Rainfed	Low yield and Improper Nutrient Management	Effect of NANO fertilizer (N and Zn) on Growth and Yield in Hybrid Maize	05	TO : 1 : Basal dose of Application -fertilizers 175 kg DAP , 45 kg urea and 30 kg MOP : ZnSO ₄ – 10 kg Top dressing with urea- 125 kg urea per ha respectively	Farmers Practice	46.1	q/ha	Plant height - 224.8 cm Test weight - 35.82	62235	19175	1.45
					Soil Test Based Fertilizers application Nutrient Management RDF: 100:50 :25 N , P ₂ O ₅ and K ₂ O kg/ha. 50 % N . 100 % P ₂ O ₅ and 50 % K ₂ O as a basal 25 % N at 30 DAS and 25% N and 50 % K ₂ O at tasselling stage	UAHS, Shivamoga	48.16	q/ha	Plant height - 225.4 cm Test weight - 36.02	65016	22426	1.53
					Basal dose:- 25 % N : 50% K ₂ O : 100 % P ₂ O ₅ 25 % N at 25 – 30 DAS, 50 % K ₂ O at tasselling stage N and Zn Nano fertilizer spray at 30 DAS (4 ml/l of water) and second spray 50 DAS	IFFCO NBRC , Gujarat	49.5	q/ha	Plant height - 225.7 cm Test weight - 37.1	66825	24725	1.59
Maize : Rs.1350/q												
Drumstick	Irrigated	Imbalanced Nutrient management, Flower and fruit dropping	Assessment of crop management strategies in drumstick for higher yield	03	Soil application of 100 g 15:15:15/plant along with FYM + Remaining ICM practices		273.70	q/ha	• Number of pods: 121.40 • Pods length: 57.3.0	574770.00	426954.00	3.89
					Soil test based application of 54:134:32 N:P ₂ O ₅ :K ₂ O / plant along with FYM +Remaining ICM practices	UAHS, Shivamogga	281.84	q/ha	• Number of pods: 142.00 Pods length: 62.74	591864.00	456096.00	4.36
					Soil test based fertilizer application of 45:15:30 g of N:P ₂ O ₅ :K ₂ O/plant along with FYM + 0.4% Micronutrient mixture + 20ppm NAA (2 spays at flower initiation and 10 days after first spray) +Remaining ICM practices	TNAU, Coimbatore	303.74	q/ha	• Number of pods: 148.20 Pods length: 63.56	643016.00	507768.00	4.75

Arecanut	Irrigated	Burning of arecanut husk	Evaluation of performance of different compost cultures to decompose arecanut husk	5	T.O.1 (Farmers practice): Dispose of arecanut husk in road sides and burning				C:N ratio At 90 days: 98.3 At 120 days: 60.4 At 150 days: 40.9			
					T.O.2: Composting the arecanut husk in a proper way by using decomposer compost culture @ 1 bottel/t	NCOF, Newdelhi			C:N ratio At 90 days:85.4 At 120 days: 38.1 At 150 days: 20.3			
					T.O.3: Composting the arecanut husk in a proper way by using UAHS, Shivamogga compost culture @ 1kg/t	UAHS, Shivamogga			C:N ratio At 90 days: 76.1 At 120 days: 36.4 At 150 days: 21.4			
					T. O. 4: Composting the arecanut husk in a proper way by using UAS, Dharwad compost culture @ 2kg/t	UAS, Dharwad			C:N ratio At 90 days: 70.3 At 120 days: 32.3 At 150 days: 18.6			
Onion	Rainfed	Low yield	Role of sulphur in improving the productivity of onion	05	T.O.1 : (Farmerpractice): 100:75:20 kg N:P ₂ O ₅ :K ₂ O/ha along with FYM	Farmer practice	One month old crop					
					T.O.2 : RDF (125:50:125 Kg N:P ₂ O ₅ :K ₂ O /ha) along with FYM	UHS (B)						
					TO 3: RDF (125:50:125 Kg N:P ₂ O ₅ :K ₂ O /ha) along with FYM and 45kg sulphur through elemental sulphur	DOGR, Pune						

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
Dairying	Home Stead	Generally dairy animals are fed with poor quality dry roughages along with a few feed ingredients. These fodders when fed to high yielding dairy animals would not support production and health due to deficiency of Protein, energy & minerals. Poor quality dry roughages when enriched with urea and fed along with Grain mixture (starch) improved the digestibility of dry roughages and supplied the crude protein & Energy (TDN)	Effect of feeding urea-treated paddy straw along with grain mixture in dairy animals.	05	T.O.1: (Farmers practice): Feeding dairy animals with low quality dry roughages and non-leguminous green fodders along with cake & bran items	Farmers Practice	-	-	-	-	-	-

		required by the animal.										
					T.O. 2 Feeding dairy animals with urea-treated dry roughages, green fodders and compounded animal feeds as per the NRC specifications	KVAFSU, Bidar						
					T.O. 3 Feeding dairy animals with urea-treated dry roughages, green fodders and compounded animal feeds as per the NRC specifications. PLUS using 1-2 kg grain mixture at the time of feeding urea-treated dry roughages	NDRI Bengaluru						

NOTE: Feeding Trial is On-going

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
Fisheries	Irrigated	Low productivity with carps in tanks and ponds	Assessment of growth performance of improved carps, pangasius and farmed tilapia in farm ponds	03	T.O.1: (Farmers practice – Catla, Rohu, common carp): <ul style="list-style-type: none"> • Stocking density (1200 No.) • Culture duration (12 months) • Feeding – Rice bran & groundnut oil cake 1:1 and floating feeds @ 4 % of body weight 	Farmers Practice						
					T.O. 2 <ul style="list-style-type: none"> • Stocking density (1200 No.) • Culture duration (10 months) • Feeding – Rice bran & groundnut oil cake 1:1 and floating feeds @ 4 % of body weight 	KVAFSU, Bidar						
					T.O. 3 <ul style="list-style-type: none"> • Stocking density (1200 No.) • Culture duration (8 months) • Feeding – Rice bran & groundnut oil cake 1:1 and floating feeds @ 4 % of body weight 	UAS (B)						
					T.O. 4 <ul style="list-style-type: none"> • Stocking density (1200 No.) • Culture duration (10 months) 	FRIC, Hebbal & KVAFSU, Bidar						

Feeding continued. pH of water is monitored.
Fishes have attained 500 g. – 800 g weight

					<ul style="list-style-type: none"> • Feeding – Rice bran & groundnut oil cake 1:1 and floating feeds @ 4 % of body weight 		
					<p>T.O. 5</p> <ul style="list-style-type: none"> • Stocking density (1200 No.) • Culture duration (12 months) • Feeding – Rice bran & groundnut oil cake 1:1 and floating feeds @ 4 % of body weight 	CIFA, Bengaluru	

4. C2. Feedback on technologies assessed:

1. Groundnut:

Name of technology assessed	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption
Performance assessment of groundnut varieties for better yield	GPBD-4 and G-2 52 varieties performed well and remain green at time of harvest which is the best fodder for mulching animals Constraints : Seed availability, it should be sold at RSK	No

2. Maize:

Name of technology assessed	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption
Effect of NANO fertilizer (N and Zn) on Growth and Yield in Hybrid Maize	NANO Nitrogen and Zinc are useful water soluble fertilizer for spraying ,	No

3. Arecanut

Name of technology demonstrated	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption
Use of Micro nutrients	<p>Useful Character</p> <ul style="list-style-type: none"> Increases the percent fruit set Reduces the nut drop Increases the number of inflorescence <p>Constraints of Technology</p> <ul style="list-style-type: none"> Availability of commercial grades 	<ul style="list-style-type: none"> Poor interest on adoption Variety of brands available in market

4. Dairy Animal:

Name of technology demonstrated	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption
Effect of feeding urea- treated paddy straw along with grain mixture in dairy animals.	Feeding Trial is On-going	

4.C3. Details of Successfully completed / concluded technology assessment (support with necessary summary of data and photographs): Feeding Trial is On-going

1. Groundnut:

- **Title of Technology Assessed :** Performance assessment of groundnut varieties for better yield
- **Performance of the Technology on specific indicators:** Green fodder at time of harvest and bold seeds of G2-52 variety.
- **Specific Feedback from farmers :** Seeds should be available at RSK. G252 tastes same like TMV-2 and its oil content is also good .
- **Specific Feedback from Extension personnel and other stakeholders :** **Cost of the Seeds should be reduced and so that area will be increased under rainfed conditions**
- **Feedback to Research System based on results and feedback received :** **Seed production should be taken care to avoid the admixtures and weed management (post emergent)**
- **Feedback on usefulness and constraints of technology :** GPBD-4 and G-2 52 varieties performed well and remain green at time of harvest which is the best fodder for mulching animals Constraints : Seed availability, it should be sold at RSK

2. Maize:

- **Title of Technology Assessed :** Effect of NANO fertilizer (N and Zn) on Growth and Yield in Hybrid Maize
- **Performance of the Technology on specific indicators:** NANO nitrogen spraying two times is beneficial and time saving , cost reduction
- **Specific Feedback from farmers :** Seeds should be available at RSK. G252 tastes same like TMV-2 and its oil content is also good .
- **Specific Feedback from Extension personnel and other stakeholders :** **Protective Irrigation farmers can practise this method and it will be successful**
- **Feedback to Research System based on results and feedback received : NIL**
- **Feedback on usefulness and constraints of technology :** NANO Nitrogen and Zinc are useful and reduction in cost of production, we use these NANO as water soluble fertilizer for spraying ,

3. Drumstick

1. **Title of Technology Assessed:** Assessment of crop management strategies in drumstick for higher yield.
2. **Performance of the Technology on specific indicators:** Increased number of pods per plant was observed.
3. **Specific Feedback from farmers:** Good yield obtained in the plot where micronutrients and plant growth promoter used.
4. **Specific Feedback from Extension personnel and other stakeholders:** Application of micronutrients at right time increases the yield.
5. **Feedback to Research System based on results and feedback received:** Interaction of growth promoters with pesticides to be studied to reduce application cost.

4. Arecanut

1. **Title of Technology Assessed:** Evaluation of performance of different compost cultures to decompose arecanut husk
2. **Performance of the Technology on specific indicators:** Faster decomposition was observed in pits used compost cultures from UAS, Dharwad and UAHS, Shivamogga.
3. **Specific Feedback from farmers:** Application of compost cultures to arecanut husk can reduce the time take for its decomposition.
4. **Specific Feedback from Extension personnel and other stakeholders:** A good technology to popularise among farmers.
5. **Feedback to Research System based on results and feedback received:** An easy application and multiplication method to be developed.

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. D2. Feedback on technologies refined: Nil

Name of technology refined	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption

4.D.3. Details of Technologies refined: Nil

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 (2020)

5.A. Summary of FLDs implemented

Sl. No.	Category	Farming Situation	Season	Crop	Variety/ breed	Hybrid	Thematic area	Technology Demonstrated	Area (ha)		Farmers (No.)		Farmers (No.)	
									Proposed	Actual	SC/ST	Others	Small/ Marginal	Others
	Oilseeds													
	Pulses													
1	Pulses	Rainfed	Kharif	Redgram	BGR-5	-	ICM	Variety: BRG-5 Technology with cost breakup per ha Use of wilt tolerant medium duration variety BRG- 5 seeds:15.0 kg /ha Seed treatment ➤ Bio fertilisers- Rhizobium &, PSB @ 1kg each &Trichoderma @ 5.0 kg/ha ➤ Spray with pulse magic- 5kg/ha PP measures ➤ Installation of pheromone traps @ 8no. / ha(16 lures) ➤ Spray with profenophos @ 2ml/l- Ovicidal-	16	16	01	39	40	-

								1 l/ha ➤ Spray with neem based insecticide @3ml/l – 11 /ha ➤ Spray with indaxicarb@0.5 ml/l -200 ml / ha							
2		Rainfed	Rabi 2019-20	Bengalgram	JAKI-9218	-	ICM	Variety: JAKI 9218 Technology with cost breakup per ha ➤ Use of JAKI 9218 seeds 62.5 kg /ha Seed treatment ➤ Bio fertilisers- Rhizobium. 500g/ha ➤ Use of biofungicide <i>trichoderma</i> - 2kg/ha ➤ Spray with Chick pea magic @ 5kg/ha (10g / l) PP measures ➤ Installation of phermone traps @ 10 No/ha (20 lures) ➤ Spray with profenophos @ 2ml /l – 1.25 l/ha Spray with Chlorntraniliprole @ 0.3 ml /l	16	16	0	40	40	-	

3		Rainfed	Kharif -2020- 21	Redgram	BGR-5	-	ICM	<p>Variety: BRG-5 Technology with cost breakup per ha Use of wilt tolerant medium duration variety BRG- 5 seeds:15.0 kg /ha Seed treatment</p> <ul style="list-style-type: none"> ➤ Bio fertilisers- Rhizobium &, PSB @ 1kg each &Trichoderma @ 5.0 kg/ha ➤ Spray with pulse magic-5kg/ha <p>PP measures</p> <ul style="list-style-type: none"> ➤ Installation of pheromone traps @ 8no. / ha(16 lures) ➤ Spray with profenophos @ 2ml/l- (Ovicidal) 1 l/ha ➤ Spray with neem based insecticide @3ml/l – 1l /ha ➤ Spray with indaxicarb@0.5 ml/l -200 ml / ha 	30	30	10	97	107	-
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4		Rainfed	Rabi-2020-21	Bengalgram	JAKI-9218	-	ICM	<p>Variety: JAKI 9218</p> <p>Technology with cost breakup per ha</p> <ul style="list-style-type: none"> ➤ Use of JAKI 9218 seeds 62.5 kg /ha <p>Seed treatment</p> <ul style="list-style-type: none"> ➤ Bio fertilisers- Rhizobium. 500g/ha ➤ Use of biofungicide trichoderma- 2kg/ha ➤ Spray with Chick pea magic @ 5kg/ha (10g / l) <p>PP measures</p> <ul style="list-style-type: none"> ➤ Installation of pheromone traps @ 10 No/ha (20 lures) ➤ Spray with profenophos @ 2ml /l – 1.25 l/ha <p>Spray with Chlortraniliprole @ 0.3 ml /l</p>	20	20	-	40	40	-
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	Cereals													
5		Rainfed	Kharif 2020- 21	Maize	----	Private Hybrid	ICM	<p>Integrated crop Management in Maize</p> <ul style="list-style-type: none"> ✓ Seed rate 15kg/ha ✓ Management (Spray with Chloropyripous @ 2ml/l (Stem Borer) and Mancozeb-2.5 g/l (Downey mildew) for Maize ✓ Use of biofertilizers <i>Azospirillum</i>, PSB each/ha ✓ Spray with water soluble fertilizers Micro nutrient (11) @5ml/ and Macro nutrient @ 5g/l of water <p>FAW management</p> <ul style="list-style-type: none"> ✓ Installation of pheromone traps @ 12 no/ha (24 lures)- Fall Army worm (<i>Spodoptera frugiperde</i>)- 8 days after Sowing ✓ Spraying of 	4.0	4.0	1	9	10	-

								Chlorantraniliprole @ 150 ml / ha (0.3 ml/l of water)						
6		Irrigated	Kharif 2020-21	Paddy	RNR		ICM	<ul style="list-style-type: none"> • Use of Green manuring crop Diancha 20 kg/acre • Seed treatment with carbendazim @4g/kg • Installation of Pheromone traps in the Tray Nursery for stem borer management • Mechanized transplanting • Application of ZnSO₄ (8 kg) • Removing of weeds from bunds and fields • Maintain proper spacing and avoid excess plant population • Avoid excess N application 	08	08	0	20	20	0

	Millets													
7	Finger millet (NFSM)	Irrigated	Rabi 2019-20	Finger millet	ML-365	-	ICM	<ul style="list-style-type: none"> • High yielding variety (ML-365) • Seed treatment with Bio fertilisers • Application of recommended dose of fertilizers - 100:30: 16 kg N:P₂O₅:K₂O /ha • Spray with water soluble fertilizers • Spraying chlorpyrifos 20 EC to manage stem borer 	04	04	0	10	06	04
8	Brown top millet (NFSM)	Rainfed	Rabi 2019-20	Brown top millet	Local	-	ICM	<ul style="list-style-type: none"> • Seed treatment with Bio fertilisers Azospirillum @ 200g and PSB 200g • Application of recommended dose of fertilizers(20:10:0) • Spray with water soluble fertilizers • Spraying chlorpyrifos 20 EC to manage stem borer 	04	04	0	10	05	05

9	Vegetables													
		Irrigated	Kharif 2020- 21	Onion	Bhima Super	-	ICM	<ul style="list-style-type: none"> ✓ Use of Bhima Super variety (10 kg/ha) ✓ Application of gypsum (as source of sulphur) @ 2.5 q/ha ✓ Seed treatment with <i>Trichoderma harzianum</i> @ 4 g/kg ✓ Use of post emergent herbicide (Oxyfluorfen 23.5% EC @ 300 g/acre) ✓ Foliar nutrition with Arka Vegetable Special & water soluble fertilizers (30 and 60 DAT) @ 5 g/l ✓ 2 rows of maize as barrier crop to manage adult 	04	04	--	20	20	Irrigated

								thrips ✓ Spray with Fipronil @ 1 ml/l to control sucking pest ✓ Spray with Hexaconazole @ 1 ml/l to purple blotch						
10	Tomato	Irrigated	Kharif 2020-21	Tomato	-	Shivam (Hyveg)	ICM	<ul style="list-style-type: none"> • Soil test based nutrient application; • Use of Marigold as a trap crop (16:1) • Application of Arka Microbial Consortium (20 g for seed treatment, 20g/l – drenching 10 DAT, 5kg- Main field along with vermicompost); • Spray of vegetable special @ 5g/l; • Spray of calcium nitrate @5g/l; • Use of yellow and blue sticky traps @ 25/ha; • Use of 	04	04	02	08	06	04

								pheromone traps @ 10/ha; • Need based plant protection measures						
11	Chilli	Irrigated	Kharif 2019-20	Chilli		Seminis-Sitara	ICM	<ul style="list-style-type: none"> • Weather based agronomic practices • Soil test based nutrient application • Application of Arka Microbial Consortium (10 ml for seed treatment, 10ml/l – drenching 10 DAT, 3 ml- Main field along with vermicompost) • Spray of vegetable special @ 5g/l • Spray of calcium + boron (Calbor) @ 5ml/l • Use of yellow and blue sticky traps @ 25/ha • Need based plant protection measures 	04	04	0	10	05	05

12	Drumstick	Irrigated	Rabi 2019-20	Drumstick	KDM- 1	-	ICM	<ul style="list-style-type: none"> • Demonstration of KDM-1 (Bhagya) variety • Soil test based fertilizer application • Intercropping with pulses/groundnut • Need based plant protection measures • Market intervention 	1.2	1.2	0	3	1	2
13	Fruit													
	Banana	Irrigated	Kharif 2019- 20	Banana	Yelakki	-	IPDM	<p>Removal of affected leaves and burning</p> <ul style="list-style-type: none"> <input type="checkbox"/> Planting of seedlings in recommended spacing (6 x 6). <input type="checkbox"/> Adaptation of drainage system <input type="checkbox"/> Spraying of fungicides with petroleum based mineral oil <input type="checkbox"/> Repeat the spray depending upon incidence 	02	02	-	05	02	05

	Flowers													
	Ornamental													
	Fruit													
	Spices and condiments													
	Commercial													
	Cotton													
	Medicinal and aromatic													
14	Fodder	Irrigated	Khariief	Sorghum Lucerne Hedge Lucerne	CoFS-31 T-9 Local	- - -		Fodder Cafeteria	2.0	2.0	-	10	10	-
15	Fodder	Fodder Cafeteria (Sorghum + Lucerne + Hedge Lucerne)	CoFS-31, T-9 & Local		Irrigated	10	2.0	On going						

	Plantation													
16	Arecanut	Irrigated	Rabi Summer 2019-20	Arecanut	Channagiri Local	--	ICM	<ul style="list-style-type: none"> ✓ For every two rows one row of 2.5-3 feet drainage ✓ Loosening of soil around plant ✓ Avoiding flood irrigation ✓ Application of RDF based on soil test ✓ <i>Trichoderma</i> enriched organic manure Intercrop with velvet beans	04	04	-	-	-	-
17	Betel vine	Irrigated	Rabi 2019-20	Betel vine	Harihar a Local	--	ICM	<ul style="list-style-type: none"> ✓ Recommended RDF (0:50:50 g NPK/Vine) ✓ Controlled irrigation ✓ Drenching Copper oxy chloride @ 3 g/l @ lowering of 	02	02	--	10	10	--

								vine ✓ Drenching AMC @ 5 ml/l- Thrice Spraying <i>Verticillium lecanae</i> @ 5 ml /l						
18	Cashew	Rainfed	Kharif 2018- 19	Cashew	Vengrula -5	--	ICM	<ul style="list-style-type: none"> • Cashew seedlings var. Vengrula -5 (8x8 m- 156 pl/ha) • Redgram as intercrop in pre bearing age • Drip irrigation (Convergence with Horticulture department) • Convergence with NHM for other inputs • 	1.6	1.6	--	04	04	-

19	Cashew	Rainfed	Khari f 2018-19	Cashew	Vengrula -5	--	Cashew in Fallow lands	<ul style="list-style-type: none"> • Cashew seedlings var. Vengrula -5 (8x8 m- 156 pl/ha) • Redgram as intercrop in pre bearing age • Drip irrigation (Convergence with Horticulture department) • Convergence with NHM for other inputs • 	1.6	1.6	--	04	04	-	
	Fibre														
20	Cotton (2019-20)	Irrigated	Khari f	Cotton		Ajith - 465	ICM	<p>Maintaining proper spacing (4 x 4 feet); <input type="checkbox"/> Soil test based fertilizer application;</p> <p><input type="checkbox"/> Trap crop Bheni/Marigold (25:1); <input type="checkbox"/> Yellow sticky traps</p> <p><input type="checkbox"/> Spraying Acetamaprid 20 SP @ 0.2 g/l against sucking pest;</p> <p><input type="checkbox"/> Spraying</p>	04	04	0	10	04	06	

								of Planofix @ 1ml/4.5 l ; <input type="checkbox"/> Spraying of MgSO4 1% @ 75 & 90 DAS <input type="checkbox"/> Spraying of KNO3 @ 1% at 90 & 110 DAS						
21	Cotton	Irrigated	Khari f- 2020- 21	Cotton		Ajith - 465	ICM	Maintaining proper spacing (4 x 4 feet); <input type="checkbox"/> Soil test based fertilizer application; <input type="checkbox"/> Trap crop Bhendi/Marig old (25:1); <input type="checkbox"/> Yellow sticky traps <input type="checkbox"/> Spraying Acetamaprid 20 SP @ 0.2 g/l against sucking pest; <input type="checkbox"/> Spraying of Planofix @ 1ml/4.5 l ; <input type="checkbox"/> Spraying of MgSO4 1% @ 75 & 90 DAS <input type="checkbox"/> Spraying of KNO3 @ 1% at 90 & 110 DAS	08	08	0 4	16	12	08

22	Dairy	Home stead	Rabi/ Summer		HF x	CB	Nutrition Management	Integrated Management of Dairy Animals for better performance	14 Cows	14 Cows	-	-	14	-
23	Crossbred Female dairy calves (2019)	Homes tead	Khari f		HF x/ Jr x	CB	Nutrition Management	Feeding Colostrum/ milk and Calf starter to female calves during early stage	10 female calves	10 female calves	02	08	10	-
	Poultry													
	Rabbitry													
	Piggery													
24	Sheep and goat	Home Stead	Rabi	-	Local	-	Nutrition Management	Balanced Nutrition and Total Deworming in Small Ruminants	10 units (10 sheep per unit)	10 units	-	10	10	-
	Common carps													
25	Fisheries	Irrigate d	Khari f 2019-20	Fisheri es	<i>Catla Rohu Amur Common carp</i>	--	Producti on and Manage ment of of fisheries	Stocking of bigger size fingerlings	1.4	1.4	02	03	02	03
	Mussels													
	Ornamental fishes													
	Oyster													

	mushroom													
	Button mushroom													
	Vermicompost													
	Sericulture													
	Apiculture													
	Implements													
	Others (specify)													
26	Post Harvest Technology	Homes ted	Rabi-Summer	Pulses	-	-	Stored pests	Super grain bags to prevent stored grain pests	10 No's	10 No's	-	10	10	-
27	Nutrigarden	Irrigated	Kharif 2019-20	Vegetable crops	Local varieties		Nutritious vegetable cultivation	<ul style="list-style-type: none"> • Cultivation of local varieties • Use of Botanicals • Use of Trichoderma • Staggered sowing • Use of neem powder 	--	--	--	25	25	--

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

Sl. No.	Category	Farming Situation	Season and Year	Crop	Variety/breed	Hybrid	Thematic area	Technology Demonstrated	Season and year	Status of soil			Previous crop grown
										N	P	K	
	Oilseeds												
	Pulses												
1	Pulses	Rainfed	Kharif 2020-21	Redgram	BGR-5		ICM	Variety: BRG-5 Technology with cost breakup per ha ➤ Use of wilt tolerant medium duration variety BRG-5 seeds:15.0 kg /ha Seed treatment ➤ Bio fertilisers- Rhizobium & PSB @ 1kg each & <i>Trichoderma</i> @ 5.0 kg/ha ➤ Spray with pulse magic-5kg/ha PP measures ➤ Installation of pheromone traps @ 8no. / ha(16 lures) ➤ Spray with profenophos @ 2ml/l- Ovicidal- 1 l/ha ➤ Spray with neem based	Kharif 2020-21	L	M	M	Maize

								insecticide @3ml/l – 1l /ha ➤ Spray with indoxicarb@0.5 ml/l -200 ml / ha					
2		Rainfed	Rabi 2020- 21	Bengal gram	JAKI 9218		ICM	Variety: JAKI 9218 Technology with cost breakup per ha ➤ Use of JAKI 9218 seeds 62.5 kg /ha Seed treatment ➤ Bio fertilisers- Rhizobium. 500g/ha ➤ Use of biofungicide trichoderma- 2kg/ha ➤ Spray with Chick pea magic @ 5kg/ha (10g / l) PP measures ➤ Installation of pheromone traps @ 10 No/ha (20 lures) ➤ Spray with profenophos @ 2ml /l – 1.25 l/ha Spray with Chlorntraniliprole @ 0.3 ml /l	Rabi 2020- 21	L	M	M	Bengalgram

3	Pulses	Rainfed	Kharif - 2019- 20	Redgram	BGR- 5		ICM	<p>Variety: BRG-5 Technology with cost breakup per ha</p> <ul style="list-style-type: none"> ➤ Use of wilt tolerant medium duration variety BRG- 5 <p>seeds:15.0 kg /ha</p> <p>Seed treatment</p> <ul style="list-style-type: none"> ➤ Bio fertilisers- Rhizobium &, PSB @ 1kg each & <i>Trichoderma</i> @ 5.0 kg/ha ➤ Spray with pulse magic- 5kg/ha <p>PP measures</p> <ul style="list-style-type: none"> ➤ Installation of pheromone traps @ 8no. / ha(16 lures) ➤ Spray with profenophos @ 2ml/l- Ovicidal- 1 l/ha ➤ Spray with neem based insecticide @3ml/l – 1l /ha ➤ Spray with indaxicarb@0.5ml/l - 200 ml / ha 	Kharif- 2019- 20	L	M	M	Maize
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4		Rainfed	Rabi 2019- 20	Bengal gram	JAKI 9218		ICM	Variety: JAKI 9218 Technology with cost breakup per ha ➤ Use of JAKI 9218 seeds 62.5 kg /ha Seed treatment ➤ Bio fertilisers- Rhizobium. 500g/ha ➤ Use of biofungicide trichoderma- 2kg/ha ➤ Spray with Chick pea magic @ 5kg/ha (10g / l) PP measures ➤ Installation of phermone traps @ 10 No/ha (20 lures) ➤ Spray with profenophos @ 2ml /l – 1.25 l/ha Spray with Chlorntraniliprole @ 0.3 ml /l	Rabi 2019- 20	L	M	M	Bengalgram
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5	Cereals	Rainfed	Khari f	Maize	-	Private d Hybrid	ICM	<p>Integrated crop Management in Maize</p> <ul style="list-style-type: none"> ✓ Seed rate 15kg/ha ✓ Management (Spray with Chloropyripos @ 2ml/l (Stem Borer) and Mancozeb-2.5 g/l (Downey mildew) for Maize ✓ Use of biofertilizers <i>Azospirillum</i>, PSB each/ha ✓ Spray with water soluble fertilizers Micro nutrient (11) @5ml/ and Macro nutrient @ 5g/l of water <p>FAW management</p> <ul style="list-style-type: none"> ✓ Installation of pheromone traps @ 12 no/ha (24 lures)- Fall Army worm (<i>Spodoptera frugiperde</i>)- 8 days after Sowing ✓ Spraying of Chlortraniliprole @ 150 ml / ha (0.3 ml/l of water) 	2020	L	M	M	Maize
6	Millets												
	Finger millet (NFSM)	Irrigated	Rabi	Finger millet	ML-365	-	ICM	<ul style="list-style-type: none"> • High yielding variety (ML-365) • Seed treatment with Bio fertilisers • Application of recommended dose of fertilizers - 100:30:16 kg N:P₂O₅:K₂O /ha • Spray with water soluble fertilizers • Spraying chlorpyrifos 20 EC to manage stem borer 	Rabi 2020	M	M	L	Maize

7	Brown top millet (NFSM)	Rainfed	Rabi	Brown top millet	Local	-	ICM	<ul style="list-style-type: none"> • Seed treatment with Bio fertilisers <i>Azospirillum</i> @ 200g and PSB 200g • Application of recommended dose of fertilizers(20:10:0) • Spray with water soluble fertilizers • Spraying chlorpyrifos 20 EC to manage stem borer 	Rabi 2020	M	M	H	Onion
	Vegetables												
8	Onion	Irrigated	Khari f 2019-20	Onion	Bhima Super	--	ICM	<ul style="list-style-type: none"> ✓ Use of Bhima Super variety (10 kg/ha) ✓ Application of gypsum (as source of sulphur) @ 2.5 q/ha ✓ Seed treatment with <i>Trichoderma harzianum</i> @ 4 g/kg ✓ Use of post emergent herbicide (Oxyfluorfen 23.5% EC @ 300 g/acre) ✓ Foliar nutrition with Arka Vegetable Special & water soluble fertilizers (30 and 60 DAT) @ 5 g/l ✓ 2 rows of maize as barrier crop to manage adult thrips ✓ Spray with Fipronil @ 1 ml/l to control sucking pest Spray with Hexaconazole @ 1 ml/l to purple blotch 	Khari f 2019	M	M	M	Maize

9	Tomato	Irrigated	Kharif	Tomato	-	Shivam (Hyveg)	ICM	<ul style="list-style-type: none"> • Soil test based nutrient application; • Use of Marigold as a trap crop (16:1) • Application of Arka Microbial Consortium (20 g for seed treatment, 20g/l – drenching 10 DAT, 5kg- Main field along with vermicompost); • Spray of vegetable special @ 5g/l; • Spray of calcium nitrate @5g/l; • Use of yellow and blue sticky traps @ 25/ha; • Use of pheromone traps @ 10/ha; • Need based plant protection measures 	Khari f	L	H	L	Onion
10	Chilli	Irrigated	Kharif	Chilli		Seminis - Sitara	ICM	<ul style="list-style-type: none"> • Weather based agronomic practices • Soil test based nutrient application • Application of Arka Microbial Consortium (10 ml for seed treatment, 10ml/l – drenching 10 DAT, 3 ml- Main field along with vermicompost) • Spray of vegetable special @ 5g/l • Spray of calcium + boron (Calbor) @ 5ml/l • Use of yellow and blue sticky traps @ 25/ha • Need based plant protection measures 	Rabi	M	M	L	Maize

1 1	Drumstick	Irrigated	Rabi	Drumstick	KDM- 1		ICM	<ul style="list-style-type: none"> • Demonstration of KDM-1 (Bhagya) variety • Soil test based fertilizer application • Intercropping with pulses/groundnut • Need based plant protection measures • Market intervention 	Rabi	M	M	L	Maize
	Terrace gardening												
	Flowers												
	Ornamental												
	Fruit												
1 2	Banana	Irrigated	Khari f 2019	Banana	Yelakk i	-	IPDM	Removal of affected leaves and burning <input type="checkbox"/> Planting of seedlings in recommended spacing (6 x 6). <input type="checkbox"/> Adaptation of drainage system <input type="checkbox"/> Spraying of fungicides with petroleum based mineral oil <input type="checkbox"/> Repeat the spray depending upon incidence	Khari f 2019	M	M	M	Maize

	Spices and condiments												
	Commercial												
	Medicinal and aromatic												
	Fodder												
	Hydroponic												
	Plantation												
13	Areca nut	Irrigated	Rabi Summer 2019-20	Areca nut	Channagiri Local	--	ICM	<ul style="list-style-type: none"> ✓ For every two rows one row of 2.5-3 feet drainage ✓ Loosening of soil around plant ✓ Avoiding flood irrigation ✓ Application of RDF based on soil test ✓ <i>Trichoderma</i> enriched organic manure ✓ Intercrop with velvet beans 	Rabi Summer 2010	L	M	H	Areca nut

14	Betel vine	Irrigated	Rabi 2019-20	Betel vine	Harihar a local	--	ICM	<ul style="list-style-type: none"> ✓ RDF (0:50:50 g NPK/Vine) ✓ Controlled irrigation ✓ Drenching Copper oxy chloride @ 3 g/l @ lowering of vine ✓ Drenching AMC @ 5 ml/l- Thrice and Spraying <i>Verticillium lecaniae</i> @ 5 ml /l 	Rabi 2019-20	L	M	M	Betelvine
15	Cashew	Rainfed	Kharif 2018-19	Cahsew	Vengrula-5	--	ICM	<ul style="list-style-type: none"> • Cashew seedlings var. Vengrula -5 (8x8 m- 156 pl/ha) • Redgram as intercrop in pre bearing age • Drip irrigation (Convergence with Horticulture department) • Convergence with NHM for other inputs 	Khari f 2018-19	M	M	M	Maize
16	Cashew	Rainfed	Kharif 2018-19	Cahsew	Vengrula-5	--	Use of fallow lands	<ul style="list-style-type: none"> • Cashew seedlings var. Vengrula -5 (8x8 m- 156 pl/ha) • Redgram as intercrop in pre bearing age • Drip irrigation (Convergence with Horticulture department) • Convergence with NHM for other inputs 	Khari f 2018-19	M	M	M	Maize

	Fibre												
17	Cotton	Irrigated	Kharif 2019-20	Cotton		Ajith - 465	ICM	Maintaining proper spacing (4 x 4 feet); <ul style="list-style-type: none"> • Soil test based fertilizer application; • Trap crop Bhendi/Mari gold (25:1); • Yellow sticky traps • Spraying Acetamaprid 20 SP @ 0.2 g/l against sucking pest; • Spraying of Planofix @ 1ml/4.5 l; • Spraying of MgSO4 1% @ 75 & 90 DAS • Spraying of KNO3 @ 1% at 90 & 110 DAS 	Kharif 2019-20	M	M	L	Cowpea

18	Cotton	Irrigated	Kharif 2020-21	Cotton	Irrigated	Ajith - 465	ICM	<ul style="list-style-type: none"> • Maintaining proper spacing (4 x 4 feet); • Soil test based fertilizer application; Trap crop Bhendi/Marigold (25:1); Yellow sticky traps • Spraying Acetamaprid 20 SP @ 0.2 g/l against sucking pest; • Spraying of Planofix @ 1ml/4.5 l ; • Spraying of MgSO4 1% @ 75 & 90 DAS • Spraying of KNO3 @ 1% at 90 & 110 DAS 	Kharif 2020-21	L	M	M	Maize
19	Fisheries	Irrigated	Kharif 2019-20	Fisheries	<i>Catla</i> <i>Rohu</i> <i>Amur</i> <i>Common carp</i>		Production and mangement of fisheries	<ul style="list-style-type: none"> • Stocking of bigger size of fishes 	Kharif 2019-20	L	M	M	
	Others							<ul style="list-style-type: none"> • 					
20	Post Harvest Technology	Homested	Rabi-Summer 2020-21	Pulses	—	—	Stored pests	<ul style="list-style-type: none"> • Super grain bags to prevent stored grain pests. 	Rabi-Summer 2020-21	—	-	-	-

21	Nutrigarden	Irrigated	Kharif 2019-20	Vegetable crops	Local varieties	--	Nutritious vegetable cultivation	<ul style="list-style-type: none"> • Cultivation of local varieties • Use of Botanicals • Use of Trichoderma • Staggered sowing • Use of neem powder 	Kharif 2019-20	M	M	L	vegetables
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5.B. Results of FLDs

5.B.1. Crops

Crop	Name of the technology demonstrated	Variety	Hybrid	Farming situation	No. of Demo.	Area (ha)	Yield (q/ha)			Check	% Increase	Economics of demonstration (Rs./ha)			Economics of Check (Rs./ha)		
							Demo					Gross Return	Net Return	BCR	Gross Return	Net Return	BCR
							H	L	A								
Oilseeds																	
Pulses																	
	• Integrate Crop Management in Redgram	BRG-5	-	Rainfed	107	30	13.8	9.5	12.21	8.8	38.84	63533	23111	1.57	46213	7568	1.19
	• Integrate Crop Management in Bengalgram	JAKI 9218	-	Rainfed	40	20	12.3	8.3	10.59	7.8075	35.76	48296	23826	1.972	35602	12158	1.52

Cereals																	
	Integrated Crop Management in Rice	BPT sona	-	Irrigated	20	08	60.3	56.5	58.24	56.13	3.75	98999.5	43249.5	1.78	95421	32421	1.51
Millets																	
Finger millet	<ul style="list-style-type: none"> • High yielding variety (ML-365) • Seed treatment with Bio fertilisers • Application of recommended dose of fertilizers - 100:30: 16 kg N:P₂O₅:K₂O /ha • Spray with water soluble fertilizers • Spraying chlorpyrifos 20 EC to manage stem borer 	ML-365	-	Irrigated	10	04	27.4	20.4	25.7	21.3	20.7	71960.00	37510.00	2.10	59640.00	25850.00	1.77

Browntop millet	<ul style="list-style-type: none"> • Seed treatment with Bio fertilisers Azospirillum @ 200g and PSB 200g • Application of recommended dose of fertilizers(20:10:0) • Spray with water soluble fertilizers • Spraying chlorpyrifos 20 EC to manage stem borer 	Local	-	Rainfed	10	04	9.3	14.3	11.16	9.7	15.05	62496.00	39946.00	2.81	54320.00	33070.00	2.59	
Flowers																		
Ornamental																		

Fruit																	
Banana	Removal of affected leaves and burning <input type="checkbox"/> Planting of seedlings in recommended spacing (6 x 6). <input type="checkbox"/> Adaptation of drainage system <input type="checkbox"/> Spraying of fungicides with petroleum based mineral oil <input type="checkbox"/> Repeat the spray depending upon incidence	Yelakk i	-	Irrigate d	0 5	0 2	198. 7	171. 3	187.6 4	165.8 4	13. 1	469100.0 0	299300.0 0	2.7 6	414600.0 0	247030.0 0	2.5 0
Spices and condiment s																	
Commercial																	

Fibre																			
Medicinal and aromatic																			
Fodder																			
Vegetables																			
Drumstick (2019-20)	<ul style="list-style-type: none"> • Demonstration of KDM-1 (Bhagya) variety • Soil test based fertilizer application • Intercropping with pulses/groundnut • Need based plant protection measures 	KDM-1	-	Irrigated	03	0.6	Crop is in pod formation stage												

Drumstick	<ul style="list-style-type: none"> • Integrated Nutrient Management; • Intercropping with pulses/groundnut • Pruning at the height of 2.5 ‘; • Treatment with COC after pruning; • Spraying of Potassium nitrate @ 5g/l; • Spraying with NAA@ 0.4ml/l to prevent flower dropping; • Spraying of micronutrient mixture @ 5ml/l; • Need based plant protection measures; • Marketing through FPO 	KDM-1	-	Irrigated	05	02	Crop is in pod formation stage
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Onion	Integrated crop Management	Bhima Super	--	Irrigated	20	04	149	133	141.15	117.75	20.51	176625	46160	1.36	211725	97360	1.86
Plantation																	
Arecanut 2019-20	Integrated crop Management	Channagiri Local	--	Irrigated	10	04	24.1	20.1	22.20	14.03	58.23	491050	385640	4.66	777175	637113	5.55
Arecanut (2020-21)	Integrated crop Management	Channagiri local	-	Irrigated	20	8	Ongoing crops is at flowering stage										
Betel vine (Numbers) 2019-20)	Integrated crop Management	Harihara Local	--	irrigated	10	02	984503	893745	944011	737140	28	221142	86528	1.64	283203	138932	1.96
Betelvine (2020-21)	IPDM	Harihara local	-	Irrigated	10	2	Ongoing-Lowering of vine has been done										
Cashew (2018-19)	Integrated crop Management	Vengrula 5	--	Rainfed	04	1.6	Crop is at fruit bearing stage										
Cashew (2018-19)	Use of fallow lands	Vengrula 5	--	Rainfed	04	1.6	Crop is at fruit bearing stage										
Blackpepper	IDM	Paniyur-I		Irrigated	5	1	Ongoing-Crops is at harvesting stage										
Fibre																	
Fodder	Integrated crop Management	COFS-31, Lurcerne, Edge Lucerne		Irrigated	10	2	Ongoing crop is at 1 st harvesting stage										
Post Harvest Technology	Super grain bags to prevent stored grain pests	-	-	Homestead	20	-	Seeds storage of pulses started										
Nutrigarden 2019-20	Nutritious vegetable cultivation	Local varieties	--	Irrigated	25	--	8.3	5.2	7.4	5.8	27.15	35618	25920	1.37	43728	29834	1.46

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

1. Onion

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Germination (%)	89.9	83.35
Average Weight of five Bulbs (g)	83.4	72.7
Marketable yield (q/ha)	74.7	59.5

2. Arecanut

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Percent incidence of Hidimundige	15.1	5.62
Percent of nut splitting and dropping	11.81	3.45

3. Betel vine

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Wilt (%)	7.9	15.03
Sucking insects (%)	6.25	16.39

4. Paddy:

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Plant height (cm)	89.7	88.5
No. of productive tillers / plant	18.3	18.2
Stem borer management sprays	01	03

5. Maize:

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Plant height (cm)	230.2	227.8
No.of rows/cob	16.1	14.2
No. of Sprays for managing FAW	2	5

6. Fingermillet

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Number of fingers /head	5.67	5.13
Plant Height (cm)	75.18	70.66

7. Browntop millet

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Plant Height (cm)	54.2	49.66

8. Tomato

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
No. of fruits /plant	44.5	40.9
Weight of fruit (g)	112.07	109.87
Incidence of american leaf minor (%)	8.44	19.41

9. Chilli

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Plant Height (cm)	86.93	85.21
No. of fruits /plant	86.2	78
Incidence of leaf curl (%)	9.58	20.28

10. Cotton (2019-20)

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Squire dropping (%)	5.68	12.94
Leaf reddening (%)	6.44	25.14
No. of bolls/plant	69.9	67.8

11. Cotton

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check
Squire dropping (%)	6.25	13.26
Leaf reddening (%)	7.08	25.89
No. of bolls/plant	73.5	67.8

5. B2. Feedback on technologies demonstrated

Name of technology demonstrated	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption
Paddy – Mechanized Transplanting	Useful – Timely planting and reduction in the cost of production Constraints : Machine handling and repair is difficult and No subsidy for Transplanter from department of Agriculture.	Labour problem will be solved for transplanting
Conoweeder	Useful- Timely weeding and due to its movement in the field , aeration will be more Constraints: Mechanized cono weeder are not easily available for farmers on rental basis .	-
Maize – Use of Pheromone traps against FAW	Useful- Identification and indication of FAW in the maize field, farmers took correct measures to rectify it. Constraints: Not easily available in the market ,	By management of FAW at intial stage yield will be increased.
Arka Microbial Consortium	Useful Characteristics: Effective at field levele Increases nutrient availability. Improve soil fertility.	Not Available in regular market.
Onion-Bhima Super	Useful Character <ul style="list-style-type: none"> • Red onion variety • Suitable for late kharif • Potential yield 40-45 t/ha in late kharif • Uniform bulb maturity in 100-120 days Constraints of Technology <ul style="list-style-type: none"> • Availability of seed • Poor knowledge on seed production 	<ul style="list-style-type: none"> • Poor interest on adoption of new variety • Heavy Rainfall during crop growth • No seed treatment methods

Betelvine-Arka Microbial Consortium	<u>Useful Character</u> <ul style="list-style-type: none"> Increases the uptake of nutrients Increases the resistance Mobility of nutrients <u>Constraints of Technology</u> <ul style="list-style-type: none"> Availability of AMC 	<ul style="list-style-type: none"> Using along with chemicals Variety of brands available in market
Vegetable special	Effective at field level cost effective	<ul style="list-style-type: none"> Not available in market

5.B.3. Livestock and related enterprises

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								
Crossbred Female Dairy Calves (2019)	Feeding Colostrum/ milk and Calf starter to female calves during early stage	HF x/Jrx	10	10	Body Weight gain (Kg)	221	113	158	111	42.34	25000	10600	1.74	15000	4200	1.38
Dairy	Integrated Management of Dairy Animals	HF x / Jr x	14	14	1)Milk Yield/Lactation (l) 2)Cost of Feeding (Rs/ l) 3)No.of AI/AIs for conceiving	Feeding trial is going on										

Sheep and goat	Controlling parasitic infestations & feeding small ruminants based on Indian Standards for better performance	Local (Bellary x)	10	100 sheep	1)Body Weight gain (kg) 2)Mortality rate (%) 3)Cost of Meat Production (Rs/kg)	Yet to implement
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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
Feeding Cost /day (Rs.)	80.00	60.00
Age at Puberty (days)	257	314

5. B4. Feedback on livestock technologies demonstrated

Name of livestock technology demonstrated	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption
Feeding Colostrum/ milk and Calf starter to female calves during early stage	1.This technology helped farmers in developing good quality dairy animals at source 2.This technology helpful in obtaining disease resistant & high producing animals at Cheaper cost.	1.Availability of calf starter, Vitamins& Minerals supplements regularly at nearby place at reasonable price is a problem

5.B.5. Fisheries

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 Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
						H	L	A										
Common carps																		
Fisheries (2019-20)	Stocking of bigger size fingerlings	<i>Catla, Rohu, Amur Common carp</i>	05	1.4	Yield (q/ha)	47	40	43.8	15	65.75	111000	481800	370800	4.366	60000	135000	75000	2.25
Mussels																		
Ornamental fishes																		
Others (pl.specify)																		

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

Data on other parameters in relation to technology demonstrated		
Parameter with unit	Demo	Check if any
Average body weight (g)	970	800

5. B6. Feedback on fisheries technologies demonstrated

Name of fisheries technology demonstrated	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption
01	<ul style="list-style-type: none"> Controlled sustainable feeding is possible Good qualities fingerlings availability is still a limitation 	Poaching, natural enemies like birds and snakes

5.B.7. Other enterprises

Enterprise	Name of the technology demonstrated	Variety/ species	No. of Demo	Units/ Area {m ² }	Name of the parameter with unit	Yield			% Increase	*Economics of demonstration (Rs./unit) or (Rs./m ²)			*Economics of check (Rs./unit) or (Rs./m ²)				
						Demo				Check if any	Gross Return	Net Return	** BCR	Gross Return	Net Return	** BCR	
						H	L	A									
Oyster mushroom																	
Button mushroom																	
Vermicompost																	
Sericulture																	
Apiculture																	
Others (pl.specify)																	

Data on additional parameters other than yield (viz., additional income realized, employment generation, quantum of farm resources recycled etc.)

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

5. B8. Feedback on enterprises demonstrated

Name of enterprise demonstrated	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption

5.B.9. Farm implements and machinery

Name of the implement	Cost of the implement in Rs.	Name of the technology demonstrated	No. of Demo	Area covered under demo in ha	Name of the operation with unit	Labour requirement in Mandays		% save	Savings in labour (Rs./ha)	*Economics of demonstration (Rs./ha)			*Economics of check (Rs./ha)		
						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.)

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

5. B10. Feedback on farm implements demonstrated

Name of farm implement demonstrated	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption

5.B.11.Extension and Training activities under FLD

1.Onion

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	01	38	
2	Farmers Training	03	82	
3	Media coverage	04	--	TV Programme
4	Training for extension functionaries	01	23	
5	Others (Please specify)			

2. Arecanut

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	01	23	
2	Farmers Training	03	87	
3	Media coverage	3		TV Programme
4	Training for extension functionaries	01	32	
5	Others (Please specify)			

3. Betel vine

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	01	16	
2	Farmers Training	02	38	
3	Media coverage	01		TV Programme
4	Training for extension functionaries	01	54	
5	Others (Please specify)			

4. Paddy

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Field days	01	31	13.11.2020- Organized in collaboration with SKDRDP, Davanagere
2	Farmers Training	03	71	5.8.2020: : Integrated Nutrient management in paddy 31.8.2020 : Importance of Micro nutrient (ZnSO ₄) in Paddy 26.09.2020 : Importance of Micro nutrient and IPM in Paddy
3	Media coverage- News paper	05	=	Vijay Karnataka- 22.9.2020 (Stem borer management) Janthavani -9.8.2020, (Use of pheromone traps in paddy) 29.8.2020: Use of cono weeder in paddy 22.9.2020: use of Micro nutrients spray in paddy 03.11.2020: Field day
	Television	03		Digvijay Neegilayogi : Green manuring in paddy Mechanised transplanting in paddy Stem borer management in paddy
4	Training for extension functionaries			
5	Others (Please specify)			
	Method demonstration	02	118	20.7.2020- Mechanized transplanting in FLD plots 25.8.2020- Use of Cono weeder for weed management

5. Maize

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Field days	01	25	8.10.2020: organized field day at Agasanakatte in collaboration with Department of Agriculture .
2	Farmers Training	02	44	24.6.2020 : Fall army worm management 13.8.2020 : Integrated Pest Management
3	Media coverage- News paper	01		Jamathavani – 20.6.2020 - Management of Fall Army worm -
	Television	02		Digvijay Neegilayogi Maize – FAW management Stem borer management
4	Training for extension functionaries			

5	Others (Please specify)			
a	Method demonstration	01	14	24.6.2020 : Method demonstration of FAW trap installation 27.6.2020 : Preparation of Spray mixture for FAW management
b	Field visit	02	34	5.7.2020: Observation of FAW in pheromone traps 1.9.2020: Problem with FAW at later stages of the crop (cob formation)

6. Finger millet

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	-	--	
2	Farmers Training	02	28	
3	Media coverage	01	-	
4	Training for extension functionaries	-	-	
5	Others (Please specify)- Field visit	04	28	

7. Browntop millet

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	01	42	
2	Farmers Training	01	21	
3	Media coverage	01	-	
4	Training for extension functionaries	-	-	
5	Others (Please specify)-Field visit	03	18	

8. Tomato

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	01	21	
2	Farmers Training	03	42	
3	Media coverage	02	-	News Paper and Radio
4	Training for extension functionaries	-	-	
5	Others (Please specify)Method demonstation	04	43	
6	Field visits	05	41	

9. Chilli

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	-	-	
2	Farmers Training	03	37	
3	Media coverage	01	-	
4	Training for extension functionaries	-	-	
5	Others (Please specify)-Method demonstration	04	32	
6	Field visits	05	23	

10. Banana

Sl.No.	Activity	No. of activities organised	Number of participants	Remarks
1	Field days	-	-	
2	Farmers Training	01	07	
3	Media coverage	-	-	
4	Training for extension functionaries	-	-	
5	Others (Please specify)Method Demonstration	02	10	
6	Field visits	03	10	

11. Fodder Cafeteria

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Field days	-	-	-
2	Farmers Training	01	12	Conducted in DFI Village
3	Media coverage	01	-	AIR Chitradurga
4	Training for extension functionaries	01	21	Through Webinar
5	Others (Please specify)	-	-	-

12. Integrated Management of Dairy Animals

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Field days	-	-	-
2	Farmers Training	01	16	On-Campus
3	Media coverage	01	-	AIR Chitradurga
4	Training for extension functionaries	01	40	For Dept Officials
5	Others (Please specify)	--	-	-

13. Balanced Nutrition and Total deworming in Small Ruminants

Sl.No.	Activity	No. of activities organized	Number of participants	Remarks
1	Field days	-	-	-
2	Farmers Training	01	22	On-Campus
3	Media coverage	-	-	-
4	Training for extension functionaries	-	-	-
5	Others (Please specify)	-	-	-

PART VI – DEMONSTRATIONS ON CROP HYBRIDS (2020)

Demonstration details on crop hybrids

Type of Breed	Name of the technology demonstrated	Name of the hybrid	No. of Demo	Area (ha)	Yield (q/ha)				% Increase	*Economics of demonstration (Rs./ha)			*Economics of check (Rs./ha)		
					Demo			Check		Gross Return	Net Return	** BCR	Gross Return	Net Return	** BCR
					H	L	A								
Cereals															
Bajra															
Maize	Integrated crop management in Maize	Private	10	04	50.75	46.25	49.15	45.05	9.10	66359.25	25344.25	1.62	60817.5	18822.5	1.45
Paddy															
Sorghum															
Wheat															
Others (pl.specify)															
Total															
Oilseeds															
Castor															
Mustard															
Safflower															
Sesame															
Sunflower															
Groundnut															
Soybean															
Others (pl.specify)															
Total															
Pulses															
Greengram															
Blackgram															
Bengalgram															
Redgram															
Others (pl.specify)															

Total															
Vegetable crops															
Bottle gourd															
Capsicum															
Others (pl.specify)															
Total															
Cucumber															
Tomato	Integrated Crop Mangement in Tomato	Shivam (Hyveg)	10	04	54.24	67.05	60.00	53.09	13.03	270027.00	201683.00	3.96	238887.00	169513.00	3.45
Brinjal															
Okra															
Onion															
Potato															
Field bean															
Chilli	Micronutrient Management in Chilli	Sitara (Seminis)	10	04	143.1	173.4	159.7	144.6	10.4	191646.00	116320.00	2.56	173526.00	96896.00	2.27
Others (pl.specify)															
Total															
Commercial crops															
Sugarcane															
Cotton (2019-20)	Integrated Crop Management in Cotton	Ajith 465	10	04	15.43	20.95	17.74	16.68	6.3	62486.00	25334.00	1.68	58380.00	19002.00	1.48
Cotton (2020-21)	Integrated Crop Management in Cotton	Ajith 465	20	08	17.2	22.7	20.19	18.24	10.6	88820.00	39365.00	1.80	80271.00	32511.00	1.68
Coconut															
Others (pl.specify)															

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

Feedback on crop hybrids demonstrated

Name of crop hybrid demonstrated	Useful characters as well as constraints of technology	Socio-economic as well as administrative constraints for its adoption

PART VII. TRAINING (2020)

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management	1	23	2	25	1	0	1	24	2	26
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										
Integrated Crop Management	2	42	16	58	0	0	0	42	16	58
Soil and Water Conservation										
Integrated Nutrient Management	7	148	10	158	10	0	10	158	10	168
Production of organic inputs										
Others – Seed treatment	2	65	17	82	2	0	2	67	17	84
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop	2	37	5	42	0	0	0	37	5	42
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl.specify)										

Others (pl.specify) Use of bio-fertilizars in vegetables	1	21	2	23	0	0	0	21	2	23
Nutri-garden and Kitchen garden	4	9	115	124	0	0	0	9	115	124
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl.specify)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl.specify)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others - Coconut tree climbing and plant protection										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology	2	26	0	26	2	0	2	28	0	28

Processing and value addition										
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated nutrient management	2	23	0	23	0	0	0	23	0	23
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops	3	43	0	43	14	0	14	57	0	57
Nutrient use efficiency										
Balanced use of fertilizers										
Soil and water testing	1	21	2	23	0	0	0	21	2	23
Others (pl.specify)										
Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	3	27	0	27	0	0	0	27	0	27
Animal Disease Management										
Feed and Fodder technology										
Production of quality animal products										
Others – Sheep rearing	1	0	0	0	15	12	27	15	12	27
Home Science/Women empowerment										

Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment										
Location specific drudgery production										
Rural Crafts										
Women and child care										
Others (pl.specify)										
Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl.specify)										
Plant Protection										
Integrated Pest Management	6	130	6	136	9	0	9	139	6	145
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										

Others (pl.specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others – Fish disease management										
Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production										

Apiculture										
CapacityBuilding and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Others (pl.specify) Crop survey through mobile application	2	29	28	57	0	0	0	29	28	57
Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
TOTAL	43	644	203	847	53	12	726	697	215	912

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification	1	25	0	25	0	0	0	25	0	25
Integrated Farming										
Micro Irrigation/Irrigation										
Seed production										
Nursery management										

Integrated Crop Management										
Soil and Water Conservation										
Integrated Nutrient Management										
Production of organic inputs										
Others (pl.specify) seed treatment	1	10	0	10	0	0	0	10	0	10
Horticulture										
a) Vegetable Crops										
Production of low value and high volume crop										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl.specify)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl.specify)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										

Propagation techniques of Ornamental Plants										
Others (pl.specify)										
d) Plantation crops										
Production and Management technology	1	66	0	66	0	0	0	66	0	66
Processing and value addition										
Others (pl.specify)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl.specify)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl.specify)										
Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated nutrient management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient use efficiency										
Balanced use of fertilizers										
Soil and water testing										

Others (pl.specify)										
Livestock Production and Management										
Dairy Management	3	198	0	198	0	70	70	198	70	268
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	1	13	0	13	0	0	0	13	0	13
Animal Disease Management										
Feed and Fodder technology										
Production of quality animal products										
Others (pl.specify)										
Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment										
Location specific drudgery production										
Rural Crafts										
Women and child care										
Others (pl.specify)										
Agril. Engineering										
Farm machinery and its maintenance										
Installation and maintenance of micro irrigation systems										

Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl.specify)										
Plant Protection										
Integrated Pest Management										
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl.specify)										
Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing	1	16	0	16	0	0	0	16	0	16
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl.specify)										
Production of Inputs at site										

Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom production										
Apiculture										
CapacityBuilding and Group Dynamics										
Leadership development										
Group dynamics	1	15	0	15	0	0	0	15	0	15
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
Others (pl.specify) Crop survey through mobile app	1	27	0	27	0	0	0	27	0	27
Farm act 2020	1	28	0	28	0	0	0	28	0	28
Agro-forestry										
Production technologies	1	30	0	30	0	0	0	30	0	30
Nursery management										
Integrated Farming Systems										
Others (Pl. specify)										
TOTAL	12	428	0	428	0	70	70	428	70	498

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops	1	19	39	58	1	1	2	20	40	60
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										

Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify) Soil health management	1	26	35	61	12	11	23	38	46	84
Orientation of PUC students for farm courses	1	62	0	62	0	0	0	62	0	62
ASCI trainings assessment	2	38	0	38	2	0	2	40	0	40
TOTAL	5	145	74	219	15	12	27	160	86	246

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										

Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
TOTAL										

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	1	27	0	27	0	30	30	27	30	57
Integrated Pest Management										
Integrated Nutrient management	1	8	64	72	16	74	90	24	138	162
Rejuvenation of old orchards										
Protected cultivation technology	1	12	14	26	2	27	29	14	41	55
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	2	60	8	68	0	72	72	60	80	140

Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
Total	5	107	86	193	18	203	221	125	289	414

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	1	11	16	27	4	1	5	15	17	32
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 (pl.specify)										
Total	1	11	16	27	4	1	5	15	17	32

7.G. Sponsored training programmes conducted

S.No.	Area of training	No. of Courses	No. of Participants									
			General			SC/ST			Grand Total			
			Male	Female	Total	Male	Female	Total	Male	Female	Total	
1	Crop production and management											
1.a.	Increasing production and productivity of crops	4	135	19	154	1	0	1	136	19	155	
1.b.	Commercial production of vegetables	2	75	33	108	0	0	0	75	33	108	
2	Production and value addition											
2.a.	Fruit Plants	1	74	0	74	0	0	0	74	0	74	
2.b.	Ornamental plants											
2.c.	Spices crops											
3.	Soil health and fertility management	3	44	72	116	0	0	0	44	72	116	
4	Production of Inputs at site	1	15	31	46	0	0	0	15	31	46	
5	Methods of protective cultivation											
6	Others (pl.specify) Nutri garden and terrace garden	2	16	53	69	0	27	27	16	80	106	
7	Post harvest technology and value addition											
7.a.	Processing and value addition											
7.b.	Others (pl.specify)											
8	Farm machinery											
8.a.	Farm machinery, tools and implements											
8.b.	Others (pl.specify)											
9.	Livestock and fisheries											
10	Livestock production and management											
10.a.	Animal Nutrition Management											
10.b.	Animal Disease Management											
10.c.	Fisheries Nutrition											
10.d.	Fisheries Management											
10.e.	Others (pl.specify)											
11.	Home Science											
11.a.	Household nutritional security											
11.b.	Economic empowerment of women											
11.c.	Drudgery reduction of women											
11.d.	Others (pl.specify) Production technology of mushroom	1	78	0	78	0	0	0	78	0	78	
12	Agricultural Extension											
12.a.	CapacityBuilding and Group Dynamics	1	32	0	32	8	0	8	32	0	32	
12.b.	Others (pl.specify) Nursery Management	1	59	6	65	9	2	11	68	8	76	
	Guidelines for horticulture crops under MGNREGA	1	72	0	72	0	0	0	72	0	72	
	Total	17	600	318	918	18	29	47	618	347	965	

Details of sponsoring agencies involved

1. PKVY project

2. Department of Horticulture

3. Bapuji Dental Collage, Davanagere

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

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 (pl.specify)													
2	Post harvest technology and value addition													
2.a.	Value addition													
2.b.	Others (pl.specify)													
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 (pl.specify)													
4.	Income generation activities													
4.a.	Vermi-composting													
4.b.	Production of bio-agents, bio-pesticides, bio-fertilizers etc.													
4.c.	Repair and maintenance of farm machinery and implements													
4.d.	Rural Crafts													
4.e.	Seed production													
4.f.	Sericulture													
4.g.	Mushroom cultivation													

4.h.	Nursery, grafting etc.														
4.i.	Tailoring, stitching, embroidery, dying etc.														
4.j.	Agril. para-workers, para-vet training														
4.k.	Others (pl.specify)														
5	Agricultural Extension														
5.a.	Capacity building and group dynamics														
5.b.	Others (pl.specify)														
	Grand Total														

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		
1	Friends of Coconut Tree	27-01-2020	20-02-2020	20	18	0	18	2	0	2	20	0	20	19-08-2020	20
2.	Dairy entrepreneurship	21-01-2020	19-02-2020	20	14	0	14	6	0	6	20	0	20	20-08-2020	20

PART VIII – EXTENSION ACTIVITIES (2020)

8.1. Extension Programmes (including extension activities undertaken in FLD programmes)

Extension Activity	Programme	Farmer Male	Farmer Female	Farmer Total	SCST Farmer Male	SCST Farmer Female	SCST Total	Extension Male	Extension Female	Extension Total
Advisory Over Phone	30	631	0	631	4	0	4	0	0	0
Animal Health Campaign	0	0	0	0	0	0	0	0	0	0
Bimonthly Meeting	0	0	0	0	0	0	0	0	0	0
Celebration of Important Days	16	422	309	731	107	65	172	109	18	127
Diagnostic Visit	61	292	4	296	27	0	27	59	2	61
Exhibition	5	303	174	477	27	13	40	77	8	85
Exposure Visit	4	111	17	128	15	0	15	10	0	10
Ex-Trainees Samelan	0	0	0	0	0	0	0	0	0	0
Farmers Science Conveners Meet	0	0	0	0	0	0	0	0	0	0
Farmer/Extn. Pernl. visit to KVK	69	1305	0	1305	32	0	32	0	0	0
Farmers Seminar/Workshop	0	0	0	0	0	0	0	0	0	0
Field Day	5	94	20	114	41	3	44	15	0	15
Farmers Seminar/Workshop	0	0	0	0	0	0	0	0	0	0
Formation of SHGs	0	0	0	0	0	0	0	0	0	0
Group Meeting	4	72	9	81	6	0	6	0	0	0
Kisan Mela	1	26746	6586	33332	12849	3056	15905	458	105	563
Kisan Ghosti	0	0	0	0	0	0	0	0	0	0
Lect. Delivered as Resource Person	118	3254	1324	4578	620	207	827	1150	365	1515
Method Demonstration	42	910	82	992	125	10	135	56	9	65
Scientist visit to farmers field	289	2014	135	2149	114	0	114	489	150	639
SHG Conveners Meet	1	0	0	0	0	8	8	4	0	4
SHC Campaign	1	25	8	33	12	6	18	0	0	0
	646	36179	8668	44847	13979	3368	17347	2427	657	3084

Other Extension activity

Extension Activity	Programme	Numbers
Extension Literature	0	0
News Paper Coverage	57	73
Popular Article	14	14
Technical Report	0	0

Extension Activity	Programme	Duration (Hrs)
Radio Talk	26	526
TV Talk	44	690

8.2 Special Extension Programmes: Nil

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										
National Animal Disease Control Programme										
Tree Plantation Campaign										
Any other, Pl. specify										

PART IX – PRODUCTION OF SEED, PLANT AND LIVESTOCK MATERIAL (2020)**9.A. Production of seeds by the KVKs**

Crop category	Name of the crop	Name of the Variety	Quantity of seed (q)	Value (Rs)	Number of farmers to whom provided
Cereals (crop wise)					
Oilseeds					
Pulses					
Commercial crops					
Vegetables	Onion	Bhima Super	0.435	73600	6
Flower crops					
Spices					
Fodder crop seeds	Fodder	Sorgum, multicult (CoFS-31)	1.6	112000	158
	Fodder	Lucerne	0.15	12000	13
	Fodder	Hedge Lucerne	0.01	750	10
	Fodder	Nutrifed	0.21	14700	18
	Fodder	Sugargraze	0.10	5000	7
Fiber crops					
Forest Species					
Plantation crops	Coconut	Arsikere tall	1000 No.	32000	1
Green manure crops	Velvet beans	<i>Mucuna spp.</i>	12.965	155580	87
Total			15.48	405630	300

9.B. Production of hybrid seeds by the KVKs: Nil

Crop category	Name of crop	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers to whom provided
Total					

9.C. Production of planting material by the KVKs

Crop category	Name of the crop	Variety	Number	Value (Rs.)	Number of farmers to whom provided
Commercial					
Vegetable seedlings	Drumstick	PKM-1	21383	213830	102
	Curry leaf	Suhasini	25	600	2
Fruits					
Ornamental plants	Hibiscus	Local	36	720	12
	Palm	Local	51	1770	2
Medicinal and Aromatic					
Plantation	Arecanut	Channagiri local	6280	219800	21
	Coconut	Arasikere tall	2742	205650	102
Spices					
Tuber					
Fodder crop saplings					
Forest Species					
Others(specify)					
Total			30517	642370	241

9.D. Production of hybrid planting materials by the KVKs: Nil

Crop category	Name of crop	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers to whom provided
				-	

9.E. Production of Bio-Products

Bio Products	Name of the bio-product	Quantity (q)	Value (Rs.)	Number of farmers to whom provided
Bio Fertilizers	Azolla	0.35	700	21
	Compost prachodak	4.32	14400	220
Bio-pesticide	AMC Liquid	41.6 1	108160	42
	AMC Solid	1.0	15000	1
	Neem powder	0.680	20400	1
	Yellow sticky traps	487 No.	13480	40
Bio-fungicide	Pseudomonas	2 1	700	1
	<i>Trichoderma harzianum</i>	37 1	1110	9
Bio Agents	Earthworm	1.246	37655	46
Micronutrient mixture	Banana Special	1.162	232400	275
	Vegetable Special	0.40	16000	1
	Cal-K plus	61 can	23180	42
	Kalvimin-Gold	43 bag	21500	30
Organic manure	Vermicompost	17.6785	201952.5	581
Total		66.59	7,06,637.5	1,230

9.F. Production of livestock

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 (Pl.specify)				
Small Ruminants				
Lamb	Bellary x	01	5000	1
Fingerlings				
Others (Pl. specify)				
Total		01	5000	1

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

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

(A) KVK Newsletter: 02 Date of start: October 2007 Periodicity: Half yearly Copies printed in each issue: 500

(B) Literature developed/published

Item	Number
Research papers- International	01
Research papers- National	02
Technical reports	-
Technical bulletins	-
Popular articles - English	-
Popular articles – Local language	14
Extension literature	-
Others – Kannada version of document on DFI	01
TOTAL	18

10.B. Details of Electronic Media Produced

S. No.	Type of media	Title	Details
1	CD / DVD	NICRA Project activities - 08	NICRA Project activities
2	Mobile Apps	--	--
3	Social media groups with KVK as Admin	WhatsApp group – 4	ICAR-Taralabalu KVK ICAR-Taralabalu KVK-1 Hort DVG Forum Davanagere FPO group
4	Facebook account name	Taralabalukvk@gmail.com	--
5	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. Value Addition and Marketing of Minor Millets by a Rural Woman Entrepreneur

Introduction:

The extension system in India is emphasized more towards increased productivity which resulted in increased production. Increased production will not always fetch good remuneration to farming community as it is directly depend on market prices, marketing channels and place of market.

Value addition, packing, branding and marketing increase the producer share in consumer price, good returns for farmers and provides employment opportunities in rural area. Although, value addition and marketing is not easy job especially for rural women considering cultural background, resources and education level. **Smt. Saroja N. Patil** from Nitturu village of Davanagere district has successfully taken up value addition and marketing of minor millets.

Personal Details of Farm Women:

Name	Smt. Saroja N. Patil
Age	57 years
Education	Pre-University
Family Land Holding	11 ha.
Address	W/o Nagendrappa Patil Nittur at Post, Harihara Tq., Davanagere Dist. Pin Code: 577530
Mobile	9900769719 / 8618714192

Crops and Other Resources:

Farm women family posses following resources.

Sl. No.	Crops and other resources	Area/ No.	Remarks
1	Rice	8 ha	Sriram Sona varieties
2	40 Tradition Rice Varieties	1 ha	Organic practices
3	Finger Millet	1.6 ha	GPU-28 variety
4	Coconut	1.6 ha	Arsikere tall variety with 75 palms
5	Arecanut	0.6 ha	
6	Cows	7 No.	Malnadu Gidda-4 No. Amruth Mahal-2 No. HF- 1 No.
7	Buffalo	6 No.	Murrah
8	Poultry unit	12000 birds	Started in 2018
9	Farm Machinery/Equipments	6 No.	Tractor-1, Fodder Cutter-1, Conoweeder-3, Flour mill for preparation of minor millet malt.

Situation Before:

Smt. Saroja N. Patil's family is growing finger millet (1-2 ha) for many years. The normal process is to sell the produce immediately after harvest. The profit margins in this practice are less considering increased cost of production in Finger millet especially harvesting and threshing.

ICAR-Taralabalu Krishi Vigyan Kendra Intervention:

This farm woman used to attend trainings, workshops organized by Krishi Vigyan Kendra and she was member of Scientific Advisory Committee. Initial training on value addition was given by Krishi Vigyan Kendra. Afterwards Krishi Vigyan Kendra provided opportunities to sell the added products in 'Saturday Organic Bazaar' value at Krishi Vigyan Kendra and in other exhibitions.

Value addition in Minor Millets:

Smt. Sarojamma grows Fingermillet organically and procures other millets and pulses from organic sources. Established miniflour mill for preparation of Malt, packing materials. Farm woman started value additions process during 2014-15.

Following value added products are prepared:

Sl No.	Value added products	Average Quantity/ year
1	Energy mix	200 kg
2	Children special (Malt)	100 kg
3	Ginger Chetney	90 kg
4	Dry fruits laddu	210 kg
5	Dry Chetney Powders	240 kg
6	Millet papads	-
7	Millet Roti	-

Economics of the Unit:

Year	Cost (Rs)	Returns (Rs)
2014-15	1,90,000	2,15,000
2015-16	2,05,000	2,45,000
2016-17	2,57,000	3,48,000
2017-18	2,80,000	4,18,000

Branding and Marketing:

Organically produced Malt, Energy mix, Ginger Chetney, Pickles, Minor millet Roti, Dry fruits laddu, Millet snacks (Pakoda), Finger millet Vermicelli are sold through organic institutions like 'Sahaja Samrudha, Bengaluru, Saturday organic Bazaar in ICAR-Taralabalu Krishi Vigyan Kendra, Davanagere and in Krishi Meals. Recently efforts have been initiated sales through online trading. All the products are packed with brand name of '**Thadvanam**' with FASSI registration. The value addition unit by Smt. Saroja N. Patil has earned net profit of Rs. 0.75 Lakh during 2017-18. The achievements in farming and value addition brought her many prestigious awards among them '**Environment Award**' by Government of Karnataka during 2011, '**Krishi Pandit**' award by Government of Karnataka in 2008-09 and '**Mahindra Samruddhi Agri Award**' by Mahindra and Mahindra group in 2013.

2. Direct Dry seeded Rice (DSR) –Technology to trim down the consumption of water leading to doubling the Income

Introduction

Rice (*Oryza sativa L.*) is one of the most important food crops in the world, and staple food for more than 50% of global population. The main source of food after wheat, 43% of calorie requirement is met by Rice. Direct seeded rice (DSR) is becoming popular as it is cost reduction method alternative to transplanting. Weeds management is the major problem in rice since the beginning of settled agriculture. weed causes an estimated 10-15 % (Asia) reduction in rice yield equivalent to about 50 mt of rice annually. Also, reduction in grain yield to the tune of 20-95% is visualized as a result of sever crop-weed competition (Gogoi 1998). The total labour requirement is 34 % and save nearly 30% of cost of production in Direct seeded rice as against the transplanted crop (Ho and Romill2000).

Interventions

Frontline Demonstration conducted on Direct dry seeded rice technologies with two different taluks of Channagiri and Harihara. During the year 2017 we had conducted the farmer Field School on the DSR technology at Thyavangi. Demonstration conducted with 20 farmers with package of practices followed for DSR. Seeds were treated with Azosprillium @ 500g/ha of seeds, integrated weed management, integrated pest management and water management were practiced for all the farmers and control was the transplanted Rice. Method demonstration on sowing of seeds and fertilizers with seed cum fertilizer drill and Weed management through cycle weeder in DSR. Randomly selected the ten plants from the each demonstration and controlled plots. Recorded the observation on the plant height(cm), No of tillers/plant, Test Weight (g), and Yield (t/ha). The Benefit cost ratio was obtained by recording all the cost of production and returns.

Result and Discussion

The results obtained from the demonstrations on the Integrated Crop Management in DSR on growth and yield traits in Davanagere district during *kharif* season of 2017-18 and 2018-19 are discussed and presented in table.

Effect on weeds

Integrated weed management is the best option for weed control in DSR. The plots where pre-emergent herbicide of pendimethalin at 1 kg a.i. ha⁻¹ dissolved in 500-600 L of water followed by post emergence application of metsulfuron methyl 10% + chlorimuron ethyl 10% WP herbicide at a very low dosage of 20 gm ha⁻¹, followed with one hand weeding, Cycle weeder and Inter cultivation with bullocks is effective for broad leaved and sedge weed management in rice. (R.K Tiwari et.al) .

Effect on yield attributes and yield

Among the yield attributing characters the average plant height recorded in DSR was 105.2 cm as against the check 104.6 cm. The average number of tillers per hill was higher 53.38 in DSR as compared to check (52.79) .The number of productive tillers were more in the DSR compared to Transplanted rice. From the observation on we find that there was no much difference in the test weight (23.12 and 23.10) (table 3)

The average yield recorded in the DSR was 63.10 q/ha was lower compared to check (63.45 q/ha)

Economics

The Frontline demonstration were conducted for the 2 years (2017 and 2018). The direct dry seeded (DSR) recorded the **Rs.45,000, Rs.1,29,000 and Rs.84,500** cost of production, gross cost and net return per ha respectively. The Manual Transplanted Rice (MTR) recorded the Rs.70,000, Rs.1,30,000 and Rs.60,000 cost of production, gross cost and net return per ha respectively during the year 2017-18. (Table 1.) Similar results were observed during the year 2018-19 in DSR recorded Rs.45,600, Rs.1,10,610 and Rs.65,010 cost of production, gross cost and net return per ha respectively. The Manual Transplanted Rice (MTR) recorded the Rs.67,900, Rs.1,11,420 and Rs.43,520 cost of production, gross cost and net return per ha respectively (Table 2).The Benefit cost ratio in DSR recorded was higher 2.89 and 2.43 during the years 2017-18 and 2018-19 respectively.

DSR recorded the average cost of production **Rs. 45,300/ha** and yield was **63.10 q/ha**. In manual transplanted Rice (MTR), the average cost of production of Rs. 68,950/ha and yield of 63.45 q/ha. In demonstration plot recorded the average net profit of **Rs. 74,755/ha with B:C ratio of 2.66** when compared to Rs. 51,760/ha with Benefit cost ratio of 1.74 in MTR. (Table 3)

Inference

The net returns of DSR was higher than MTR due to lower cost of cultivation and it is due to substantial reduction in machineries (41.34%), irrigation (22.45%) and human labour (6.62%). It is very clear that DSR technology is eco friendly and reduction in the critical inputs like seeds , Fertilizers and pesticides will improve the soil health and human health.

The extension methods like training, Creating awareness on the technology, Frontline demonstration, Field visit and Exposure visits will m create impact on the farming community. Department of Agriculture is providing subsidy for the farmers who are following this technology (Rs.10,000/ha). The area of DSR is increasing in the Davangere district (1300 ha).

Table 1 : Growth, Yield parameters and Economics of DSR during 2017-18.

Sl. No	Technology	Plant Height (cm)	No. tillers/hill	Test weight (g)	Total Yield q/ha	Gross Cost (Rs.)	Gross Return (Rs.)	Net Return (Rs.)	B:C Ratio	% increase in Net returns	Lodging (%)
01	MTR	105.7	57.83	24.18	65.00	70,000	1,30,000	60,000	1.86		80-90
02	DSR	105.9	57.49	23.12	64.75	45,000	1,29,500	84,500	2.89	40.83	00

Table 2: Growth, Yield Parameters and Economics of DSR during 2018-19.

Sl. No	Technology	Plant Height (cm)	No. tillers/hill	Test weight (g)	Total Yield q/ha	Gross Cost (Rs.)	Gross Return (Rs.)	Net Return (Rs.)	B:C Ratio	% increase in Net returns
01	MTR	103.9	48.93	22.06	61.90	67,900	111420	43520	1.64	49.37
02	DSR	104.5	48.31	22.08	61.45	45600	110610	65010	2.43	

Table 3: Average of Growth, Yield parameters and Economics of DSR for 2 years

Sl. No	Technology	Plant Height (cm)	No. tillers/hill	Test weight (g)	Total Yield q/ha	Gross Cost (Rs.)	Gross Return (Rs.)	Net Return (Rs.)	B:C Ratio	% increase in Net returns
01	MTR	104.6	53.38	23.12	63.45	68,950	1,20,000	51,760	1.74	44.42
02	DSR	105.2	52.79	23.10	63.10	50,300	1,19,805	74,755	2.38	

3. Spread of BRG-5 red gram variety in Davanagere district

Introduction

Frontline demonstrations on integrated crop management of red gram were conducted by ICAR-Taralabalu Krishi Vigyan, Davanagere under National Food Security Mission on cluster demonstration concept. The demonstrations were conducted in Santebennuru and Devarahalli clusters during 2017-18 and 2018-19, covering 50 farmers per year. The BRG-5 variety (Source: University of Agricultural Sciences, Bengaluru) has been introduced for the first time in the district. The new variety with medium duration, red coloured seeds, tolerance to wilt and bold seeds are preference in the market.

Maize occupies 189436 ha in Davanagere district mainly grown as mono crop and red gram in 8143 ha (2017-18) (Anonymous 2017-18). The cluster demonstrations aimed at introducing suitable intercrop in maize as well as red gram as sole crop.

Intervention

The frontline demonstrations on integrated crop management of red gram were conducted in 2 clusters namely; Santebennuru and Devarahalli during 2017-18 and 2018-19 covering 100 farmers. The ICM practices like land preparation, seed treatment, spacing, intercultivation, nipping, integrated nutrient management, integrated pest and disease management, harvesting and marketing technologies were demonstrated to the farmers. Post demonstrated survey was conducted during August 2019 to know the adoption of BRG-5 variety by the demonstrated farmers and spread of the variety among other farmers.

Results and Discussion

The results of cluster Frontline Demonstrations under National Food Security Mission has been resented in Table-1. Through demonstrations BRG-5 red gram variety has been introduced in Santebennuru and Devarahalli clusters during 2017-18 and 2018-19, respectively. The results reveals that there was 27.13 % and 27.8 % increase in yield in demonstrations were recorded over the check plots. This clearly indicates efforts of scientists in disseminating agricultural information to the demonstrated farmers resulted in significant increase in yield. In the demonstration, land preparation, seed treatment, spacing, weed management, integrated pest and disease management, integrated nutrient management, intercultivation, nipping, harvesting were explained to the farmers.

The other results of cluster frontline demonstration of BRG-5 variety compared to check variety (Table 2) reveals that 10.59 and 03.69 percent increase in yield over check plot during 2017-18 and 2018-19, respectively. Further, it was observed that 40.26 and 22.21 percent increase in number of pods per plant, 98.41 and 74.05 percent reduction in incidence of wilt and 197.62 and 87.20 percent reduction in incidence of pod borer was recorded during 2017-18 and 2018-19 respectively. The newly introduced BRG-5 red gram variety is tall growing with more branches there by increased branches and pods per plant which contributes to increased yield. The distinctive character of BRG-5 variety is tolerant to wilt and pod borer incidence and results of the demonstration confirms the same when compared to check varieties. Less incidence of pest and diseases directly contribute to the increase in yield.

Table 1: Results of frontline demonstrations on BRG-5 red gram variety

Year	Particulars	Gross Cost (Rs/ha.)	Gross Returns (Rs/ha.)	Net Return (Rs/ha)	Yield (q/ha)	% increase	B:C ratio
2017-18	Demonstration	12063	40480	28417	11.9	27.13	3.34
	Check	11816	29958	18142	09.36		2.53
2018-19	Demonstration	21322	47456	26134	11.86	27.80	2.24
	Check	20338	37128	16790	9.28		1.83

Table 2: Other results of frontline demonstrations on BRG-5 red gram variety.

Parameters	2017-18		Percent change	2018-19		Percent change
	Demonstration	Check		Demonstration	Check	
Plant height (cm)	190.75	172.48	10.59	176.06	169.35	03.96
No. of pods/Plant	98.99	77.31	40.26	93.1	76.18	22.21
Wilt incidence (%)	3.15	6.25	98.41	4.24	7.38	74.05
Pod borer incidence (%)	4.20	12.50	197.62	6.72	12.58	87.20

Since BRG-5 Red gram variety is newly introduced in Davanagere district, there exists demand for this red coloured seeds as it is preferred in market. During 2018-19, 42 % FLD farmers sold 31.4 q of seeds to 280 fellow farmers and 20.6 q to private seed procurement agency and in 2019-20, 52 % of FLD farmers sold 26.8 q seeds to 169 farmers and 74.5 q to seed procurement agency. Considering demand for BRG-5 seeds ICAR-Taralabalu Krishi Vigyan Kendra organized special seminar for FLD farmers in collaboration with seed procurement agency and Rashtriya Chemicals and Fertilizers Limited (RCF) to motivate FLD farmers to sell BRG-5 variety as seeds. The seed procurement agency offered price of Rs. 50/kg immediately after harvest as against Rs. 35/kg in open market. Direct selling to the farmers as seed fetched Rs. 100/kg. The list of FLD farmers along with their contact details was given publicity through KVK WhatsApp groups and Raitha Samparka Kendras.

Table 3: Spread of BRG-5 red gram variety

Year	No. of FLD farmers	No. of FLD farmers sold seeds	Percent	Quantity (q)	No. of farmers	Sold to seed procurement agency (q)
2018-19	50	21	42	31.4 (238)*	280	20.6
2019-20	50	26	52	26.8 (237.2)*	169	74.5

* Figures in parenthesis indicates total production of BRG-5 red gram variety under FLDs

The data on vertical spread of BRG-5 red gram variety reveals that 68% and 52 % adopted this variety during 2018-19 and 2019-20, respectively. The major reasons for non-adoption of BRG-5 variety were red gram is not profitable as maize (79.1 %) followed by lack of rainfall during June-July (45.85%), difficulty in use of weedicide in maize (33.33%) and incidence of wilt (20.83%). The prices of red gram in open market ranged from Rs. 3000-3500/q which might influenced these farmers not to go for red gram in the following year. The district received 60 mm rainfall against 76 mm (-56% deficit) in June-2019 and 76 mm against normal rainfall of 97 mm (-21 % deficit) in July-2019. This played vital role in not taking up red gram and sown maize instead. In addition the cluster received continuous rains during October and November in the previous resulting in incidence of wilt might have discourage farmers to continue with red gram. Similar findings of 40% partial and 16.7% non-adoption of demonstrated red gram varieties were reported by Venkateshwara Rao *et, al.*(2017).

Table 4: Vertical spread of BRG-5 red gram variety

Year	No. of FLD farmers	No. of FLD farmers adopted	Percent
2018-19	50	34	68
2019-20	50	26	52

Table 5: Reasons for non-adoption of BRG-5 red gram variety among the FLD farmers (2019-20)

Sl. No.	Reasons	No.	Percent
1	Red gram is not profitable as maize	19	79.1
2	Lack of rainfall during June-July	11	45.83
3	Difficulty in use of weedicide in maize	08	33.33
4	Incidence of wilt	05	20.83

Inference

The efforts of Krishi Vigyan Kendra bringing changes in marketing behaviours of farmers are resulted in partial changes. The spread of BRG-5 variety in the district is encouraging as it reached Raitha Samparka Kenras (RSK) and has the good potential to replace Maize up to some extent in the district in the coming years.

4. Impact of Frontline Demonstrations on Bt Cotton Growers of Davangere District of Karnataka

Cotton is the most important commercial crop, which plays a vital role in the national economy. It is one of the most important fibre crop cultivating in Davanagere district of Karnataka in about 29000 ha with the production of 65723 bales and average productivity of 3.82 q/ha.

The conventional farming has been successful in meeting the increased food and other needs of growing population of the country for sure. But, the problems associated with conventional farming like, the high cost of inorganic chemical fertilizers and plant protection chemicals and increasing health and environmental hazards have forced many farmers and scientists to focus attention on eco-friendly, practical and sustainable farming. Indiscriminate and unscientific use of agro-chemicals and pesticides cause adverse effect on ecological balance. In order to reduce these health hazards and bring out natural balance and protection of ecosystem, integrated approach of crop management strategies are required to be followed in production of many crops.

Farmers' adoption of integrated crop management (ICM) package depends on many factors, such as their technical skill and socioeconomic conditions as well as psychological and cultural factors.

Farmers and researchers in the field of agriculture have identified several integrated crop management practices to enhance yield and maintain ecological balance. The integrated crop management practices utilizes most efficiently the traditional practices of crop rotations, tillage practices to improve soil texture, application of adequate amount of organic manures to sustain, retain and release soil moisture, inorganic fertilizers to match crop needs and correction factors of deficit nutrients in soil, pheromone and sticky traps, growing trap crops, need based pesticides to mitigate insect pests and diseases, etc.

Since farmers are the final decision-makers for adoption of any technology, it is important for the technology developers/providers to identify how farmers' react to the provided technologies and what about the adoption process of certain innovations. However, not much attention has been paid to assessing of farmers' perception and knowledge about integrated crop management practices, quantifying levels of adoption of different ICM components and their determinants.

Keeping these facts in view, the present study was designed to find out the extent of adoption of different integrated crop management practices in cotton which were demonstrated by ICAR- Taralabalu Krishi Vigyan Kendra through frontline demonstrations (FLD) in Davanagere district.

Interventions

The study was conducted at the villages of demonstrations conducted by ICAR- Taralabalu Krishi Vigyan Kendra on integrated crop management in cotton in Davanagere district of Karnataka. Name of the villages, talukas and year of demonstrations conducted are listed in table below (Table 1). A list of cotton growers in these villages was obtained by conducting group discussions and participatory rural appraisals (PRA). Later farmers were selected based on their willingness to adopt demonstrations to be conducted by ICAR- Taralabalu KVK.

The data on adoption of different integrated crop management practices were collected from farmers involved in ICM demonstrations by personal interview method with the help of questionnaire developed for this purpose.

The data were tabulated, analyzed and expressed in terms of percentage to draw the varied inference.

Table 1. Year, Village and Taluk of demonstrations conducted on ICM in cotton by ICAR-TaralabaluKVK, Davanagere.

Year of Demonstration	Village	Taluk
2009-10	Anajigere	Davanagere
2010-11	Anajigere	Davanagere
2011-12	Taraganahalli	Honnali
2012-13	Hedne	Davanagere
2013-14	Kuremaganahalli	Harapanahalli
2014-15	Balamuri	Honnali
2015-16	Kuremaganahalli	Harapanahalli
2016-17	Kadabagere	Harapanahalli
2017-18	Katenahalli	Jagaluru

RESULTS AND DISCUSSION

Yield and Economics of Demonstrations conducted by ICAR- Taralabalu KVK

The average yield of nine years of cotton was 14.24 q/ha as against 10.81 q/ha in check plot which is 24.24 per cent higher (Table 2.). The higher yield of cotton in demonstration plot was mainly attributed to the adoption of improved technologies like improved hybrid, maintenance of proper spacing balanced nutrient application including secondary and micronutrients, integrated pest and disease management, proper method of irrigation. The similar observations were obtained by Shyamrao Kulkarni *et al.*(2018).

Net profit of Rs. 30,431/- per hectare and cost benefit ratio of 2.34 was found in demonstrations compared to Rs. 16,946/- and 1.66 in check plots, respectively. This is attributed to higher yields obtained under improved technologies compared to farmers plot as local check.

Adoption level of integrated crop management technologies in cotton by farmers involved in ICM demonstrations conducted by ICAR- Taralabalu KVK

The data depicted in Table 3 revealed the extent of adoption of integrated crop management practices by cotton growers after the demonstration.

Table 2. Yield, Net profit and B:C ratio of demonstration plots and check plots. (n=295)

Year of Demonstration	Area (ha)	No. of Demo	Demonstration Plots			Check Plots		
			Yield (q/ha)	Net Return (Rs/ha)	B:C Ratio	Yield (q/ha)	Net Return (Rs/ha)	B:C Ratio
2009-10	50	50	15.33	21387	2.26	9.71	3430	1.16
2010-11	24	60	12.80	40543	2.86	10.10	26780	2.20
2011-12	20	55	9.50	15350	1.65	7.90	8390	1.35
2012-13	14	35	13.75	25813	1.83	10.25	9538	1.29
2013-14	4	10	14.25	36150	2.12	10.75	17100	1.50
2014-15	8	20	18.60	56040	3.17	16.18	44692	2.69
2015-16	8	20	17.93	40765	2.59	16.67	35405	2.35
2016-17	8	20	15.40	46848	2.64	13.97	39163	2.34
2017-18	10	25	15.02	43830	2.55	13.19	33606	2.14
Cumulative Average/ Total	146	295	14.24	30431	2.34	10.81	16946	1.66

In case of cultural practices, cent per cent of the farmers adopted deep ploughing in summer which is an important method of exposing the early stages of pest and weed seeds to sun for natural destruction and making the soil to a fine tilth for increasing the soil fertility and for good germination of seeds. Invariably farmers are using pest tolerant varieties available in market.

87.5% of farmers started adopting crop rotation which is helpful to reduce insect pest and diseases and manage nutrients deficiency. About 66.4% of farmers were following crop rotation before demonstrations.

The reasons that could be attributed for such adoption behaviour by the farmers might be that these cultural practices form the part and parcel of crop cultivation practices incurring zero cost (Shashidhara, 2012).

Table 3. Adoption level of integrated crop management practices before and after demonstrations conducted. (n=295)

Integrated Crop management practices demonstrated/taught	Farmer's Practice Before Demonstration		After Demonstration			
	No	%	Adopted		Not Adopted	
			No.	%	No.	%
Cultural practices						
Deep ploughing in summer	295	100.0	295	100.0	0	0.0
Use of pest and disease resistant varieties	238	80.7	295	100.0	0	0.0
Proper Spacing (120X60 cm)	122	41.4	215	72.9	80	27.1
Crop rotation	196	66.4	258	87.5	37	12.5
Inter cropping	91	30.8	104	35.3	191	64.7
Integrated Nutrient Management						
Application of Organic Manure	237	80.3	254	86.1	41	13.9
Soil testing	5	1.7	31	10.5	264	89.5
Application of recommended dose of inorganic fertilizers	5	1.7	43	14.6	252	85.4
Spraying of Magnesium Sulphate to prevent leaf reddening	18	6.1	139	47.1	156	52.9
Spraying of Potassium Nitrate to increase boll size	6	2.0	105	35.6	190	64.4
Growth Regulator (NAA) to prevent flower dropping	15	5.1	82	27.8	213	72.2
Integrated Pest Management						
Classification of pesticides based on mode of action	8	2.7	56	19.0	239	81.0
Trap cropping	8	2.7	25	8.5	270	91.5
Installation of bird perches for predatory birds	21	7.1	36	12.2	259	87.8
Installation of Sticky traps to monitor Sucking pests	0	0.0	13	4.4	282	95.6
Installation of Pheromone traps to monitor pink boll worm	0	0.0	7	2.4	288	97.6

With respect to integrated nutrient management practices, majority of farmers were applying organic manures even before (80.3%) and after (86.7%) demonstrations. It was surprising to notice that majority (85.4%) of the farmers had not applied recommended dose of fertilizers, timely application and split application of fertilizers on the cotton crops. Lack of knowledge, high cost of fertilizers might have resulted in such a situation.

Majority of the farmers (47.1%) started applying magnesium sulphate to prevent leaf reddening and spraying of NAA (27.8 %) and potassium nitrate (35.6 %) to prevent flower drop and to increase boll size, respectively. Quick results obtained by spraying of these water soluble fertilizers could be the probable reason for drastic increase in adoption level after demonstration.

In case of integrated pest management practices, about 19% increase in knowledge on selection of systemic insecticides was observed.

None of the farmer was using sticky traps and pheromone traps before demonstrations. About 4.4 and 2.4 % of farmers started using these traps to attract and monitor insect pests after demonstrations were conducted. Majority (95.6 % and 97.6 respectively) of the farmers did not adopt these technologies to attract and monitor insect

pests. This might be because, the use and maintenance of sticky and pheromone traps required good care on the part of the farmers, required periodical replacement of the lure and also their non availability.

Inference

Hence, it may be concluded from the study that, there is an imperative need to raise the level of adoption of these ICM practices in order to obtain sustainable yield and to maintain ecological balance by reducing the use agriculture chemicals and to increase farmers income in the long run and also to provide the required facilities by the State Department of Agriculture, besides providing more technical guidance through conducting demonstration in each village and follow-up approach.

5. Assessment of performance of Bhima Super Variety of Onion in Davanagere District

Introduction

Onion (*Allium cepa* L.) is one of the important commercial vegetable crops cultivated extensively in India and it belongs to family Alliaceae. Onion is an indispensable item in every kitchen as vegetable salad and condiment, therefore commands, an extensive internal market. Onion is liked for its flavour and pungency which is due to the presence of organic compound rich in sulphur (Allyl propyl disulphide). Onion bulb is a rich source of minerals like phosphorus, calcium and carbohydrates. It also contains protein and vitamin C. It is being used in several ways as a fresh, frozen and dehydrated bulb. India ranks second in the world in area and production after China and third in export after Netherland and Spain. India is producing 23,610.10 thousand million tonnes of onion from an area of 1,293 thousand ha with an average productivity 16.10 t/ha. In Karnataka, it is grown about 195.28 thousand million ha with an average production of 2,986.59 thousand million tonnes and productivity 15.29 t/ha (Horticulture statistics at a Glance-2018).

Onion cultivar shows wide variation in their yielding ability when grown over varied agro-climatic conditions. Different cultivars perform variations in the productivity in different soil and climatic conditions. Davanagere District being one of the major vegetable producing area, onion crop attain a good area in honnali and Jagalur Taluks. The performance of the existing local varieties in the district is below the average productivity of the District. Also the keeping qualities of the local variety was very poor which is leading to the early disposal of the produce for the lowest price by the farmers. Therefore, keeping this in view, the different constraints cited above and realizing the need of comprehensive study to select the most suitable high yielding variety with better growth, yield and quality by screening existing cultivar of onion for Davanagere District..

Interventions

Frontline demonstration on Performance of Bhima Super variety was carried out in two different locations of Jagalur and Honnali Taluk in the year 2016-17 and 2017-18 respectively. In Jagalur Taluk the control variety was Bellary red where as in case of Nyamathi its Nyamathi local variety. Ten Farmers for each demonstration was selected and soil test for the each plot was done before sowing of the crop. Seeds were treated with *Trichoderma harzianum* @ 4g per kg of seed. Each farmer was given seeds for about one acre and the relevant package of practices from time to time was provided. Randomly ten plants from each plot were selected to recorded the observations on Germination (%), Plant Height (cm), Number of Leaves, Collar Thickness (cm), Ten Weight of Bulb (g) , Total Bulb Yield (q/ha) . The Benefit cost ratio was obtained by recording all the cost of production and returns.

Results and Discussion

The results obtained from the present demonstrations on the Performance of onion (*Allium cepa* L.) varieties for growth and yield traits in Davanagere district during *kharif* season of 2016-17 and 2017-18 are discussed and presented in table.

Growth Parameters

Data pertaining to Germination (%), Plant Height (cm), Number of Leaves, Collar Thickness (cm) varied significantly during *kharif* season of 2016-17 in Davanagere District presented in Table 1.

It is revealed that after 30 days of sowing, highest germination percentage (93.00) was noticed in Bhima Super variety as compared to Bellary red(84.20). Meanwhile the parameters like Plant height (58.41 cm), Number of leaves (9.29), Collar Thickness (1.39 cm) were also better compared to the presently grown local variety Bellary red with 55.34 cm, 8.72, 1.28 cm respectively.

In the year 2017-18 data pertaining to Germination (%), Plant Height (cm), Number of Leaves, Collar Thickness (cm) varied significantly during *kharif* season of 2017-18 in Davanagere District presented in the Table 2.

After 30 days of sowing the data pertaining to the Germination (90.4 %) was superior in Bhima Super variety compare to Nyamathi local variety (84 %). Other growth parameters like Plant height at 60 days of sowing was Better in Bhima Super (62.83 cm) as compared to Nyamathi local (58.98 cm). Even Bhima super variety performed Better in parameters like Number of leaves (10.32), Collar Thickness (1.49 cm) as compare to Nyamathi local which is having 9.02 and 1.37 cm respectively.

Among these two varieties, Bhima Super performed better in all the growth parameters compared to local varieties. Thus the increased germination and number of leaves helped in better synthesis of carbohydrates and their utilization for build up of new cells apart from better absorption of nutrients resulting in increased dry matter production on such variations in the growth among the cultivars were reported by Ram RB *et al.* (2011) and Singh RK *et al.* (2011).

Yield Parameters

Data pertaining to Average Bulb weight (g), Total Yield (q/ha) and Total Marketable yield (q/ha) varied significantly during *kharif* season of 2016-17 in Davanagere District presented Table 1.

From the data it was found that all three parameters were found better in Bhima Super variety with 70.65 g, 194.6 q/ ha and 179.9 q/ha respectively when compared to 67.23 g, 160.4 q/ha and 148.4 q/ ha in local variety Bellary red.

Data pertaining to Average Bulb weight (g), Total Yield (q/ha) and Total Marketable yield (q/ha) differed significantly during *kharif* season of 2017-18 in Davanagere District presented in the Table 2.

Bhima super variety was recorded Maximum Average Bulb Weight (72.72 g), Total Yield (212.4 q/ha) and Total Marketable yield (201.37 t/ha) compare to Nyamathi local variety which was recorded 69.24 g, 152.6 q/ha and 141.23 q/ha respectively.

Bulb weight is ultimately governed by the accumulation of carbohydrates and other metabolites which depend ultimately on the synthesis and supply of photosynthesates by leaves or subsequent translocation vertically downward to bulb and root. Similar findings have been reported by Lawande et al. 2011 and Tripathy et al, 2013.

The highest yield of bulbs from Bhima Super variety can be attributed to maximum Germination, plant height, number of leaves which are important components of growth which resulted in accumulation of more food material in the bulb. The variation in the yields of different cultivars grown under similar conditions has been obtained from several reporters such as, Anil Khar *et al.* (2007) and Yadav SS *et al.* (2009).

Income generation

Bhima super variety was provided the best Benefit cost ration when compare to the local varieties. During the demonstrations of both years In the year 2016-17 Bhima super with 2.42 and local Bellary red with 1.82 in BC ratio. Where as in the year 2017-18, 2.99 in Bhima super and 1.90 in case of Nyamathi local variety.

The highest income is directly proportional to the maximum marketable yield and price. Similarly the cost of inputs and the weeding also contribute to some extent on total cost of production.

Based on the above results in the demonstration it was found that Bhima Super variety performed better in both the Onion growing taluks when compared to the existing local varieties. Therefore, it can be recommended to farmers for large scale adoption.

Table 1: Growth and yield characters of Onion Varieties during 2016-17.

Sl. No	Variety	Germination (%)	Plant Height (cm)	Number of Leaves	Collar Thickness (cm)	Average bulb Weight (g)	Marketable Yield (q/ha)	Total Yield q/ha	Gross Cost (Rs.)	Gross Return (Rs.)	Net Return (Rs.)	B:C Ratio
01	Bellary Red	84.20	55.34	8.72	1.28	67.23	148.4	160.4	105280.6	192480	87199.4	1.82
02	Bhima Super	93.00	58.41	9.29	1.39	70.65	179.9	194.6	96457.8	233524	137066	2.42

Table 2: Growth and yield characters of Onion Varieties during 2017-18.

Sl. No	Variety	Germination (%)	Plant Height (cm)	Number of Leaves	Collar Thickness (cm)	Average bulb Weight (g)	Marketable Yield (q/ha)	Total Yield q/ha	Gross Cost (Rs.)	Gross Return (Rs.)	Net Return (Rs.)	B:C Ratio
01	Nyamathi Local	84.00	58.98	9.02	1.37	69.24	141.23	152.6	120764.8	228900	108135.2	1.90
02	Bhima Super	90.4	62.83	10.32	1.49	72.72	201.37	212.4	106688	318600	211912	2.99

6. Nutritious urban Agriculture- way towards sustainable health

Introduction

Organic terrace gardening provides an opportunity for all citizens to cultivate quality vegetables, fruits, flowers at home. This practice not only reduces the use of chemicals in the gardening but also encourages in consumption of safe food. Green terrace tops with plants and flowers provide green and cool spaces, energy conservation, best quality air for breathe, healthy life, good biodiversity . Terrace gardens give pleasure to city residents and provide an opportunity for improving creativity as well psychological benefits. As an added advantage, balcony gardens are creation of aesthetic look and pleasant environment in living areas.

Although the world's food supply is claimed to be sufficient to meet the present needs, an estimated 842 million people or one in eight people in the world are suffering from chronic hunger and regularly not getting enough food for an active life. Like wise, India is self-sufficient in food production but 231 million people of its total population of approximately 1.2 billion are undernourished (Paneerselvam 2014) Home gardening activities are simple and most efficient technology which may result in better use of household resources and improved practices of waste converted into healthy and nutritious manure which is used for growing the vegetable plants.

Organic gardening practices will sustain soils, plants and nourishes our family both physically and aesthetically. Terrace gardening can act as solution to climate change and for reducing carbon and energy foot print. Due to population explosion and pressure, there is hardly any space available in houses or multi-storey buildings to grow vegetable. In such situation the technology of terrace gardening using locally available resources provides some compensation of recreating agricultural land lost for building houses for growing immediate household needs.

One can easily build the terrace garden with reasonably priced materials like metal and plastic drums, plastic sacks, grow bags, plastic and earthen pots, basins, bricks, etc. By nature, most of these building materials have adequate pores for the aeration and free flow of water during irrigation. Bricks can be placed one above the another to desired height and later filled with soil and biomass. A tarpaulin sheet may be used at the base of the drum or bed to avoid the problem of algae. Rao, (2016) provides a case study, which highlights the benefits of terrace garden and its significant role in sustainalise and environment.

Interventions

ICAR Taralabalu Krishi Vigyan Kendra, Davanagere in collaboration with Department of Horticulture conducted series of Training programmes during 2013-2019. Around 2000 families in the cities were covered in the training programme. Both On campus and Off campus trainings were conducted.

Pre test was conducted before start of the training programme in each training. All the participants were compulsorily to fill the pre test format of simple 10 questions. The knowledge level on the prescribed training was assessed by using the pre test format. Scoring level of 1-10 points were given for each component in the format.

Both Theory and Practical demonstration were done during the training programme. Method demonstration on Preparation of potting mixture, selection of different types of pots, planting, watering, use of organic manures and repotting procedures were explained during the course. Follow up visits by the experts and officers was conducted to record the observations.

The data pertaining to consumption of raw vegetables in the diet, quantity of vegetables produced , cost incurred for the establishment of garden, amount saved for the vegetable purchase and extent of adoption were studied.

METHODS OF CULTIVATION

Benches

In the open roof top, based on the bearing load, iron stands both in Horizontal and vertical shapes was installed . The soil mixture (2 parts of red soil + 1 part of sand + 1 part of compost) filled up and utilized for growing the fruit or vegetable crops (Hodgson, 2006). Leave one inch space at the rim, to facilitate irrigation.

Pots and Containers

Pots and containers viz., paint buckets, damaged bowls / water tanks/ buckets, plastic jars, tin boxes, boxes, crates, paws, unused water cans, plastic barrels, wooden barrels, earthen pots, drums and different sizes, plastic covers, cement / fertilizer bags, damaged sink / wash basin can be used for growing of fruits and vegetables on the roof gardening.

Plastic pots

Plastic pots of round and square types can be used for raising indoor plants. The multidimensional uses of plastic pots are reusable, light weight, non-porous and they require only little storage space.

Seed pan and seed boxes

Seed pans are shallow earthen pots about 10cm height and 35cm in diameter with a drainage hole at the bottom. Seed boxes are made of wood, porcelain and earthen pots of 40cm wide and 60cm long and 10cm deep can also be used as seed pans. Over this, required soil mixture was added and kept in open sunlight for raising the vegetables.

Polythene bags

Small polythene bags with punched holes at the bottom for drainage and filled with a porous rooting medium were used for propagation of cuttings like jasmine, duranta, crotons etc. The soil mixture was filled in polythene covers and used for the cultivation of vegetables like tomato, brinjal, chilli, turmeric, coriander, amaranthus etc.

CULTURAL PRACTICES

Fertilizer application

Vermicompost @100 g/plant was applied at monthly intervals. Neem powder was mixed at the time of potting. Each pot was provided with organic supplements.

Application of decomposed kitchen waste will be suitable (Hall, 1995).

Watering

Container growing plants required water judiciously, Plants in pots and containers need water judiciously. Plants need extra water during summer season and hence the plants should preferably be irrigated twice a day (Chandy, Michelle, 2005). The thumb rule for irrigation is that the top soil should be scratch about one inch and seen, if the lower soil is damp, there is no need of immediate irrigation. In general, watering can be done as and when required. Drip irrigation system was made compulsory in all the gardens.

Staking

Staking was required based on the growth stage of plant. Plants like lab lab, ribbed gourd, bottle gourd and snake gourd need staking or it has to be trained in pandal system for proper support. Plants like tomato, brinjal and chilli also need staking on 60th day of planting.

Weed control

Hand hoeing and weeding helps in aeration in the root zone there by increases healthy plant growth. Weeds should be removed gently in leafy vegetable crops like amaranthus, fenugreek, spinach, coriander etc.

Harvesting

Fruits and vegetables are harvested at the peak of maturity and used promptly, are always superior in nutritional content, freshness, flavor and appearance. Leafy vegetables are picked up frequently when tender. Root vegetables should be pulled out while tender otherwise they become pithy. Tomato was picked at ripe stage, brinjal and okra are picked after they attain full size but still tender.

Refilling of containers

After 15 days, add organic manures and mix the soil thoroughly and refill the pots or polythene covers. For perennial vegetables repotting was done for every year at 10 months intervals.

Results and Discussion

The systematic analysis of the findings of the research are described below.

Table 1. Vegetables preferred for Terrace garden

SI No	Preferred Vegetables	Urban Families (N-100)	Percentage(%)
1	Tomato	84	84
2	Chilli	82	82
3	Brinjal	64	64
4	Okra	79	79
5	Leafy Vegetables	93	93
6	Cucurbits	81	81
7	Root crops	58	58
8	Bulb Crops	62	62

From the Table 1 it is revealed that majority of the respondents want to cultivate native vegetables like Tomato, Chilli, leafy vegetables. However few respondents are very choosy in selection of root and bulb crops.

Table 2. Source of Information on Terrace gardening

Sl. No	Sources	Urban Families (N-100)
1	What's App message from experts	78
2	News Paper	92
3	Neighbours	25
4	Personnel visit	48

Table 2 reflects that news paper and use of social media like what's App has played vital role in spreading the awareness on Terrace garden training and its activities. New group on Terrace garden in what's App was created and participants were actively involved in the discussion.

Table 3. Results recorded in Terrace gardening Demonstration

Sl.No	Particulars	Check	Demonstration
1	Number of vegetables consumed /week	07	15
2	Average consumption of Leafy vegetables / week (No.)	03	06
3	Shelf life (Days)	04	07(Always Fresh)
4	Cost of vegetable purchased/week from market (Rs.)	350-00	100-00
5	Physical Activity/ week(hr)	04	10
6	Gross cost (Rs., 3 months)	3600-00	6000-00
7	Gross Income(Rs., 3 Months) (@Rs. 1000 per week) Revenue generated if sold	3600-00	12000-00
8	Net Income (Rs.)	--	6000-00
9	BC ratio	1.00	2.00

The results of the demonstrated conducted shows that the average consumption of vegetables was increased considerably in the diet after the training programme and due to harvest of fresh vegetables the shelf life of vegetables was also extended . Due to involvement of the family members in the gardening process the physical activity is increased and the time spent on wasting the time was reduced.

Table 4 . Observations during Sustainable Vegetable Production in Terrace

Social	Economic	Environmental
<ul style="list-style-type: none">• Active community participation• Education• Aesthetic value• Nutritional security	<ul style="list-style-type: none">• Local Food production• Exchange• Fresh availability	<ul style="list-style-type: none">• Zero food miles• No Package• Home composting• Clean environment

Inference

As the world is heading towards the depletion of natural resources and the loss of forest/garden area due to urbanization, there is a dire need for terrace gardens. Due to the population explosion with a house for every citizen in the country, all the open areas are taken away by concrete buildings. This has created the ecological imbalance, which can cause tremendous harm to our future generations. When we cannot avoid utilizing open spaces on the ground for the construction of buildings and other utilities, then at least the open spaces available above these buildings can be utilized for plantations and gardens to minimize the ecological imbalance, if not eliminate it altogether. There are many benefits of these terrace gardens, such as waste recycling, ecological benefits, energy conservation, water conservation, decorative enhancement of buildings, occupant's health benefits and attracting birds and insects. Manthra for Sustainable life would be ' a vegetable, a home'.

7. NRM works lead to doubling the farmers Income

Introduction

ICAR- Taralabalu KVK, Davanagere is working in Agasanakte village from past two years under NICRA project. In addition to Siddanuru village. Agasanakte village located 18 kms away from KVK. The average annual rainfall of this village is 500mm, but the annual rainfall and number of rainy days is increasing from last 3 years. The major crops grown in village are Maize, Redgram, Cotton, Vegetables, Pomegranate, Sugarcane and Arecanut.

The main crop of the village is maize, which is grown as a sole crop in an area about 300 ha. Due to vagaries in the climate during the last two to three years farmers are faced reduction in the yield when they grown as a sole crop.

Additional Village Agasanakatte : 2017-18 (2km away from Siddanuru)

Name of the village and district	Agasanakatte, Davangere District
No. of households	203
Total cultivated area (ha)	269.2
Area under rainfed cultivation (ha)	203.6
Major soil type	Red, Redgravel and black soil

Problems of the farmers: Due to the drought from the last three years , the bore wells were drying and water table had drastically gone down. The farmers had invested more than 50 lakhs for the bore well digging in the village.

Intervention through Natural Resource management: ICAR-TKVK conducted the Participatory Rural Appraisal in the village and collected the information on the water harvesting structures in the village and studied the structures layout and water quantity that flow into the structures.

Deepening and Widening of the Check dam : Under NRM intervention after finalizing with the farmers we took up the works at Check dam (Badaparra Nangappa). More than 25 farmers will be benefitted and used for the drinking purpose for animals. The work was completed during 2017 -18, its impact is clearly showing 2018-19.

Table 1: Rainfall received during Cropping season 2018 at Simple weather station

March	3.3	41.8	1
April	38.1	23.2	4
May	88.1	140.1	6
June	75.00	57.2	5
July	88.20	76.4	11
August	74.20	125.5	13
September	112.10	07	1
October	117.30	27.7	3
November	38.30	09.1	1
December	8.60	02.1	1
	811.3	510.6	46

After the completion of the work there was good rains in the moth of May 140.1 mm and check dam was completely filled and farmers were very happy and informed us in the phone. The water will be remained in the check dam for nearly 35-45 days. The water holding capacity of the check dam increased from 32,40,000 L to 1,05,30,000 L.

Table 2: Showing the NRM structure Check dam at Agasanakatte

NRM Structures	Area		Storage Capacity	
	Before	After	Before	After
Badappara katte check dam (Desilting and deepening)	180 m X 9 m X 2 m 3240 m ³	180 m X 9 m X 6.5 m 10,530 m ³	3240000	10530000

Impact of the check dam deepening and widening :

Activity	Bore wells depth from water lifted		Crops grown
	Before	After	
Deepening and widening of check dams	185 feet	100 feet	During the dry spells of maize crops during the month of August and September , protective irrigation were given from the bore wells which yielded the 30 q/acre when compared to check yielding 18 q/acre

Impact: Farmers around the check dam were happy because nearly 100 acres of maize crop was irrigated by the bore wells during the dry spells had doubled the Maize yield.

Bumper yield of Maize crop

Treatment	Name of crop	Area (ha)	Crop yield (q/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net return (Rs/ha)	B:C ratio
With irrigation	Maize	40	64.5	45,800	1,16,100	70,300	2.53
Without irrigation	Maize	40	53.75	44,000	96,750	52,750	2.19

Due to availability of water in the bore well around 100 feet during the February, farmers are going for the additional vegetable crops like Arecanut, tomato, Brinjal, and Finger millet. The Net income of the farmers is likely to be increased during this year and they can save their arecanut gardens.

When we compare with the farmers on the other side of the village, the bore wells depth is 450 ft, but water available at 280 ft when compared with the farmers near check dam. Mr, Vasantha kumar who had dig bore well in the month of September end , he could a get water from 100 ft and dig upto 280 ft when compared with other farmers dig about 300 feet and water may be available at 220 feet on wards.

Farmers Feed Back:

- Water Storage capacity had increased , leads to increase in the water table
- Last two years due to erratic rainfall, bore wells were dried
- During the November, I dig the bore well and could get the water around 100 feet (Farmer near the check dam)
- The temperature had raised to 37degree, but still the bore wells are running.
- The farmers on the other side of the village, the bore wells are drying
- Due to increase in water table, the bore wells may give water upto April
- Due to improvement in Bore wells now we had taken additional crop like vegetables which in turn increases the cropping intensity.

8. Enabling doubling of farmer income through polyculture of freshwater fishes in Davanagere district, Karnataka**Introduction:**

Freshwater aquaculture is crucial to support valuable food production for continuously increasing population in India as well as the world. Fish production in India is 12.3 mmt (3.56 aquaculture + 8.76 capture, Fisheries Statistics, GoI, 2017-18.). We stand 2nd in aquaculture and 3rd in total fish production. Karnataka produces a total of 0.72 mmt of fish with 0.3 mmt from aquaculture and 0.42 mmt from capture. Right now, world is producing 170.94 mmt of fish in which 90.73 mmt is from capture and 80.01 mmt is from aquaculture. 14 million people are employed in the industry, i.e., 8 % of employed people in the world. Currently, 33,534 crore rupees annual global turnover is seen in fisheries sector. WHO recommends a consumption of 18 kg fish per person per year. However, India can only boast of 11.5 kg and Karnataka to 6.5 kg per person per year which is far below the recommendation. Therefore, there is an immediate need to increase the production and supply of complete food like fish especially in the rural region of India.

Global population has increased from 2.5 billion in 1950 to 7.2 billion now and to >9 billion by the year 2050. At the same time, India's population of 370 million in 1950 increased to 1.2 billion now and to 1.6 billion by 2050. Projected trajectory to 2050 indicates a need to build a city of 1 million every 5 days in developing countries (FAO, www.fao.org.in).

Global food production need to increase by 70%, while developing countries need to double the production by 2050, to meet the demand of additional 2.3 billion people and increasing affluent middle class. It would be necessary to have a land area of about South American Continent to produce this additional food.

Estimates suggest that cereal production must increase to 3 billion t from 2.1 billion t. Meat should increase from 200 million t to 470 million t. Fish production must enhance by at least 60 million metric tons in another 10 years and India's fish production must see a rise of 5-6 mmt in another 2 years.

Demand for food will go on increasing due to population growth, urbanization and affluent middle class and not to forget, the impact of climate change on all spheres of life. These are all global concerns which require local response for any kind of mitigation.

Aquaculture, particularly from freshwater sector, food production can see a big ray of hope, although above said limiting factors will impact it as well. Aquaculture sector is being challenged by climate change, declining resources (land, water, nutrients), lack of adequate number of species, lack of good quality and quantity of fish seeds, increasing cost and decreasing quantity of feed ingredients and health management.

India has vast potential aquatic resources in the form of ocean (2.02 million sq.km.), rivers (29,060 km.), reservoirs, ponds, tanks, lakes (4 million ha.) and blessed with nearly 46 inches of rainfall annually.

ICAR-Taralabalu KVK has making its sincere efforts in addressing this issue of producing food to meet the national and international demand. KVK has taken series of demonstrations on freshwater aquaculture practices and trying to inculcate the habit of fish culture wherever water and other resources are available (KVK Annual Reports, 2011-2017).

Interventions:

Frontline demonstrations on polyculture of freshwater fishes were conducted from 2011 to 2016 with 35 farmers in 20 villages of Davanagere district. Good aquaculture practices were taught to farmers through on and off campus trainings. Pond preparation, selection of fish fingerlings, feeding rate and frequency, water quality management were discussed with scientific rationale.

Farmers were supplied with fingerlings of carps (Catla catla, Labeo rohita, Cyprinus carpio, from BRP Lakkavalli, Hathikatte and FRIC, Bengaluru) and Pangasius sutchi (procured from Andhra Pradesh) and stocked with 15,000 number per ha. All fish seedlings were of 3-4 inches in size at the time of stocking. Cost of seedling was Rs.1 per fingerling.

Ponds were manured with cow dung 15 days prior to stocking and allowed plankton to establish in adequate density. Feeding of fishes with rice bran and groundnut (1:1) mixed with vitamin mineral mixture at the rate of 3% body weight.

Frontline demonstration (2010-11): Pangasius sutchi along with Catla and Rohu at 4:3:3 were stocked in 7 farmers' ponds of varying areas (from 550 m² to 1100 m²) (MM Rahman, 2006). Pangasius was brought into the district for the first time (8-10 cm length and 2-3 fingerlings per m²) in collaboration with ZARS, Navile, Shivamogga. There were not many farmers to take up pond fish culture as they had not seen successful ventures in aquaculture yet. Pangasius and carps were given farm made feed initially for 4 months and then, factory made extruded floating feed for the rest of culture period of 8 months at the rate of 3-5% of body weight.

Frontline demonstration (2012-13): First attempt to introduce culture Pangasius in ponds was encouraging which prompted 17 farmers to come forward and take up fish culture in their own lands. Farmers with farm ponds (100 m²) to big earthen ponds (1 ha) were trained to stock Pangasius, Catla, Rohu and Common carp with 3-4 fingerlings per m². Feeding was better standardised upon previous year's experience as Pangasius being a voracious feeder.

Frontline demonstration (2013-14): Successful demonstration of Pangasius culture along with carps had encouraged farmers to take up fish culture in larger ponds. Six farmers with varying pond size (0.25 acre to 4 acres) were part of this demonstration who could repeat the previous year's success in production. The cost of feeding was noted to increase as the industry observed a steep increase in the cost of feed ingredients.

Frontline demonstration (2016-17): Experiences of senior fish farmers had helped beginners to operate with ease especially in stocking bigger sized fingerlings. Few farmers were trained to rear fingerlings in smaller ponds for a period of 3 months with higher stocking density (15-30 fingerlings per m²). Stunting of fingerlings was

practiced by giving feed ad libitum (Kamaruddin, R. and Baharuddin, A., 2015). This practice gave potentially stronger advanced fingerlings for stocking in bigger ponds. Such special fingerlings would grow faster than normal ones. Five farmers with varying pond sizes (0.4 ha to 2 ha) were selected to demonstrate the power of fish culture in doubling the farmers income without a doubt.

Extension activities:

On and off campus trainings relevant to the demonstrated technologies were conducted periodically for all the selected farmers. National Farmers Day and World Aquaculture Day were celebrated every year on July 10th and November 21st respectively to boost the morale of farmers in collaboration with Department of Fisheries. Four NFDB sponsored training programmes were conducted by KVK to introduce latest technologies in freshwater aquaculture. Regular field visits and method demonstrations were carried out to monitor the practices in farmers’ field level. Two trainings sponsored by Department of Fisheries were conducted every year to allow farmers to utilise the scheme benefits. A special training on feeding was organised in collaboration with CIFA, RC, Hesaraghatta, Bengaluru. Farmers were given practical understanding of fish culture practices with practicing farmers in neighbouring districts viz., Shivamogga and Bellary. They were also taken to Government seed production centre BRP, Lakkavalli and Seed Rearing villages Hathikatte and Pillangeri of Bhadravathi taluk.

Results:

Fish culture in own ponds had started to gain momentum with farmers making good profits during the previous years.

Results of FLD 2010-11: The yield from demonstration was 79% more than the check (village tank culture). The culture was carried out for 10 months and feeding with floating feed from the beginning would have helped in increasing the yield further. The average selling price at farm gate was Rs.40 per kg of fresh fish. The yield obtained in the demonstration was far below the potential of the involved species and it could be attributed to the smaller stocking size (8-9 cm) besides lower feeding rate and frequency.

Table 1: Yield and economics of FLD 2010-11

Cost of production (Rs./ha)		Yield (t/ha)		Gross Return (Rs./ha)		C:B	
D	C	D	C	D	C	D	C
75,863	30,000	5.4	1.1	2,08,312	44,000	2.75	1.4

Note: D = Demonstration & C= Check

Results of Demonstration 2012-13: The yield increase over check in the demonstration was 75% and CB ratio was 5.33 as against 3.0 which clearly indicate the benefits of scientific management in pond culture. Stocking of bigger sized fingerlings (12-15 cm) and extended culture period to 12 -14 months helped in realising good production (8 t/ha) and increased market price (Rs.100 /kg) with average weight of fish 1.25 kg. Farmers were encouraged to interact with Pangasius seed production centres in Andhra Pradesh for better rapport among industrial players.

Table 2: Yield and economics of FLD 2012-13

Cost of production (Rs./ha)		Yield (t/ha)		Gross Return (Rs./ha)		C:B	
D	C	D	C	D	C	D	C
1,50,000	50,000	8	2	8,00,000	1,50,000	5.3	3.0

Note: D = Demonstration & C= Check

Results of demonstration 2013-14: The market price was better for bigger sized fishes and this persuaded the farmers to go in for longer culture periods, although cost of production would increase. Nearly, 18-20 months of culture period had helped farmers to achieve record yield up to 25 t/ha (94% increase over check).

Table 3: Yield and economics of FLD 2013-14

Cost of production (Rs./ha)		Yield (t/ha)		Gross Return (Rs./ha)		C:B	
D	C	D	C	D	C	D	C
4,00,000	50,000	25	1.5	12,50,000	75,000	3.12	1.5

Note: D = Demonstration & C= Check

The selling price was unfortunately fallen to Rs.50 /kg perhaps due to reduced acceptance of Pangasius in local market. This fish was more suitable for oil fry preparation where as local population relishes curry preparation. They had increased the stocking ratio of Pangasius to nearly 60%. Hence, farmers were forced to find far off market places like Bhadravathi wherein price negotiation was settled to the above said average price irrespective of the size of fish. However, this arrangement was still beneficial for bigger farmers who could follow periodical harvest and stocking method.

Results of Demonstration 2016-17: Care was taken to stock bigger sized fingerlings which helped in increasing the yield to 92.5 % over the check. The average yield in demonstration was 8.5 t/ha in 12 months. There was no periodical harvesting and stocking practiced here. Hence, the total yield was lower compared to earlier years. Selling price was at an average of Rs.75/kg.

Table 4: Yield and economics of FLD 2016-17

Cost of production (Rs./ha)		Yield (t/ha)		Gross Return (Rs./ha)		C:B	
D	C	D	C	D	C	D	C
1,90,500	30,000	8.52	0.6	6,37,500	48,000	3.2	1.6

Note: D = Demonstration & C= Check

Discussion:

The above frontline demonstrations have helped in drawing the attention of farmers towards freshwater aquaculture. It is clearly observed that doubling the farmers income through fish culture is more than possible. They are convinced that the fish culture could help in enhancing their income. The area under fish culture had increased from 5 acres to 80 ha during the past 10 years in the district.

Farmers involved in paddy cultivation can certainly take a serious look at fish culture as an additional venture since water is easily available. Our KVK is continuously making efforts to motivate paddy farmers to take up fish culture however, the resistance to change still persists.

These demonstrations per se have made the farmers gain first hand knowledge on fish culture practices. Producing stunted fingerlings, interim harvest and stocking, trying lesser used feed items like dried azolla, tender grass, lucerne leaves, beaten and puffed rice, food wastes from hotels, hostels, schools, temples, wedding centres, flour mills etc are some managerial strategies innovated by our farmers. These have helped them in cutting the cost to an extent of 20%. Prolonged culture period has helped some farmers to manage the marketing situation.

Extension approaches have made number of farmers to take a look at fish culture as a career option including some young farmers. Average foot fall of farmers for enquiring fisheries related issues is around 5 per day in our KVK. The fish production through aquaculture has increased from 5000 t to 16,000 t in the district (Fisheries Statistics, Department of Fisheries, Davanagere, 2017-18).

Dwindling market price, varying market acceptance, ever increasing input costs especially the feed ingredients and water availability are crucial in determining the success of inland fish culture. Availability of right species with proper size in adequate number is essential in promoting the freshwater aquaculture. Karnataka state has inland fish seed demand approximately up to 51 crore and 30 crore get produced within the state wherein the rest comes from neighbouring states (Blue Revolution Guidelines, NFDB, 2018). Seed production and seed rearing areas do still require proper attention by all the concerned.

Farmers need constant encouragement from all angles viz., Governments, consumers, industries, bureaucrats to sustain interest in aquaculture. They also need to get updated about latest technologies in the sector so as to cope with the changing trends. KVKs, Universities, Institutes related to fisheries have to take this task of preparing farmers for changing demands. Therefore, in turn these institutes need to get updated and supported by the governments.

Species like Amur common carp, Pacu, Jayanthi Rohu, GIFT tilapia, pearl culture, freshwater prawn *Macrobrachium* are some of the recent additions to inland aquaculture in interior districts like ours. We have tried to demonstrate all of this except pearl culture with few farmers and success has been varying without consistency. *Pangasius* seed production is not there in Karnataka. Pacu seed production is not yet legalised. Culturing shrimp (*Penaeus japonicas*, *P. vennamei*) in changed salinity is still not commercially successful. Floating feed supply to interior places is not easy yet.

Information and hands on experience about aquaponics is minimal. Bioflocs and Recirculatory Aquaculture System are highly power and capital intensive and we are not ready yet to establish such advanced approaches. We have tried to work with semi biofloc and semi RAS technologies in modular surface tanks and waiting for the results.

Fresh fish sales are order of the day. Value added products especially in marine fishes are available in plenty. Value addition in the form of icing them immediately after harvest and enhancing the shelf life is perhaps the first step. Although many technologies are available for value addition for inland fishes, currently the supply for direct consumption is still below the demand. Apart from the fish produced in Davanagere district, additional requirement of 25-35 % of inland fishes is supplied from Chitradurga and Shivamogga districts. Catla, Rohu, Common carp, *Pangasius* and Roopchand (*Piaractus brachyomus*, Pacu, in small quantities) are the major

fishes transported and marketed in the district. Marine fishes from Karwar, Malpe and Goa are being sold in Davanagere city. Rural areas are predominantly depend on fresh catches of freshwater fishes from domestic producers. This trend shows that local market in the district gives good opportunity for fresh fish sales. Davanagere city alone consumes 2 tons of fish per day. Hence, production enhancement and selling fresh fish in the district is still having a lot of scope as there is a significant gap between demand and supply.

Inference

Philosophically, FISH has a great place in Indian epics and people worship it as an incarnation of Lord Vishnu Bhagavan. Biologically, fish goes back to ancient times and evolved through eras and continue to do so in the present times. Such a wonderful creature on this planet is providing a greater support to the mankind in several capacities, mainly as nutritious food. During this current crisis of human population explosion, fish turns out to be the best alternative food source to meet the ever increasing demand for food. Aquaculture is one effective technology that hold promise to provide food demand at the desired speed and level. Learning by China's experience, growing and eating fish would certainly give us some hope of sustainability of human race. Unique land of diversity, India must exhibit a special picture to the whole world that we are truly special and provide food to the needy regions in other parts of the world. This background of religion, spirituality and education must ensure realization of the goals set by NFDB (www.nfdb.gov.in).

Current proposals are making a new beginning in the district where the potential exists for greater expansion of aquaculture. We believe in success breeding success and it should infect the neighbour for higher success!! Once we are successful in demonstrating the positive effects of aquaculture, then many will be attracted towards this profession automatically. We wish to improve fish production and productivity in tanks, reservoirs and mainly in field ponds and contribute our bit to the national goal of 5 tonnes/ha/annum production level through the participation of farming community. Integrating various farming practices with fisheries would certainly widen the horizon of life and brighten our day with greater hope for better tomorrow.

Inland aquaculture of fishes has already shown the immense potential to improve the income of farmers. Integrating the fish culture practice in their regular farming system has proven to benefit them substantially.

District has thousands of farm ponds and each of them can be brought under extensive fish culture practice allowing the farmers to generate nutritious food and income simultaneously.

Here, challenges are opportunities for the prepared minds. Future is hopeful with inland aquaculture for farmers.

10.D. Give details of Innovative Methodology or Innovative Approach of Transfer of Technology developed and used during the year

- a) **WhatsApp group:** Started whatsApp group by name 'ICAR-Taralabalu Krishi Vigyan Kendra' which included Krishi Vigyan Kendra and AHRS scientists, Development Department personnel, farmers, NGO activities, company manufacturers among others. Innovative technologies are discussed and farmers problems are addressed immediately.
- b) **Saturday Organic Bazaar:** Weekly Sandy held at Krishi Vigyan Kendra premises every Saturday helped organic farmers and consumers of organic produce as it is made available next door.
- c) **Kasa Rasa Abhiyana:** Campaign and Demonstration started for urban bio-waste degradation using microbial culture and use of compost in kitchen garden.

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 2020:

Period of observing Technology Week: From 4-12-2020 to 05-12-2020

Total number of farmers visited : 234

Total number of agencies involved : 05 (Agriculture Department, ATMA Project, District Krishika Samaja, IAT, and Zilla Panchayath, Davanagere)

Number of demonstrations visited by the farmers within KVK campus: 11

Other Details

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Gosthies	-	234	
Lectures organized	05		SHGs, Soil Health Mangment
Exhibition	02		KVK technologies, Biofuel
Film show	01		Farm Act-2020
Fair	-		
Farm Visit	02		KVK Instructional Farm
Diagnostic Practicals	-		
Supply of Literature (No.)	02		Biofuel, DSR
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	234		

10 G. Recognition and Awards: Please give details about National and State level reconginition and awards:

Nil

PART XI – SOIL AND WATER TEST

11.1 Soil and Water Testing Laboratory

A. Status of establishment of Lab : Established

1. Year of establishment : 2011 (April)

2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost	Status
1	Digital conductivity meter	01	12,860-00	Good
2	Digital pH meter	01	11,033-00	Good
3	Flame photometer	01	48,375-00	Good
4.	Spectrophotometer	01	42,570-00	Good
5.	Macro Block digestion system: KIL 08 L	01	96,212-00	Good
6.	Distillation system KJELO DIST EAS VA	01	1,77,268-00	Good
7.	Digital Burette Titration system	01	53,212-00	Good
8.	Quartz single distillation model with 4 l/h capacity	01	31,482-00	Good
9.	Quartz double distillation unit with 1.5 l/h capacity	01	64,130-00	Good
10.	Hot air oven	01	29,786-00	Good
11.	Hot plate Rectangular	01	6,784-00	Good
12.	Water bath	01	5,724-00	Good
13.	Digital Analytical balance capacity 210 g	01	69,960-00	Good
14.	Table top balance capacity 10 kg	01	6,890-00	Good
15.	Heating mantle capacity 250 ml	01	1,908-00	Good
16.	Kent water purifier	01	16,500-00	Not working
	Total	15	6,74,694-00	

B. Details of samples analyzed since establishment of SWTL:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages
Soil Samples	10213	8160	5829
Water Samples	8032	6213	5347
Plant samples	--	--	--
Manure samples	--	--	--
Others (specify)	--	--	--
Total	18245	14373	11176

C. Details of samples analyzed during the 2020:

Details	No. of Samples analyzed	No. of Farmers benefited	No. of Villages
Soil Samples	964	716	453
Water Samples	587	475	365
Plant samples	--	--	--
Manure samples	--	--	--
Others (specify)	--	--	--
Total	1551	1191	818

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

Mobile Kits	Date of purchase	Current status
1.		
2.		

B. Details of soil samples analyzed during 2020 and since establishment with Mobile Soil Testing Kit: Nil

	Progress during 2020	Cumulative progress
Samples analyzed (No.)		
Farmers benefited (No.)		
Villages covered (No.)		

11.3 Details of soil health cards issued based on SWTL & Mobile Soil Testing Kit during 2020: Nil

Particulars	Date (s)	Villages (No.)	Farmers (No.)	Samples analyzed (No.)	Soil health cards issued (No.)
SWTL	-	453	716	964	964
Mobile Soil Testing Kit					

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	171	50	-	-	6	4

PART XII. IMPACT

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)

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

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

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

PART XIII - LINKAGES

13A. Functional linkage with different organizations

Name of organization	Nature of linkage
UAHS, Shivamogga	Technologies, Trainings, Farm trials
IIHR, Bengaluru	Technologies
UAS (Bengaluru), UAS-(Dharwad), UAS (Raichur), KUAFSU (Bengaluru), UHS (Bagalkot)	Technologies
Department of Agriculture, Horticulture, AH & VS	Trainings, Field visits
Dept. of Animal Husbandry and Veterinary Science, Davanagere	Conducting Animal Health Camps and Extension Functionaries Training Programme.
Techno Serve, Davanagere	Conducting animal health Camps, Training programmes and Method Demonstration.
KWDP-II Sujala III, Department of Horticulture	Diagnostic field visits, Trainings.
Farmers Producer Company Ltd	Interactive meetings, Trainings.
RCF Ltd	Collaborative Programmes like trainings/ seminars.
MANAGE, Hyderabad	Trainings, DAESI
IAT and Krishika Samaja	Collaborative Programmes like trainings, Workshops
Tota Uthpanna Marata Co-Operative Society, Channagiri	Training related to horticultural technologies
ATMA	Field visits, Trainings, Krishi Abiyana
Karnataka State Biofuel Development Board	Sponsored project in ongoing since 2011
CRIDA, Hyderabad	Climate resilient technologies for NICRA project.
ASCI, New Delhi	Skill development training
PKVY	Project on organic farming
IFFCO Ltd.	Extension Activities

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.) (2020-21)
NICRA	17-01-2011	ICAR	8,40,000-00
Bio-energy Information and Demonstration Centre	22-3-2011	Karnataka State Bio-energy Development Board, GoK	
Sujala-III,	February 2019	Department of Agriculture	3,00,000-00
PKVY	August 2019	ATARI, Bengaluru	3,80,000-00
ASCI	August 2018	RKVY	4,05,800-00
Sujala III	2019	ATARI, Bengaluru	10,40,000-00
SAP	2019	ATARI, Bengaluru	37,500-00

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				
02	Research projects	-			
03	Training programmes				
04	Demonstrations				
05	Extension Programmes				
	Kisan Mela	-			
	Technology Week	Technology week		01	
	Exposure visit				
	Exhibition				
	Soil health camps				
	Animal Health Campaigns				
	Others	Field visits	57		

06	Publications				
	Video Films				
	Books	Kannada version of DFI document		01	Financial support
	Extension Literature				
	Pamphlets				
	Others (Pl. specify)				
07	Other Activities (Pl. specify)	Farmers Day Celebration		01	
	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

13E. Nature of linkage with National Fisheries Development Board - NIL

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

13F. Details of linkage with RKVY

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
1	Voacational Trainings	Trainings	4,05,800	4,05,590	-

13G. Kisan Mobile Advisory Services: Nil (Not working)

Month	Message type (Text/Voice)	SMS/voice calls sent (No.)						Total SMS/Voice calls sent (No.)	Farmers benefitted (No.)
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprises		
January	--	--	--	--	--	--	--	--	
February	--	--	--	--	--	--	--	--	
March	--	--	--	--	--	--	--	--	
April	--	--	--	--	--	--	--	--	
May	--	--	--	--	--	--	--	--	
June	--	--	--	--	--	--	--	--	
July	--	--	--	--	--	--	--	--	
August	--	--	--	--	--	--	--	--	
September	--	--	--	--	--	--	--	--	
October	--	--	--	--	--	--	--	--	
November	--	--	--	--	--	--	--	--	
December	--	--	--	--	--	--	--	--	
Total	--	--	--	--	--	--	--	--	

PART XIV- PERFORMANCE OF INFRASTRUCTURE IN KVK

14A. Performance of demonstration units (other than instructional farm)

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Dairy Unit (3 cows)	2009	80 sq m	-	Milk	3000 l	1,92,000	2,00,000	-
					FYM	20 t			
2	Sheep unit (10+1)	2020	25 sq m	-	Lamb	01	-	-	Breeding unit
3	Azolla unit	2009	10 sq m	Azolla pinneta	Azolla culture	5 kg per day	-	1000 (As Culture)	Used for feeding
4	Vermi compost	2008	5 guntas	1.Eudrilus eurgenia	Vermicompost	17.67 q		201952	Vermicompost and Earthworms are produced and sold

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									
Pulses									
Red gram									
Oilseeds									
Fibers									
Spices & Plantation crops									
Floriculture									
Fruits									

Vegetables									
Others (specify)									
Green Manure Crop (Velvet Beans)	05-03-2020	31-12-2020	1		Seed	869 kg	32,350-00	1,30,350-00	1,30,350-00
Mixed fruit orchard									
Mango varietal plot	2018		0.5						Vegetative Growth
Lime plants plot	2018		0.25						Vegetative Growth
Jamun plant plot	2018		0.25						Vegetative Growth
Arecanut multi spacing plot									Vegetative Growth
Jack plant plot	2018		0.25						Vegetative Growth
Arecanut multispacing plot	2017		0.5						Vegetative Growth
Agro Forestry	2019		0.25						Vegetative Growth

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	
1	Azolla	35 kg	150	700	
2	Arka Microbial Consortia (Liquid)	416 L	104000	108160	
3	Arka Microbial Consortia (Solid)	100 kg	14000	15000	
4	Compost Prachodak	432 kg	10000	14400	
5	Pseudomonas	2 L	350	700	
6	<i>Trichoderma harzianum</i> (Liquid)	37 L	7400	11100	
7	Earthworm	124 kg	8500	37655	

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

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	Dairy Demo unit	HPX	Milk	3100 L	84,000-00	105400-00	For 3 Animals
2	Sheep Demo Unit	Bellary local	Lamb	-	5,000-00	-	10+1 unit

14E. Utilization of hostel facilities

Accommodation available (No. of beds) - 35

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
January	00		Due to COVID-19
February	00		
March	00		
April	00		
May	00		
June	00		
July	00		
August	00		
September	00		
October	00		
November	00		
December	00		

14F. Database management

S.No	Database target	Database created
1	Data base on soil test, water test, radio talk, guest lecture and other extension activities including FLD and OFTs.	Updating has continued with this data base

14G. Details on Rain Water Harvesting Structure and micro-irrigation system: NIL

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

PART XV – SPECIAL PROGRAMMES

15.1 Paramparagath Krishi Vikas Yojana (PKVY)

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	Rameshwara	248	34.5	189	0.35		Onion	Bhima Super	<ul style="list-style-type: none"> • Trichoderma • AMC liquid 	138.3	143276	63800
							Arecanut	Channagiri Local	<ul style="list-style-type: none"> • Trichoderma • AMC liquid 	19.34	163728	372492
						<ul style="list-style-type: none"> • Vemricompost pits (on going) • Azolla Pits (On going) 	Selected farmers and initiated the treatment					

15.2 District Agriculture Meteorological Unit (DAMU): Nil

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					

15.3 Fertilizer awareness programme 2020: Nil

State	Name of KVK	Details of Activities/programme Organised	Number of Chief Guests	No. of Farmers attended program	Total participants

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 :: Nil

Sl.No.	Crop	Varieties demonstrated and check	Allocated		Implemented	
			Area (ha)	Demos (No.)	Area (ha)	Demos (No.)
	Total					

15.6 CFLD on Pulses :

Sl.No.	Crop	Varieties demonstrated and check	Allocated		Implemented	
			Area (ha)	Demos (No.)	Area (ha)	Demos (No.)
1	Redgram	BRG-5/BRG-2	16	40	16	40
2	Bengalgram	JAKI 9218/JG-11	16	40	16	40
	Total		32	80	32	80

15.7 Krishi Kalyan Abhiyan: 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

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

15.9 Tribal Sub-Plan - Nil

Farmer Training		Women Farmer Training		Rural Youths		Extension Personnel		OFT (No of Technolo gress)	Number of farmers involved			Partici pants in extensi on activiti es (No.)	Produ ction of seed (q)	Produ ction of Planti ng materi al (Num ber in lakh)	Produ ction of Livest ock strains (Num ber in lakh)	Produ ction of fingerl ings (Num ber in lakh)	Testi ng of Soil, water, plant, manu res sampl es (Num ber)
No. of Trainings/ Demos	No. of Farmers	No. of Trainings/ Demos	No. of Women Farmers	No. of Trainings/ Demos	No. of You ths	No. of Trainings/ Demos	No. of Ext. Pers on		On - far m tri als	Front line demo s	Mobi le agro-adv isory to farm ers						

15.10 SCSP : Nil

Farmer Training		Women Farmer Training		Rural Youths		Extension Personnel		OFT (No of Technolo gress)	Number of farmers involved			Partici pants in extensi on activiti es (No.)	Produ ction of seed (q)	Produ ction of Planti ng materi al (Num ber in lakh)	Produ ction of Livest ock strains (Num ber in lakh)	Produ ction of fingerl ings (Num ber in lakh)	Testi ng of Soil, water, plant, manu res sampl es (Num ber)
No. of Trainings/ Demos	No. of Farmers	No. of Trainings/ Demos	No. of Women Farmers	No. of Trainings/ Demos	No. of You ths	No. of Trainings/ Demos	No. of Ext. Pers on		On - far m tri als	Front line demo s	Mobi le agro-adv isory to farm ers						

15.11 NARI: Nil

Activity	Achievement	
	Number of activity	No. of farmers/ beneficiaries
OFTs – Nutritional Garden (activity in no. of Unit)		
OFTs – Bio-fortified Crops (activity in no. of Unit)		
OFTs – Value addition(activity in no. of Unit/Enterprise)		
OFTs - Other Enterprises (activity in no. of Unit/Enterprise) (activity in no. of Unit/Enterprise)		
FLDs – Nutritional Garden (activity in no. of Unit)		
FLDs – Bio-fortified Crops (activity in no. of Unit)		
FLDs – Value addition(activity in no. of Unit/Enterprise)		
FLD- Other Enterprises (activity in no. of Unit/Enterprise) (activity in no. of Unit/Enterprise)		
Trainings		
Extension Activities		

15.12 KVK Portal:

No. of Events added by KVKs	No. of Facilities added by KVKs	Filled Report on Package of Practices (Y)				Filled Profile Report (Y/N)							
		Crop	Livestock	Fisheries	Horticulture	Employees	Posts	Finance	Soil Health Cards	Appliances	Crops	Resources	Fish
1505	22	4	-	-	2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

15.13 KSHAMT: Nil

Number of Adopted Villages	No. of Activities		No. of farmers benefited	
	Demo	Training	Demo	Training

15.14 DFI:

S l	District	Taluks	Villages	Farmers (No.)	Average Benchmark Income (Rs/year)	Crops/enterprises	KVK Interventions	Additional Net Income generated due to KVK interventions (Rs/year)	Total income of farmer (Rs/year)
1	Davanagere	Davanagere	Agsanakatte	50	1,51,848.20	Maize Redgram Arecanut Banana Dairy	<p>A. OFTs: 1. Effect of Nano fertilizers (N & Zn) on growth and yield of maize (2020-21). 2. Assessment of performance of improved carps, <i>pangassius</i> and farmed tilapia in farm ponds (2020-21). 3. Assessment of urea treated paddy straw along with grain mixture (starch source) in dairy animals (2020-21). 4. Feeding Urea-treated Paddy straw along with grain mixture (starch source) for better performance in dairy animals (2018-19).</p> <p>B. FLDs: 1 Integrated crop management in maize (2020-21). 2. Integrated crop management in rice (2020-21). 3. Micronutrient management in tomato (2020-21). 4. Integrated pest and disease management in arecanut (2020-21). 5. Integrated crop management in finger millet (NFSM-CFLD-Nutri cereals 2018-19). 6. Integrated Crop Management in Arecanut (2018-19)</p>	62,550.00	2,14,398.2

							C. NICRA project activities (Additional village).		
							D. Trainings and Extension activities		
2	Davanagere	Nyamathi	Rameshwara	50	2,56,560.00	Maize Redgram Bengalgram Sorghum Onion Chilli Beans Tomato Arecanut Dairy	<p>A. OFTs: 1. Assessment of groundnut varieties (2020-21). 2. Assessment of onion varieties for rabi season (2020-21).</p> <p>B. FLDs: 1. Integrated crop management in onion (2020-21). 2. Integrated crop management in redgram (NFSM-CFLD-2020-21). 3. Integrated management of crossbred dairy animals (2020-21). 4. Fodder cafeteria (2020-21). 5. Integrated crop management in bengalgram (NFSM-CFLD-2020-21). 6. Integrated crop management in Sorghum (2018-19). 7. Integrated Crop Management in Onion (2018-19). 8. Feeding dairy animals based on Indian standards for better performance (2018-19). 9. Demonstration of nutrition garden (2018-19). 10. Integrated Crop Management in Redgram (NFSM-CFLD 2018-19). 11. Integrated Crop Management in Bengal Gram (NFSM-CFLD 2018-19). 12. Integrated Crop Management in brown top millet (NFSM –CFLD- Nutri cereals, 2018-19).</p> <p>C. PKVY project activities.</p> <p>D. Trainings and Extension activities.</p>	71,250.00	3,27,810.00

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							
With KVK	State Bank of India	Davanagere	05624	ICAR-Taralabalu Krishi Vigyan Kendra	30166599498	577002902	SBIN0005624

16 B. Utilization of KVK funds during the year 2019-20(Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	135.000	132.786	130.723
2	Traveling allowances	001.000	001.000	001.000
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)	003.000	003.000	002.998
<i>B</i>	POL, repair of vehicles, tractor and equipments	002.500	002.500	002.434
<i>C</i>	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	000.750	00.750	000.742
<i>D</i>	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	000.750	00.750	000.749
<i>E</i>	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	003.150	002.776	002.401
<i>F</i>	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	000.520	000.260	000.259
<i>G</i>	Training of extension functionaries	000.500	000.500	000.500
<i>H</i>	Extension Activities	000.500	000.500	000.500
<i>I</i>	Farmers Field School (FFS)	000.250	000.250	000.247
<i>J</i>	SWT & Soil Health Cards	000.250	000.250	000.250
<i>K</i>	Maintenance of buildings	001.750	001.750	001.750
<i>L</i>	Nutrigardens	000.250	000.250	000.249
<i>M</i>	Video Production	000.250	000.250	000.250
<i>J</i>	Library	000.050	000.050	000.050
TOTAL (A)		150.470	147.622	145.102

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)		000.000	000.000
C. REVOLVING FUND		000.000	000.000
GRAND TOTAL (A+B+C)		150.470	147.622

Utilization of KVK funds during the year 2020-21 (Rs. in Rs.) – Upto December – 2020

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	1,41,75,000-00	1,15,38,289-00	95,97,921-00
2	Traveling allowances	1,50,000-00	94,100-00	19,597-00
3	Contingencies	13,09,000-00	8,21,040-00	9,30,921-00
<i>A</i>	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	3,00,000-00	1,87,840-00	1,58,185-00
<i>B</i>	POL, repair of vehicles, tractor and equipments	2,25,000-00	1,41,100-00	2,18,178-00
<i>C</i>	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	75,000-00	47,000-00	68,420-00
<i>D</i>	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	75,000-00	14,290-00	66,685-00
<i>E</i>	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	3,02,000-00	1,89,000-00	2,12,918-00
<i>F</i>	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	1,27,000-00	80,000-00	92,910-00
<i>G</i>	Training of extension functionaries	50,000-00	31,400-00	--
<i>H</i>	Maintenance of buildings	50,000-00	31,400-00	39,690-00
<i>I</i>	Establishment of Soil, Plant & Water Testing Laboratory	25,000-00	15,700-00	1,330-00
<i>J</i>	Library	5,000-00	3,100-00	4,355-00
TOTAL (A)		1,56,34,000-00	1,24,53,429-00	1,05,48,439-00

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)		1,56,34,000-00	1,24,53,429-00	1,05,48,439-00

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

Year	Opening balance as on 1 st January	Income during the year	Expenditure during the year	Net balance in hand as on 31 st December of each year
January to December 2018	01.603	46.613	48.152	00.064
January to December 2019	00.064	55.617	50.915	04.766
January to December 2020	04.766	45.022	49.767	00.021

17. Details of HRD activities attended by KVK staff

Name of the staff	Designation	Title of the training programme	Institute where attended	Dates
Santhosh B	Programme Assistant (computer)	Online Summer Training Programme on "Full Stack Web Development"	Electronics & ICT Academy Indian Institute of Technology Roorkee	01-10-2020 to 14-10-2020

18. Please include any other important and relevant information which has not been reflected above (write in detail). Like details regarding FPO formation, Achievements during COVID-19 lockdown period.

1. 18th SAC meeting was organized on 21-12-2020.
2. Organized Hon'ble Prime Minister's live address to farmers on the occasion of 'PM Kisan Nidhi Fund release programme' on 25-12-2020.
3. Krishi Vigyan Kendra hosted 'Vijaya Karnataka Super Star Farmer Award 2020' function on 10-12-2020.

4. Special Days Celebrated:

- 'Women in Agriculture Day' was celebrated on 4-12-2020.
 - 'World Soil Day' was celebrated on 5-12-2020 in collaboration with Department of Agriculture, ATMA, and IAT and Krishik Samaj, Davanagere.
 - 'Farmers Day' celebrated on 23-12-2020 in collaboration with Department of Agriculture, ATMA, and IAT and Krishik Samaj, Davanagere.
 - Republic Day Celebration 26-01-2020.
 - 'Kisan Summan Diwas' was celebrated on 23-12-2019 in collaboration with Department of Agriculture, Davanagere.
 - 'International Women Day' was celebrated on 9-3-2020 along with Anganawadi teachers. Gynaecologist Dr. Shanta Bhat felicitated on the occasion for her work in Kasa Rasa Abhiyana.
 - 'World Environment Day' was celebrated on 5-6-2020 in collaboration with Gram Panchayath, Kandankovi, Davanagere tq.
 - 'National Fish Farmers Day' celebrated on 10-07-2020 in collaboration with Department of Fisheries, Davanagere.
 - Bagawan Balaram Joyanthi on 9-8-2020. Hon'ble Prime Ministers address to Nation was telecasted live.
 - 74th Independence Day celebrated on 15-08-2020.
 - Parthanium Eradication week' during 16-8-2020 to 22-08-2020.
 - International Bio-Fuel Day' celebrated on 10-08-2020 at Dagainakatte village, Channagiri tq. in collaboration with Zilla Panchayath, Davanagere.
 - 'Hindi Day' celebrated on 14-9-2020.
 - 'Poshan Mahe' celebrated during September 2020 and Poshan Diwas celebrated on 17-09-2020.
 - 'Kisan Mahila Diwas' celebrated on 15-10-2020
 - 'World Fisheries Day' celebrated on 21-11-2020.
5. Quinquennial Review Meeting was held at UAS, Dharwad on 8-1-2020. The achievements and impact of KVK activities during 2011-12 to 2018-19 presented to the team and exhibition depicting KVK activities arranged on the occasion.
 6. Vocational Training on 'Dairy Enterprenership Training' from 20-01-2020 to 19-02-2020 and Coconut tree climbing and plant protection (FOCT) from 27-01-2020 to 19-02-2020 sponsored by Agricultural Skill council of India (ASCI), New Delhi for 20 farmers each.

7. Dr. T.N. Devaraja , Senior Scientist-Cum-Head participated in KVK Annual conference at New Delhi from 28-02-2020 to 1-3-2020.

8. Participated in 3 days State Level Krishimela from 05-03-2020 to 07-03-2020 organized by Sri Channappa Swamy, Hirekalmath, Honnali.

1. Completed 3rd batch of DAESI Diploma Programme in collaboration with MANAGE, Hyderabad, SAMETI, South, UAS, Bengaluru and Department of Agriculture, Davanagere (1 year duration).
2. Mr. Basavanagowda M.G., SMS (Horticulture) participated in the International convention on “Prospective to face contemporary challenges of Agriculture Development at New Delhi from 18-2-2020 to 19-2-2020.

9. Inter State tour to FPOs:

- a) 25-02-2020 to 02-03-2020 – Vishwabandu Horticulture Farmers Producer Company Ltd., Hebbal, Davanagere.
- b) 26-02-2020 to 01-03-2020, Utsavamba Horticulture Farmers Producer Company Ltd., Kanchikere Harapanahalli tq.
- c) 27-02-2020 to 02-03-2020, Thirthameshwara Horticulture Farmers Producers Company Ltd., Nyamathi tq.

Special Activities during lockdown period

10. Facilitated marketing of fruits and vegetables through 4 FPOs during lockdown period. 25.23 t
11. Organized mango marketing by producers and FPOs directly to consumers on 23-05-2020, 30-05-2020 and 06-06-2020.
12. KVK facilitated 11 reverse migrants to start sheep rearing unit through Kisan Credit Card at Kalledevarapura village, Jagaluru tq.

Dignitaries visits:

13. Dr. K.Narayana Gowda, Ex-Vice Chancellor, UAS, Bengaluru visited KVK on 29-03-2020.
14. Dr. Venkata Subramanian, Director, ICAR-ATARI, Bengaluru visited KVK on 19-08-2020 and reviewed the activities.
15. Dr. Shashidhar, DE, UAHS, Shivamogga visited OFT and FLDs plots and interacted with farmers from Rameshwara village on 20-08-2020.

16. List of videos recorded by ICAR-Taralabalu KVK, Davanagere

Youtube channel: ICAR-Taralabalu KVK:

ATMA NIRBHAR BHARAT videos

1. ATMA NIRBHAR BHARAT - General Information
2. ATMA NIRBHAR BHARAT -1st point - Additional Emergency Fund
3. ATMA NIRBHAR BHARAT - 2nd point - Kisan Credit Card Scheme (KCC)
4. ATMA NIRBHAR BHARAT - 3rd point - Minimum Support Price (MSP)
5. ATMA NIRBHAR BHARAT - 4th point - Animal Husbandry
6. ATMA NIRBHAR BHARAT - 5th point – Fisheries
7. ATMA NIRBHAR BHARAT - 6th point - Farm Gate structures
8. ATMA NIRBHAR BHARAT - 7th Point Micro Food Enterprises (MFE)-1
9. ATMA NIRBHAR BHARAT - 8th point Micro Food Enterprises(MFE)-2
10. ATMA NIRBHAR BHARAT - 9th Point Pradhan Mantri Matsya Sampada Yojana (PMMSY)
11. ATMA NIRBHAR BHARAT - 10th point National Animal Disease Control Programme (NADCP)
12. ATMA NIRBHAR BHARAT - 11th point Animal husbandry special package
13. ATMA NIRBHAR BHARAT - 12th point Promotion of Herbal Cultivation (Medicinal plants-2)
14. ATMA NIRBHAR BHARAT - 13th point Apiculture
15. ATMA NIRBHAR BHARAT -14th point TOP to TOTAL
16. ATMA NIRBHAR BHARAT - 15th point - Operation Greens
17. ATMA NIRBHAR BHARAT - 16th point Medicinal Plants-1
18. ATMA NIRBHAR BHARAT - 17th point Essential Commodity Act modified
19. ATMA NIRBHAR BHARAT - 18th point Modified APMC Act
20. ATMA NIRBHAR BHARAT - 19th point Scientific Price and free marketing

Crop Advisories

1. Conversion of waste to wealth through Vermicomposting
2. Enrichment of Vermicompost with Trichoderma
3. Experiences of NICRA-TDC, Siddanuru, Davanagere
4. ICAR-Taralabalu KVK activities
5. Management of Hidimundige - Physiological disorder
6. Management of nut dropping in Arecanut
7. Mechanisation in Nipping in Redgram

8. Mechanisation in paddy transplanting
9. Miyawaki Mini forest
10. New Method of Arecanut boiling-Cooker Method.
11. Nursery management in paddy against stem borer
12. Nutrient management in Onion
13. Preparation of Hand sanitizer
14. Purple blotch disease management in Onion
15. Recent Techniques in Arecanut Production
16. Solar trap and organic farming
17. Terrace gardening
18. Thick forest in quick time is by Miyawaki mini forest
19. Timely operations in HYBRID MAIZE for better yield
20. Timely operations in Redgram for boosting the side branches and yield
21. ಅಡಿಕೆಯಲ್ಲಿ ಇಳುವರಿ ಹೆಚ್ಚಿಸಲು ಹಸಿರಲೆ ಗೊಬ್ಬರ (Green manure crops) ಬೆಳೆ ಗಳನ್ನು ಬೆಳೆಯಿರಿ
22. ಅಡಿಕೆಯಲ್ಲಿ ಉತ್ತಮ ಇಳುವರಿಗೆ ಸಮಗ್ರ ಪೋಷಕಾಂಶ ನಿರ್ವಹಣೆ
23. ಅಡಿಕೆಯಲ್ಲಿ ಫಲವತ್ತತೆ ಹೆಚ್ಚಿಸಲು ಮ್ಯಾಜಿಕ್ ಬೆಳೆ - ವೆಲ್ಟ್ ಬೀನ್ಸ್
24. ಅಡಿಕೆಯಲ್ಲಿ ಹಿಡಿಮುಂಡಿಗೆ ಶಾರೀರಿಕ ತೊಂದರೆಯ ನಿರ್ವಹಣೆ
25. ಇಡ್ಲಿ ತರ ಅಡಿಕೆ ಬೇಯಿಸುವ ತಂತ್ರಜ್ಞಾನ -ರೈತರ ಆವಿಷ್ಕಾರ
26. ಉತ್ತಮ ಅಡಿಕೆ ಇಳುವರಿಗೆ ಹಿಂಗಾರು ಹಂಗಾಮಿನಲ್ಲಿ ಪೋಷಕಾಂಶಗಳ ನಿರ್ವಹಣೆ
27. ತೆಂಗಿನ ಗರಿ ಕಪ್ಪಾಗಿದೆಯೇ_ ಇಲ್ಲಿದೆ ಪರಿಹಾರ
28. ತೊಗರಿಯಲ್ಲಿ ಇಳುವರಿ ಹೆಚ್ಚಿಸಲು ಈ ವಿಧಾನವನ್ನು ಅನುಸರಿಸಿ
29. ಪ್ರಕೃತಿ ವಿಕೋಪದಿಂದ ಬಾಳೆ ಬೆಳೆ ರಕ್ಷಣೆ
30. ಬಯಲು ಸೀಮೆಯಲ್ಲಿ ಆಲೂಗಡ್ಡೆ ಬೆಳೆದ ಧೀರ ರೈತ
31. ಮಾವಿನಲ್ಲಿ ಚಾಟನಿ ಮಾಡುವ ಪದ್ಧತಿ ಪ್ರಾತ್ಯಕ್ಷಿಕೆ
32. Cotton production technologies
33. Micronutrient management in Tomato

Lockdown Experience by farmers:

1. ANJANEYA A N, Kumbaluru, Harihara taluk
2. DYAMANNA H.M., Haluvarthy, Davanagere taluk
3. MANJUNATH, Kathalagere, Channagiri taluk
4. NAVINKUMAR, Hanagawadi, Harihara taluk
5. RUDRESH, CEO, Kondukuri FPO, Jagalur

6. SHIVAKUMAR, Devanagari FPO, Huccavvanahalli, Davanagere taluk
7. SHIVPRASAD, Jarikatte, Davanagere taluk
8. THIPPESWAM, Doddabbigere, Channagiri taluk

Videos to PMKSY

1. ANJINAPPA, Siddanuru, Davanagere
2. BASAVARAJA B., Belavanuru, Davanagete taluk
3. CHANNAPPA R.C., Agasanakatte, Davanagere taluk
4. DEVARAJA H.K., Attigere, Davanagere taluk
5. MALLESH G.C., Iguru, Davanagere taluk
6. KALLAPPA D.G., Agasanakatte, Davanagere taluk
7. LATHA, Siddanuru, Davanagere taluk
8. PREMALEELA, Siddanuru, Davanagere taluk
9. Rudrappa B.S., Bommenahalli, Channagiri taluk
10. THIPPESH NAIK, Siddanuru Thanda, Davanagere taluk
11. YASHODAMMA, Rameshwara, Nyamathi taluk

17. Special programmes on Farm Act 2020

- a) 4 days training programme on 'Farm Act 2020' in collaboration with UAS, Dharwad with Dr. Basavaraja Banakar, Ret. Professor as resource person.
- b) Webinar on 'Farm Act 2020' on 4-11-2020 with Dr. R.G. Gollar, Ret. Joint Director of Agriculture as resource person.
- c) KVK organized 10 webinars for farmers and participated in 9 webinars organized by other agencies as resource persons during COVID-19 lockdown period for the benefit of farming community.