PROFORMA FOR PREPARATION OF ANNUAL REPORT
(1st January 2021 to 31st December 2021)

1. GENERAL INFORMATION ABOUT THE KVK

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

a) Name of the KVK as per office records (MoU)	:	Ariyalur KVK
b) Address	:	ICAR Krishi Vigyan Kendra, (Hosted by CREED) Cholamadevi Post, Jayankondam (Via), Udayarpalayam Taluk, Ariyalur District, Tamil Nadu – 612902
c) Official Mobile No.	:	9751280089
d) Email ID	:	kvk.Ariyalur@icar.gov.in creedkvk@gmail.com

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

a) Name of the Host Organization as per office records	:	Centre for Rural Education and Economic Development (CREED)
b)Status of the Host Organization		Non – Governmental Organization
c) Address	:	23, Aranganathan Nagar, Near Chinna Market Chidambaram – 608001, Cuddalore District, Tamil Nadu
d) Landline Phone No.	:	04144-224987
e) Fax No.	:	---
f) Email	:	creed.ngo@gmail.com
e) Name of the Chairperson	:	Dr.V.Nadanasabapathy
e) Mobile No.	:	9443262222
f) Email ID	:	vnsabapathy@gmail.com

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

a) Name of the Programme Coordinator / SS&H:	:	Dr.G.Alagukannan
b) Residential Address:	:	No.1, Sri Nagar, Jayankondam, Ariyalur District - 612802
c) Mobile No	:	9629246586
d) Email	:	gakannan@rediffmail.com

1.4. Year of sanction of the KVK (as per Official Order): 2009

1.5. Month and year of establishment: 23.03.2009

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

S. No.	Item	Area (ha)
1	Under Buildings	0.13
2.	Under Demonstration Units	0.02
3.	Under Crops	5.76
4.	Orchard/Agro-forestry	12.86
5.	Others (specify)	1.24
	Total	**20.01**

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. In Lakhs)	Starting Date	Plinth area (Sq.m)	Status of construction (Completed/ in progress/ to be initiated)
1	Administrative Building	ICAR	31.03.2011	550	71.75381	---	---	---
2	Farmers Hostel	ICAR	31.03.2011	305	49.77500	---	---	---
3	Staff Quarters (No.)							
	1	ICAR	31.03.2011	399.96	55.58500	---	---	---
	2	ICAR						
	3	ICAR						
	4	ICAR						
	5	ICAR						
	6	ICAR						
4	Demonstration Units (add rows if required)							
	1. Goat -1	ICAR	31.03.2011	80	4.00	---	---	---
	2. Nursery-1	ICAR	31.03.2011	80	4.00	---	---	---
	3. Poultry-3	RF	25.10.2018	954	7.0	---	---	---
	4. Oyster Mushroom-1	RF	10.08.2016	90	0.5	---	---	---
	5. Cattle shed -1	RF	24.03.2020	363	3.5	---	---	---
5	Fencing	ICAR	31.03.2012	1500 m	10.00	---	---	---
6	Rain Water harvesting system	---	---	---	---	---	---	---
7	Threshing floor	---	---	---	---	---	---	---
8	Farm godown	---	---	---	---	---	---	---
9	Shed (Farm equipment)	---	---	---	---	---	---	---

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms covered as on 31.12.2021	Present status
Jeep	2020	8,00,000	27944	Good
Tractor	2020	8,00,000	424	Good
Power Tiller	2010	1,50,000	---	Not in working condition
Two wheeler(2)				
Bajaj Pulsar	2010	1,00,000	87,434	Poor condition
Bajaj Platina	2010	1,00,000	98,362	Poor condition

C) Equipment & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Computer dual core	Jan. 2010	50,000	Good
Xerox cum printer	Jan. 2010	70,000	Good
Camera	March 2010	25,000	Good
Generator	March 2011	1,00,000	Good
PUSA STFR Meter	March 2017	73,000	Good
Mini soil testing unit – Mridaparikshak	March 2017	80,000	Good
Computer i3 (2 Nos.)	March 2017	75,000	Good
UPS 2.0 KW (Battery and Inverter)	March 2017	29,000	Good
LED Projector (3200 lumens)	March 2017	29,000	Good
Portable PAS	March 2017	12,000	Good
Digital camera	March 2017	7,000	Good
Handy cam (Video camera)	March 2017	22,000	Good
Refrigerator	March 2017	16,000	Good
Fire extinguisher	March 2017	3,000	Good

1.8. A). Details SAC meeting* conducted in the year

S.No.	Date	No of Participants	Salient Recommendations
1.	07.01.2022	22	• Promotion of organic farming in the district and reduce chemical fertilizer load on soil. • Demonstration of High Density Planting in Cotton. • Promotion of rice follow pulses in district. • Popularize drum seeder for Direct Sown Paddy. • Demonstration of intercrop in Cashew like Blackgram, Green gram, Horsegram • Introduce and demonstrate new Cotton variety CO17 suitable for mechanized cultivation and high density planting. • Conduct method demonstration in mechanization in Cotton cultivation like sowing machine, power weeder, exposure visit to CRS • Promote new Banana varieties released by NRCB. • Trainings for women entrepreneurs in Banana value addition at NRCB. • Promote NRCB app during the training programme • Promote livestock activities especially Desi bird rearing and Goat rearing to ensure livelihood during Covid pandemic situation.

			• Promote groundnut rich booster continuously and also promote other crop boosters. • Conduct demo on New Groundnut variety VRI 9 & VRI 10 (90 – 95 days) released by RRS • Introduce new sesame variety VRI 4. • Conduct more Livestock related trainings. • Promote organic cultivation in good manner. • Promote K1812 Groundnut seed production and increase district productivity. • Get provision from ATARI to establish mini custom hiring centre which also serves as income generating activity to KVK. • Promote proper Drumstick cultivation technology as it has more export opportunities. • Training on cultivation technology on Onion and Tapioca. • Popularization of departmental subsidy schemes among farmers like terrace garden, organic farming, etc., • Create mass awareness among farmers about state and central government schemes through Air, Trichy programs. • Give more radio talks in "Vasantha Azhaippu" live program broadcasted every Friday 9 AM. • Share all programs to AIR, Trichy being conducted by KVK for live broadcast • The same collaboration may be extended in conduct of training in all agri aspects with SBI-RSETI. • Conduct trainings on honey bee rearing, herbs cultivation, Mushroom production, Goat rearing, Poultry rearing with funding support from SBI – RSETI, Ariyalur.

**** Attached a copy of SAC proceedings along with list of participants in Annexure -1***

2. DETAILS OF DISTRICT (2020)

2.0. Operational jurisdiction of KVKs

District	New districts governed by the KVK after division of the district, if applicable	Taluks/Tehsils and/or Mandals under the KVKs jurisdiction
Ariyalur	Not Applicable	

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

Classification	First crop	Second crop	Third crop
Wet land	Paddy (Kuruvai) (June-Oct.)	Paddy (Thaladi) (Oct. to Feb.)	Paddy (Navarai) (Jan – May)
	Paddy (Kuruvai) (June-Oct.)	Paddy (Thaladi) (Oct. to Feb.)	Blackgram (Feb to May)
Garden land	Groundnut (Jun to Sep)	Groundnut (Oct-Jan)	Groundnut (Feb-May)
	Groundnut (Jun to Sep)	Vegetable (Oct – Jan)	Blackgram (Feb-May)

	Groundnut (Jun to Sep)	Groundnut (Oct – Jan)	Blackgram (Feb-May)
Dry land	Fallow	Maize (Aug-Sep)	Fallow
	Fallow	Cotton (Aug-Sep)	Fallow
	Fallow	Sorghum/Varagu (Aug-Sep)	Fallow

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

S. No	Agro-climatic Zone	Characteristics
1	North Eastern Zone	Ariyalur district is located in Northern eastern part of TamilNadu. The climate in the zone basically semi-arid tropical with an average rainfall of 954 mm. The soil pH is ranging from 6.5 to 8.0. Ferruginous red loam occurs
S. No	**Agro ecological situation**	**Characteristics**
1	North Eastern portion of VIII Agro ecological Zone of India	The maximum precipitation is contributed by North East Monsoon. The soil texture is usually loamy, the colour varying from red at the surface to yellow at the lower horizon. Black soil favours the cultivation of rainfed crops viz., cotton, maize in a larger area.

2.3. Soil types

S. No	Soil type	Characteristics	Area in ha
1	Red Soil	Rich source of Fe, Mn, High P fixation capacity due to the presence of kaolinitic clay along with sesquioxides, low organic matter & clay.	66,315
2	Black Soil	More than 30% clay, Mn adding black color to the soil. High CEC with high pH range, abundant source of Mo and Boron.	49,550

2.4. Area, Production and Productivity of major crops cultivated in the district (or the jurisdiction as the case may be) for 2020

Kharif

S. No	Crop	Area (ha)	Production (q)	Productivity (q/ha)
1	Paddy	9,860	42,101	45.5
2	Maize	18,239	90,756	64.1
3	Cotton	10,850	16,136	15.8
4	Black gram	6,435	5,718	8.23
5	Sorghum	1,531	3,368	22.0
6	Bajra	1,425	4,674	32.8
7	Kodo millet	285	427	15.0
8	Finger millet	35	63	18.0

Rabi

S. No	Crop	Area (ha)	Production (q)	Productivity (q /ha)
1	Paddy	24,143	1,03,090	42.7
2	Groundnut	18,450	39,800	22.0
3	Sugarcane	7,440	6,89,865	860.9

4	Banana	167	80,160	308.3
5	Watermelon	85	23,800	357.1
6	Brinjal	122.5	24,500	500
7	Chillies	30	3,600	833.3
8	Bhendi	65.89	9,240	713.1
9	Ash gourd	30.02	6,604	454.5
10	Drumstick	1,166.25	2,33,250	500

Summer

S. No	Crop	Area (ha)	Production (q)	Productivity (q /ha)
1	Cashew nut	30,345	13,655	4.50
2	Sesame	1,660	614	3.70

2.5. Weather data

Month	Rainfall (mm)	Temperature°C		Relative Humidity (%)
		Maximum	Minimum	
January 2021	216.13	26.3	23.6	63.4
February 2021	4.55	32.5	25.7	72.5
March 2021	0.00	37.6	27.3	63.5
April 2021	14.70	35.4	27.3	72.7
May 2021	43.95	37.6	28.8	70.9
June 2021	117.90	28.3	26.4	58.3
July 2021	85.35	29.5	27.7	57.4
August 2021	81.85	29.4	27.3	63.9
September 2021	151.05	28.6	26.7	62.3
October 2021	306.20	24.4	22.3	62.2
November 2021	287.75	25.2	24.1	72.7
December 2021	212.43	26.4	23.7	75.7
Total	**1309.43**	**30.1**	**25.91**	**66.29**

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district (2021)

Category	Population	Production	Productivity
Cattle			
Cross breed	98,507	3.2 Lakh lit.	10 lit /cow
Goats	2,78,427	12.98 Lakh Kgs.	18 kg/goat
Pigs			
Indigenous	7603	23540 kg	20 kg/ Pig
Poultry			
Desi bird	90,346	58,800 kg	1kg/bird

Category	Area (ha.)	Production (q/ha.)	Productivity (q/ha.)
Fish	3,574	2,980.80	83.4

2.7. Details of Adopted Villages (2021)

S. No.	Taluk/ Mandal	Name of the block	Name of the village	Year of adoption	Major crops & enterprises	Major problem identified	Identified Thrust Areas
KVK adopted villages							
1	Udayarpalayam	T.Palur	Kodalikaruppur	2021	Paddy, Maize, Groundnut, Vegetable, , Dairy, Goat, Poultry and Fish	**Vegetable** • Muskuloskeletal disorder due to bending posture for long time while seedling transplanting • Less transplanting efficiency (0.1 ha. area per labour day)	Drudgery reduction
2				2020		**Fish** • High incidence of mortality due to *Aeromonas hydrophila* • Low yield in existing varieties (4 t/ha.) • Prolonged culture period (>9months) • Size variation among fish population at the time of harvest • Higher cost of feed	Varietal Introduction
3			Keelakudikadu	2021	Paddy, Sesame, Blackgram, Dairy, Goat & Poultry	**Paddy** • Lodging of crop at harvest stage and flood situations. • Low yield with existing variety CR 1009(5.1t/ha) and BPT-5204 (4.8 t/ha.)	Varietal Introduction

						• Incidence of bacterial leaf blight (8%), leaf spot (12%), false smut (11%) and stem borer (10%)	
4				2021		**Paddy** • Rodents causes significant losses both in the field and in post-harvest rice management	Rodent Management
5				2021		**Dairy** Lack of awareness on recent technology in breeding management, infertility due to repeat breeding	Reproduction Management
6				2021		**Goat** • Lack of awareness, availability of services and their sources were not known to farmers • Unavailability of information sources during peak hours	ICT
7				2021		**Goat** • Lack of awareness, availability of technical services and their sources were not known to farmers • Unavailability of information sources during needy times	ICT
8	Udayarpalayam	Jayankondam	Devamangalam	2021	Maize, Groundnut, Cashew,	**Groundnut** • Yield loss (28%) due	Animal repellent

					Dairy, Goat and Poultry	to wild animal damage (monkey and peacock) • Increased cost of cultivation due to drive away wild animals	
9				2020		**Drumstick** • Leaf webber damage • Flower shedding due to ash weevil damage (24 %) • Fruit fly damage (18 %) • Poor pollination and fruit set • Yield loss upto 30-35%	Integrated Crop Management
10				2021		**Dairy** Poor management in clean milk production and increased cases of mastitis	Disease Management
11	Ariyalur	Thirumanur	Aranmanikuruchi	2020	Paddy, Sugarcane, Banana, Vegetables, Dairy, Goat, Poultry and Fish	**Sugarcane** • Low cropping intensity as there is no intercrop grown • Poor utilization of resources like water and land • Unaware of alternative profitable cropping system • High cost of cultivation due to inter cultural operations	Integrated Crop Management

12				2020		**Banana** • Poor yield due to high pH of the soil (pH 8.5-9) • Micro nutrient deficiency • Low income from existing varieties like Poovan	Varietal Assessment
13				2021		**Paddy** • Increased level of salinity in ground water upto pH 8.7 and EC > 4 dsm^{-1} in clay soils causes algae occurrences which leads stunted crop growth and yield loss (40 %) • Yield reduction upto 20% from existing paddy varieties namely BPT 5204, CO 43 and CR 1009 due to salinity. • Increased cost of cultivation (20%) due to imbalanced fertilizer application for crop growth	Varietal Assessment
14			Sembiyakudi	2020		**Banana** • Poor yield due to high soil pH 8.5-9 • Low income from existing varieties like	Varietal Introduction

						Poovan • Less market price for table varieties of Banana	
15				2021		**ICT** Unaware of latest technology and government schemes	ICT
16			K.Mettutheru	2020		**Banyard millet** • Unutilization of fallow land during the month of March-July • Lack of awareness on minor millet production and economic gain • Non adoption of improved package of practices	Varietal Introduction
17				2021		**Paddy** Unawareness of high yielding marketable briyani rice varieties.	Varietal Introduction
18	Ariyalur	Ariyalur	Asthinapuram	2021	Paddy, Sugarcane, Groundnut, Drumstick, Onion, Brinjal, Chilli, Dairy, Goat & Poultry	**Inter Cropping** • Low income (<Rs.58,000/ ha.) from sole crop of maize • Chance of pest perpetuation by repeated cultivation of maize • Under utilization of land resources by single crop • Non-adoption of viable intercropping system for rainfed condition	Integrated Crop Management

19						**Brinjal** Yield loss (42%) due to shoot and fruit borer, Epilachna beetle, white fly	Integrated Pest Management
20						**Chilli** • Incidences of thrips (24%) and fruit borer (18%) • Flower and fruit dropping incidence • Low yield due to incidence of fruit rot and chilli mosaic virus disease	Varietal Introduction
21						**Bhendi** • Low yield due to incidence of due to Yellow Vein Mosaic disease (15 %) • white fly(18%) and hopper incidence (22%), Flower drop(12%) • Micro nutrient deficiencies (8%)	Varietal Introduction
22						**Cotton** Yield loss due to severe damage of stem weevil (24%)	Integrated Pest Management
23						**Vegetables** • Poor Shelf life of fruits and vegetables because of its perishable nature • Lack of Post-harvest facilities i.e Non	Post harvest Management

						availability of refrigerated transport and cold storage facilities for food manufacture s and sellers	
24	Ariyalur	Ariyalur	Mannuzhi	2020	Sorghum, Cotton, Castor, Redgram, Groundnut, Chilli, Dairy, Goat and Poultry	**Chillies** • Infestation of thrips (24%) and fruit borer (18%) • Flower and fruit dropping incidence • Low yield due to incidence of fruit rot and chilli mosaic virus disease	Varietal Assessment
25						**Onion** • Incidence of thrips (37%), Bulb rot (24%) and purple blotch disease • Low yielding varieties (9.2 t/ha).	Varietal Assessment
26						**Groundnut** • Heavy incidence of tikka leaf spot (38 %) during maturity stage • Yield reduction to the tune of 1860 kg/ha • Leaf shedding due to leaf spot and there by reduction in haulm yield	Disease Management

27	Andimadam	Andimadam	Athukuruchi	2021	Paddy, Sugarcane, Cashew, Jasmine, Dairy, Goat & Poultry	**Jasmine** • Yellowing of leaves due to Micronutrient deficiencies (Ferrous/Iron). • Poor yield due to infestation of bud worm (22%), Incidence of wilt disease (8%) • Low yielding varieties, improper pruning and nutrient management led to lesser yield - 4.25t/ha.	Integrated Crop Management
28						**Cashewnut** • Lack of awareness on value addition • Less shelf life of cashew apple • Lack of knowledge in nutritional aspects of Cashew apple	Value addition
DFI Village							
1	Sendurai	Sendurai	Veerakkan	2021	Cashew, Groundnut, Blackgram, Bajra, Dairy, goat & Poultry	**Blackgram** • Low yield in the existing variety (ADT 5 & VBN 6) about 6.1 q/ha against potential yield of 8.5 q/ha • Occurrence of YMV leads to 22% yield loss in ADT varieties • Lack of	Varietal Introduction

						synchronized maturity and drought tolerance in ADT 5 • Non adoption of foliar spraying of Micro nutrients which leads poor pod filling and seed setting	
2				2020		**Banana** • Poor yield due to high pH of the soil (pH 8.5-9) • Micro nutrient deficiency • Low income from existing varieties like Poovan	Varietal introduction
3				2021		**Poultry** Poor body weight gain and less egg production	Varietal Introduction
4				2021		**Poultry** Poor weight gain (1 kg) and disease outbreak	Disease Management
5				2021		Dumping kitchen organic wastes leads to land fill and cause environmental pollution, hazards to human	Waste Management
6				2021		• Personal contact with every farmer is difficult, inconsistency in availing information. • Dependency of farmer on numerous specialists to get information through	ICT

						different leaders	
7				2021		**All crops** • Difficulty in getting timely information • Time consuming process for farmers to meet experts • Threat of COVID-19 spread affects mobility of farmers	ICT
8				2021		**Cashew** • Lack of awareness, availability of technical services and their sources were not known to farmers • Unavailability of sources during peak hours	ICT
9	Udayarpalayam	T.Palur	Venmankondan	2020	Paddy, Maize, Groundnut, Sesame, Vegetable, Banana, Dairy, Goat and Poultry	**Groundnut** • Reduced yield due to tikka leaf spot (38%) & root rot (14%) • Cultivation of low yield(1950kg/ha) bunch type varieties like GJG 3 & local under irrigated condition	Varietal Assessment
10				2021		**Fodder** • Lack of green fodder • Low Milk yield	Varietal Introduction
11				2021		**Blackgram** • Storage beetle leads to damage of pulses • Due to	Post harvest Management

						storage beetle damage farmers selling blackgram immediately after harvest for low price (Rs.40-50/kg) • Due to beetle damage farmers getting less market preference for produce and low price	

2.8. Priority/thrust areas

Crop/Enterprise	**Thrust area**
Paddy	Varietal Assessment, Integrated Crop Management, Rodent Management
Barnyard Millet	Varietal Introduction
Groundnut	Varietal Assessment, Protection of Wild animal repellent, Disease Management
Castor	Intercrop with Integrated Crop Management
Blackgram	Varietal Introduction with Integrated Crop Management, Post harvest Management
Cotton	Pest Management
Sugarcane	Intercrop with Integrated Crop Management
Vegetables	Postharvest Management, Waste Management, Drudgery Reduction
Brinjal	Integrated Pest Management
Chillies	Varietal Assessment, Integrated Crop Management
Bhendi	Varietal Introduction with Integrated Crop Management
Drumstick	Integrated Crop Management
Banana	Varietal Assessment
Jasmine	Integrated Crop Management
Fodder	Varietal Introduction with Integrated Crop Management
Cashew	Value addition, Training, ICT
Dairy	Reproductive Management, Disease Management
Goat	Training Module and ICT
Poultry	Varietal Introduction, Disease Management
Fish	Varietal Introduction

3. Salient Achievements

Achievements of Mandated activities (1st January 2021 to 31st December 2021)

S.No	Activity	Target	Achievement
1.	Technologies Assessed and refined (No.)	12	12
2.	On-farm trials conducted (No.)	12	12
3.	Frontline demonstrations conducted (No.)	26	26
4.	Farmers trained (in Lakh)	0.02500	0.03403
5.	Extension Personnel trained (No.)	300	122
6.	Participants in extension activities (in Lakh)	0.10000	0.10231
7.	Production and distribution of Seed (in Quintal)	30.00	40.33
8.	Planting material produced and distributed (in Lakh)	14405	226450
9.	Live-stock strains and finger lings produced and distributed (in Lakh)	1000	449
10.	Soil samples tested by Mini Soil Testing Kit (No)	300	271
11.	Soil samples tested by Traditional Laboratory (No)	0	0
12.	Water, plant, manure and other samples tested (No.)	100	93
13.	Mobile agro-advisory provided to farmers (No.)	15000	
14.	No. of Soil Health Cards issued by Mini Soil Testing Kits (No.)	300	271
15.	No. of Soil Health Cards issued by Traditional Laboratory (No.)	1000	520

Salient Achievements by KVK during the year 2021:

- Our KVK farm in 20 ha is a certified organic farm serves as model to 380 organic farmers and promoting on-site input production among 2,578 farmers in 216 villages.
- Technological products viz., seeds (40 q), Planting materials (2,26,450), Bio products (8,337 kg), Chicks (860 Nos.) were distributed benefitting 8463 farmers.
- Mechanized sowing is facilitated to overcome labour shortage in Maize (1200 ha), Groundnut (2,500 ha) and Paddy (780 ha).
- 525 ha of area brought under fodder crops to ensure health of animals in the District.
- 185 ha of farm ponds brought under fisheries and 296.5 tonnes fish production ensured.
- As a pilot programme pest repellent spray was undertaken in 478 acres using drone and it become familiar among the farmers.
- Promotion of high end technologies viz., use of assorted sexed semen in Dairy, Black Soldier Fly in Poultry, Genetic upgradation in goat, Biofloc fish rearing are being initiated by the project funded by DST, New Delhi.
- Emphasize is being given to conserve natural resources viz., land, water, and environment. Distributed 10,230 kg of Bio products covering 6347 ha by 4641 farmers, promoted Waste decomposer in 260 ha by 265 farmers.
- Water saving technologies like drip and sprinkler irrigation facilitated in 4188 ha through department subsidies, irrigation scheduling by ‘Pani-pipe’ and Soil Moisture Indicator,

alternate wetting and drying is being practiced in 42 ha by 262 farmers by our interventions.

- Water harvesting structures like staggered trenches in Cashewnut (4,290 ha), renovation of eight village water bodies paved the way for increased area under irrigated Agriculture.
- The concept of mulching and weed mat is practiced by 52 farmers in 34 ha.
- Two villages adopted under DFI concepts covering 100 farmers.
- Women empowerment interms of employment, income and social status is created to 4584 farm and landless women.
- Promoting Group Action by Farmers Clubs (19 Nos.), Farmers Associations (3 Nos.) and FPOs (2 Nos.) comprising of 2950 farmers.
- Special programmes DST were implemented to cover 1000 SC and ST farmers to ensure social inclusion.
- Our KVK has created wide awareness on Government priority programmes viz., PMFBY, DFI, Soil Health Management, Livestock Management and Swatcchta Hi Sewa among 28,176 farmers.
- We could reach 50,000 farmers by mass propagation of technologies through Farmer Friend, Whatsapp, mKisan, Voice messages, YouTube, Facebook, Radio and TV talks.
- Involved in documentation and validation of innovation of 8 farmers.
- Wild animal problem is big menace now a days and we have promoted Wild Animal Repellent (Herboliv plus) and rescued the crops in an area of 1300 ha.

4. TECHNICAL ACHIEVEMENTS

Details of target and achievements of mandatory activities by KVK during 2021

OFT (Technology Assessment)

No. of OFTs		Number of technologies		Number of locations (Villages)		Total no. of Trials / Replications / Beneficiaries	
Targets	**Achievement**	**Targets**	**Achievement**	**Targets**	**Achievement**	**Targets**	**Achievement**
12	12	24	24	15	15	46	46

FLD (crop/enterprise/CFLDs)

No of Demonstrations		Area in ha		Number of Farmers / Beneficiaries / Replications	
Targets	**Achievement**	**Targets**	**Achievement**	**Targets**	**Achievement**
26	26	27.9	27.9	179	179

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)

Number of Courses			Number of Participants	
Clientele	**Targets**	**Achievement**	**Targets**	**Achievement**
Farmers and Farm Women	130	112	2500	2536
Rural youth	17	9	300	211
Extn. Functionaries	15	5	300	122

Extension Activities

Number of activities		Number of participants	
Targets	**Achievement**	**Targets**	**Achievement**
312	393	14405	10231

Seed Production (q)

Target	Achievement	Distributed to no. of farmers
40	40.33	790

Planting material (Nos.)

Target	Achievement	Distributed to no. of farmers
217000	226450	1401

Technology Assessments (OFTs) in Detail

1. OFT on Assessment of suitable Groundnut varieties under irrigated conditions

1. Thematic area: Varietal introduction

2. Title: Assessment of suitable Groundnut varieties under irrigated conditions.

3. Scientists involved: SMS (Agronomy), SMS(Plant Protection)

4. Details of farming situation:

This comparative study was carried out through on farm testing during Rabi season of 2020-21 at Puliyanguli Village of T.Palur Block in Ariyalur District with an objective to assess the suitable groundnut varieties under irrigated condition during Rabi season as compared to the farmers practicing existing variety (GG16).

The Groundnut sowing was taken during second week of January 2021. The actual sowing season is second week of December but due to the continuous rain (25 rainy days) delayed sowing was taken one month later. 3 farmers each having 0.2 ha of garden land was selected and compared with the farmers existing variety with recommended package of practices. All the trials fields have Red Loamy Soil with good fertility and pH of the soil range from 7-7.5.

5. Problem definition / description:

i. Cultivation of low yielding (1950 kg/ha) bunch type varieties like GJG3 and local varieties under irrigated condition.
ii. Reduced yield due to tikka leaf spot (38%) and root rot (14%)

6. Technology Assessed:

Varietal character	TO1	TO2	Farmer Practices
	Cultivation of BSR-2 (TNAU 2019)	Cultivation of VRI 8(TNAU 2016)	Cultivation of GG16(JAU 2004)
Duration	105-110 days	105-110 days	115-121 days
Average yield	2360kg/ha	2700kg/ha	2058kg/ha
Crop type	Spanish bunch type	Bunch type	Spreading
Resistant to	Moderate to late leaf spot and rust diseases and pest like aphids, thrips, jassids and defoliators.	Moderate to late leaf spot and rust	-
Purpose	High yielding	High yielding	-

7. Critical inputs given:

S.No	Name of critical input	Quantity/Trial(0.4ha)	Value (Rs.)
1	BSR 2 Groundnut seed	30kg@Rs.88/kg	2490

2	VRI 8 Groundnut seed	30kg@Rs.83/kg	2490
3	Groundnut Rich	2kg@Rs.220/kg	440
4	Field Board	1 No @Rs.400/no	400
		Total	**5820**

Rs.5820*3 = Rs.17,460.

8. Results:

Table 1 : Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio	Data on Other performance indicators*
Farmers Practice (GG 16)	3	16.60	63900	2.22	(Table 2)
Technology 1(BSR 2)	3	18.13	77460	2.56	-
Technology 2(VRI 8)	3	20.31	92300	2.85	-

Table 2: Yield contributing characters of different varieties assessed.

Technology option	No of Trails	No of pods/plant	PDI of Tikka leaf spot	% incidence of root rot	Haulm yield q/ha	Oil recovery (%)
Farmers Practice (GG 16)	3	26	32	24	37.6	46
Technology 1 (BSR 2)	3	32	18	10	42.7	45
Technology 2 (VRI 8)	3	37	15	12	47.5	49

Description of Result:

The experiment was conducted to assess the performance of Suitable Groundnut varieties with farmers existing variety during Rabi 2020-21(Jan. 2021- Apr. 2021).The results showed that groundnut variety VRI 8 is better in production related parameters and recorded highest haulm yield (47.5 q/ha) compare to other two varieties. In this trial, the TO2 recorded the highest net return of Rs.92,300 with BCR of 2.85 followed by TO1 (net return of Rs.77,460 and BCR 2.56) and farmers practicing existing variety. The performance of the TO2 was very good in terms of higher pods / plant (37 Nos./bunch), less root rot incidence (12%), moderate PDI of Tikka leaf spot (15%) and haulm quality followed by TO1 and farmers existing variety.

The pod yield was 22.28% higher than VRI 8 variety followed by BSR 2 over GG16. Market preference is good for all experimental varieties.

9. Constraints: NIL

10. Feedback of the farmers involved:

- The growth and yield of VRI 8 variety and its Haulm quality is better than the other two varieties which is very suitable for irrigated condition.
- VRI 8 has less pest and disease problem compared to BSR 2 and GG16.
- The incidence of Tikka leaf spot occurrence both early and late stage in BSR 2 and GG 16 but occurred late stage with less incidence in VRI 8 .

11. Feed back to the scientist who developed the technology:

The incidence of root rot and tikka leaf spot diseases is very less in VRI 8 Groundnut variety and highly suitable for irrigated condition.

2. OFT on Assessment of Suitable inter crop in Sugarcane

1. Thematic area: Crop Management

2. Title: Assessment of Suitable inter crop in sugarcane

3. Scientists involved: SMS (Agronomy), SMS (Agri.Ext)

4. Details of farming situation:

The study was carried out through on farm testing during Rabi of 202 at K.Mettutheru village of Thirumanur Block in Ariyalur District.

The objective of the study was to assess the suitable inter crop in sugarcane at early stage as compared to farmers practice (no intercropping). The main season of sugarcane planting was taken during 1st week of December 2020. Three farmers each having 0.2ha of land was selected and compared with the farmer practices. The entire trial field has clay loam soil with good soil fertility and the pH ranges from 6.5-7.5.

5. Problem definition / description:

i. Low cropping intensity as there is no inter crop grown in sugarcane.
ii. Poor utilization of resources like water and land
iii. Un aware of alternative profitable cropping system.
iv. High cost of cultivation due to inter cultural operations like weeding

6. Technology Assessed:

Crop Character	**TO1**	**TO2**	**Farmer Practices**
	Cultivation of VBN-8 Blackgram as inter crop	**Cultivation of CO(On)5 onion as inter crop**	**No inter crop**
Duration	65-75 days	85-90 days	-
Plant type	Dicot	Monocot	-
Average Yield	900kg/ha	12t/ha	-

Special features	Synchronized maturity, resistant to YMV.	Short duration with high value crop	-

7. Critical inputs given:

S.No	Name of critical input	Quantity/Trial (0.4ha)	Value (Rs.)
1	VBN 8 Blackgram seed	2kg@Rs.180/kg	360
2	CO(On) 5 onion bulb	30kg@Rs.84/kg	2500
3	Field Board	1 No @Rs.400/no	400
			3260

Rs.3260*3 = Rs.9780

8. Results:

Table1 : Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio	Data on Other performance indicators*
Farmers Practice – No intercrop	3	-	-	-	-
Technology 1 - Intercropping of Blackgram in sugarcane		5.3	22600	2.55	(Table 2)
Technology 2 - Intercropping of Onion in Sugarcane		56.7	88400	2.08	-

Table 2: Yield contributing characters of different varieties assessed.

Technology option	No of Trails	Cropping intensity	Weed control index
Farmers Practice	3	-	-
Technology 1 (VBN 8 Blackgram)	3	200	41.6
Technology 2 (CO(On) 5 onion)	3	200	25

Description of Result:

The experiment was conducted to assess the performance of suitable inter crop in sugarcane during Rabi 2020-21. The result showed that TO1 recorded highest weed control efficiency (41.6%) followed by TO2 in this trial TO1 recorded highest BCR of 2.55 followed by TO2 of 2.08.

By this trial TO1- cultivation of Blackgram inter crop in sugarcane is highly suitable for sugarcane grower in the aspect of high weed control efficiency in early crop stage and get good BCR.

9. Constraints: NIL

10. Feedback of the farmers involved:

i. The growth and yield performance of Blackgram VBN 8 variety is better than onion CO(On) 5 variety which is very suitable for inter crop cultivation in sugarcane.
ii. Onion recorded less yield due to water stagnation which leads reduction in bulb size and yield.

12. Feed back to the scientist who developed the technology:

Blackgram VBN 8 is very suitable for intercropping in sugarcane as it provide effective weed control in early crop stage and additional income to the farmers.

3. OFT on Assessment of paddy variety for Saline lands in Ariyalur District

1. Thematic area: Varietal Introduction

2. Title: Assessment of paddy variety for Saline lands in Ariyalur District.

3. Scientists involved: SMS (Agronomy), SMS (Plant Protection)

4. Details of farming situation:

The study was carried out through on farm testing during Samba season of 2021-22 at Annakaran pettai village of T.Palur Block of Ariyalur District with an objective to assess the suitable paddy variety for saline lands during samba season as compared to farmers practicing existing variety of BPT 5204.

The paddy nursery was raised during 1st week of September 2021 and transplanting was done during 4th week of September 2021. 5 farmers each having 0.4ha of wet land was selected and compared with farmers existing variety with recommended package of practices. All the trials have clay loam soil with good fertility and the pH of the soil ranges from 7.5 - 8.5 and EC was 1.5-2.0 dsm^{-1}.

5. Problem definition / description:

i. Increased level of salinity in ground water up to pH 8.7 and EC >4 dsm^{-1} in clay soil causes algae occurrences which leads stunted crop growth and yield loss (40%-100%).
ii. Yield reduction up to 20% from existing paddy variety namely BPT5204, CR1009 due to salinity.
iii. Increased cost of cultivation (20%) due to over and excess fertilizer application.

6. Technology Assessed:

Varietal character	TO1	TO2	Farmer Practices
	Cultivation of CSR 56 (CSSRI 2018)	**Cultivation of TRY 4 (TNAU 2020)**	**Cultivation of BPT5204**
Duration	120-130 days	120-130 days	130-135 days
Average yield	6.5 - 7.0 t/ha	5.7 t/ha	6.7 t/ha
Grain type	Long bold	Medium slender	Medium slender
Resistant to	Diseases like Leaf blast, Neck blast, Sheath rot , BLB and Brown spot and Pest like Stem borer and Leaf folder	Diseases like Leaf blast and Brown spot and Pest like Stem borer, Onion gal-midge and Leaf folder	Diseases like Leaf blast
Suitable for	Salt affected soils	Salt affected soils	-

7. Critical inputs given:

S.No	Name of critical input	Quantity/Trial(0.4ha)	Value (Rs.)
1	CSR 56 Paddy seed	10kg@Rs.50/kg	500
2	TRY 4 Paddy seed	10kg@Rs.50/kg	500
3	*Bacillus subtilis*	1kg@Rs.180/kg	180
4	Gypsum	100kg@Rs.3/kg	300
5	*Azophos*	1kg@Rs.50/kg	50
6	Field Board	1 No @Rs.400/no	400
		Total	**1930**

Rs.1930*5=Rs.9650

8. Results:

Table 1: Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio	Data on Other performance indicators
Farmers Practice	5	40.25	48300	2.08	-
Technology 1(CSR 56 paddy)	5	46.25	64950	2.50	-
Technology 2(TRY 4 paddy)	5	50.75	76600	2.78	(Table 2)

Table 2: Yield contributing characters of different varieties assessed.

Technology option	No of Trials	Plant survival(%)	No of protective tillers/hill	BLB incidence (%)	% of Stem borer infestation	Straw yield (t/ha)
Farmers Practice (BPT 5204)	5	81	40	21	24	5.46
Technology 1 (CSR 56)	5	98	49	14	18	5.80
Technology 2 (TRY 4)	5	99	62	11	13	6.15

Description of Result:

This trial was conducted to assess the performance of suitable paddy varieties for saline land with farmer existing variety during samba season 2021(Sep 2021-Dec 2021). The result showed the paddy variety TRY 4 is better in production related parameters and recorded highest grain yield (50.75 q/ha) compared to other two varieties. In this trial TO2 recorded the highest net return of Rs.76,600 with BCR of 2.78 than TO1(Net return Rs.64,950 and BCR 2.50) and farmers practicing existing variety.

The performance of TO2 was very good in terms of high survival Percentage (99), high protective tillers (62/hill), less BLB incidence (11%) and less stem borer infestation(13%) and good straw quality followed by TO1 and farmers existing variety.

The grain yield was 26.1% higher in TRY 4 variety followed by CSR 56 (15%) over BPT 5204. The market preference is good for TRY 4 variety than CSR 56.

9. Constraints: Nil

10. Feedback of the farmers involved:

- The growth and yield of TRY 4 variety and its straw quality is better than other varieties which is highly suitable for salt affected soil.
- The pest and disease problem is less in TRY 4 compared to CSR 56 and BPT 5204.
- TRY 4 has good marketability than CSR 56.

11. Feed back to the scientist who developed the technology:

The survival, growth and yield of TRY 4 variety under saline land was very good. This variety is highly suitable for saline land paddy cultivation.

4. OFT on Assessment of the Performance of high yielding hybrids of Chilli

1. Thematic area: Varietal evaluation

2. Title: Assessment of the Performance of high yielding hybrids of Chilli.

3. Scientists involved: SMS (Horticulture) and SMS (Plant Protection)

4. Details of farming situation:

An on farm testing was carried out during the Rabi summer season of 2020-21 at Veerakan village of sendhurai block in Ariyalur district with an objective to assess the performance of high yielding hybrids of Chilli under irrigated conditions. Chilli crop grows well in soil pH of 6.5 to 7.5. During the trial period a temperature range of 21°C to 34ºC was observed in Chilli field. The soil of the trial field was red loamy in its texture with a soil pH of 7.4. The seeds of Chilli were purchased from ICAR-IIHR, Bangalore and TNAU, Coimbatore and planted during the 1st week of November, 2020 and harvested during 2nd week of April, 2021.

5. Problem definition / description:

In chilli the yield reduction is noticed due to the incidences of thrips (24%), fruit borer (18%), flower dropping (27%). The incidence of fruit rot and chilli mosaic virus disease also reduces the yield (31%). There is a scope for increasing the chilli yield by conducting this OFT to assess the two high yielding hybrids.

6. Technology Assessed:

Varietal Character	**TO1**	**TO2**	**TO3**
	Farmers Practice Cultivation of private hybrids	**Cultivation of TNAU Chilli hybrid CO 1 (TNAU, Coimbatore)**	**Cultivation of Arka Khyati (IIHR, Bangalore)**
Duration	160 days	195 days	165 days
Average Yield	22t/ha	28.1 t/ha	25 t/ha

7. Critical inputs given:

Name of critical input	**Quantity/Trial (0.4ha)**	**Value (Rs.)**
TNAU Chilli hybrid CO 1 seeds	30g	900
Arka Khayti seeds	30g	750
Pseudomonas fluorescens	1 kg @ Rs.100/kg	100
Arka Vegetable special	2kg @ Rs.160/kg	320
Field board	1 No @ Rs.400/ No	400
Total		**2,570**
Area – 2 ha. Rs.2,570 * 3 = Rs.7,710		

8. Results:

Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net Return (Rs.)	BC Ratio	Fruit rot disease incidence (%)	Chilli Mosaic virus infected plants (%)	No. of Fruits/ Plant (Nos)
Farmers Practice - cultivation of private hybrids	3	176.4	1,61,441	2.56	15	18	75
Technology 1 Cultivation of TNAU Chilli hybrid CO 1		223.6	2,26,883	3.08	7	8	98
Technology 2 Cultivation of Arka Khyati		208.1	2,03,973	2.88	11	12	86

9.Constraints :

- The fluctuation of the market price for chilli reduces the extent of chilli cultivation.
- The timely availability of hybrid seeds during peak season for large area extension.

10. Feedback of the farmers involved:

- TNAU Chilli hybrid CO 1 gave higher yield than other two varieties. Pest and disease incidence was also less in CO 1.

11. Feed back to the scientist who developed the technology:

- TNAU Chilli hybrid CO 1 is recommended for cultivation in Ariyalur district.

5. OFT on Assessment of the Performance of Banana varieties for higher yield

1. Thematic area: Varietal evaluation

2. Title: Assessment of the Performance of Banana varieties for higher yield

3. Scientists involved: SMS (Horticulture) and SMS (Plant Protection)

4. Details of farming situation:

An on farm testing was carried out during the Rabi summer season of 2020-21 at venmankondan village of T.Palur block in Ariyalur district with an objective to assess the performance of high yielding banana varieties under irrigated conditions. Banana crop grows well in soil pH of 6.5 to 7.5. During the trial period a temperature range of 19°C to 33ºC was

observed in banana field. The soil of the trial field was red sandy loamy in its texture with a soil pH of 7.6. The suckers of banana varieties were purchased from ICAR-NRCB, Trichy and TNAU, Coimbatore and planted during the 1st week of November, 2020 and harvested during 4th week of October, 2021.

5. Problem definition / description:

- Less yield due to cultivation of local poovan varieties (32%)
- Incidence of Nematode and sigatoka leaf spot problem
- Imbalanced nutrient application

There is a scope for increasing the banana yield by conducting this OFT to assess the performance of two high yielding banana varieties.

6. Technology Assessed:

Varietal Character	**TO1**	**TO2**	**TO3**
	Farmers Practice Cultivation of poovan variety	**Cultivation of Banana CO 2 variety (TNAU, Coimbatore)**	**Cultivation of Ney poovan variety (ICAR NRCB, Trichy)**
Duration	12months	12months	12months
Average Yield (q/ha)	407.2 q/ha	514.91 q/ha	466.4 q/ha

7. Critical inputs given:

Name of critical input	**Quantity/Trial (0.4ha)**	**Value (Rs.)**
CO 2 Banana suckers	50 Nos @Rs.10/No.	500
Neypoovan Banana suckers	50 Nos @Rs.10/No.	500
Azophos 1 kg @Rs.50/kg	1 kg @ Rs.50/kg	50
Pseudomonas fluorescens	1 kg @ Rs.100/kg	100
Banana sakthi 1 kg @Rs.160/kg	2kg @ Rs.160/kg	320
Field board	1 No @ Rs.340/ No	340
Total		**1,810**
Area – 1 ha. Rs.1,810 * 3 = Rs.5,430		

8. Results:

Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net Return (Rs.)	BC Ratio	Sigatoka leaf spot disease incidence (%)	No.of hands per plants (Nos.)	Plant height (cm)
Farmers Practice- cultivation of poovan variety	3	407.2	1,01,723	2.0	23	7.5	265
Technology 1 Cultivation of CO 2 Banana variety		514.9	1,27,769	2.42	8	10	288
Technology 2 Cultivation of Ney poovan banana variety		466.4	1,511,01	2.21	13	9	315

9. Constraints : Nil

10. Feedback of the farmers involved:

- Banana variety CO 2 gave higher yield than other two varieties. Pest and disease incidence was also less in CO 2.
- The cracking of the banana fruit is noticed in Ney poovan variety even after spraying micronutrient spray.

11. Feed back to the scientist who developed the technology:

The performance of Banana variety CO 2 is good in Ariyalur condition and it is recommended for cultivation in banana growing areas of Ariyalur district.

6. OFT on Assessment of multiplier Onion varieties for higher productivity in Ariyalur district

1. Thematic area: Varietal evaluation

2. Title: Assessment of multiplier Onion varieties for higher productivity in Ariyalur district

3. Scientists involved: SMS (Horticulture) and SMS (PP)

4. Details of farming situation:

An on farm testing was carried out during Rabi season of 2021 at Vanathirayanpattinam village in Ariyalur district with an objective to assess the performance of high yielding multiplier onion varieties under irrigated condition. Multiplier Onion crop

generally requires an optimum temperature of 13-24˚C for vegetative phase and 16-25˚C for bulb development, 30 -35° C at maturity and harvest. It requires about 70% relative humidity for good growth. During the trial season, the temperature range of 16˚C to 33˚C was observed for multiplier onion. Heavy rainfall and a prolonged dry spell affect the growth of Onion plants. Soil pH falling in the range of 6.5 to 7.5 is preferred by Onion but the pH of the soil was 7.3. The soil of the experimental site was sandy loam soil texture with good drainage facility. The crops were sown in raise bed nursery during 1st week of December, transplanted during 3rd week of January, 2021 and harvested during 3rd week of April, 2021. Five farmers each having one acre of land cultivated the Arka Ujjwal and CO (On) 6 Onion varieties with recommended package of practices.

5. Problem definition / description:

- Use of low yielding varieties susceptible to pest and diseases
- Incidence of Bulb rots (24%)
- Incidence of Thrips (37%)
- Yield loss (32%)

6. Technology Assessed:

Varietal Character	**FP**	**TO 1**	**TO 2**
	Farmers practice: Cultivation of local variety	Cultivation of TNAU CO(On) 6 **Character :** ➢ Pink coloured bold size bulbs. ➢ 19.2 t/ha in 90 days for CO (On) 6 onion. ➢ Crop duration of 90 days. ➢ TSS Content is 13%	Cultivation of IIHR Arka Ujjwal **Character :** ➢ Multiplier onion variety with uniform bright dark red bulb color. ➢ Bulb weight 40-45g. ➢ TSS 16-18%, dry matter content 14-16% and bulb yield 20-25t/ha in 85 days.

7. Critical inputs given:

Name of critical input	**Quantity/Trial**	**Cost per trial**
Seed CO (On) 6	650 g @Rs.3100/kg	2,015
Seed Arka Ujjwal	650 g @Rs.3100/kg	2,015
Azospirillum 1 kg	1kg @Rs50/kg	50
Phosphobacteria 1 kg	1kg @Rs50/kg	50
Bacillus substilis @ 1kg	1kg @Rs170/kg	170
Trichoderma viridi @ 1kg	1kg @Rs115/kg	115
Field board	1 No. @Rs400/No	400
Total		**5,200**
Rs.5,200 x 5 =26,000		

8. Results:

Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net returns (Rs. in lakhs/ha)	B:C	Data on Other performance indicators* Bulb rots disease Incidence (%)
Farmers Practice	5	103.86	154801	2.49	22
TO 1		131.79	230420	3.26	7
TO 2		120.36	202214	2.94	9

9. Constraints:

- During the summer season, the controlling of thrips was a big challenge.
- Heavy rain causes damages to onion seedling during nursery stage.

10. Feedback of the farmers involved:

- Market preference is slightly less for Arka ujjwal as the size of the onion is big.
- The consumer's preference was good for small sized bulbs like CO (On) 6.
- Seed onion bulbs are larger in size and are not suitable for storage since the keeping quality is less.

11. Feed back to the scientist who developed the technology:

- Performance of the TNAU CO (On) 6 Multiplier onion varieties is good but its storage life has to be increased.
- TNAU CO (On) 6 Multiplier onion variety is suitable for Ariyalur district conditions.
- Short duration variety below 90 days is preferred by farmers.

7. OFT on Assessment on management modules against fungal disease in groundnut.

1. Thematic area: Integrated Disease Management

2. Title: Assessment on management modules against fungal disease in groundnut.

3. Scientists involved: SMS (Plant Protection) and SMS (Agronomy)

4. Details of farming situation:

This on farm trail was carried out through on farm testing during Rabi season of 2020-21 at Suthamalli Village of T.Palur Block in Ariyalur District, The objective of the study assess the management modules against fungal disease in groundnut.

The groundnut sowing was taken during second week of January 2021. But the actual sowing season is second week of December but due to the continuous rain (25 rainy days) delayed sowing was taken one month later all around district. Three farmers each having 0.2 ha of garden land was selected and compared with the farmers existing practices with recommended package of practices. All the trial fields have black loamy Soil with good fertility and soil P^H range from 7-7.5.

5. Problem definition / description:

i. Reduced yield due to tikka leaf spot (32%).
ii. Less plant population due to occurrence of root rot at early stage which leads to 30 % yield loss.

6. Technology Assessed:

TO1: Seed treatment with *Trichoderma harzianum* @ 4g/kg seed, furrow application @4kg/ha in 500 Kg of FYM at the time of sowing. Next spraying neem seed Kernel extract (5%) Its same split application was done at 30,45,60 DAS or cow urine 10% @20,40,60 and 80 DAS.

TO2: Summer ploughing, seed treatment with Tebuconazole @1.5/kg of seed.
Basal application of *Trichoderma asperellum* @4kg in 500 kg of FYM/ha and soil application of same at 40 DAS+ 2 rounds of spray with tebuconazole 25.9% EC @1ml/lit.

Farmers Practice:
Spraying carbendazim 12% + mancozeb 63% WP @ 2-3g/lit.

7. Critical inputs given:

S.No	Name of critical input	Quantity/Trial(0.4ha)	Value (Rs.)
1	*Trichoderma harzianum*	10kg@80	800
2	Neem seed kernel extract	1kg@70	700
3	Tebuconazole	1Kg @Rs.850	850
4	*Trichoderma asperellum*	2.5kg@Rs.80	200
5	Field Board	1 No @Rs.400/no	400
		Total	**2950**

Total :Rs.2950x5=14,750

8. Results:

Table : Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio	Data on Other performance indicators*
Farmers Practice	3	16.42	114800	2.12	24
Technology 1 (Seed treatment with Trichoderma harzianum @ 4g/kg seed, furrow application @4kg/ha in 500 Kg of FYM at the time of sowing. Next spraying neem seed Kernel extract 5% Its same split application 30,45,60 DAS or cow urine 10% @20,40,60 and 80 DAS.)		18.61	130200	2.49	13
Technology2 (Summer ploughing, seed treatment with Tebuconazole @1.5/kg of seed. Basal application of Trichoderma asperellum @4kg in 500 kg of FYM/ha soil application of same at 40 DAS+ 2 rounds of spray with tebuconazole 25.9% EC @1ml/lit.)		20.81	141470	2.85	8

*** Tikka leaf spot incidence (%)**

9. **Constraints:** Nil

10. Feedback of the farmers involved:

i. Basal application of *Trichoderma asperellum* @ 4kg with 500 kg of FYM/ha gives better root rot control at early crop stage.
ii. Seed treatment with Tebuconazole @ 1.5g/kg of seed shows good fungal disease control up to 20 days and foliar application of Tebuconazole 25.9% EC @ 1ml/lit at twice recorded good late leaf spot control.

11. Feed back to the scientist who developed the technology:

Technologies TO2 is highly preferable for control of different fugal diseases in groundnut cultivation.

8. OFT on Assessment of Integrated pest management technologies for cotton stem weevil

1. Thematic area: Integrated pest management

2. Title: Assessment of Integrated pest management technologies for cotton stem weevil

3. Scientists involved: SMS(Plant Protection), SMS(Agronomy)

4. Details of farming situation: Irrigated

5. Problem definition / description:

i. Yield loss due to the stem weevil problem observed up to 24 %
ii. More pesticide spray increased cost of cultivation

6. Technology Assessed:

TO1: Timely sowing. Stem application of Flonicamid 50%WG@150g/ha at 15,30,45 DAS.

TO2: Basal application of Neem cake @ 250kg/ha. Application of Chlorantraniliprole 18.5% SC @0.3ml/lit and Clothianidin 50% WDG @0.2g/lit on 15 & 30 DAS.

Farmer Practices: Drenching/spraying with Chloriphyriphos @3ml/litre after gall formation is noted.

7. Critical inputs given:

S.No	Name of critical input	Quantity/Trial(0.4ha)	Value (Rs.)
1	Neem Cake	28kg@Rs.20	560
2	Chlorantraniliprole 18.5% SC	20g@Rs.445	445
3	Clothianidin	35g @Rs.725	725
4	Field Board	1 No @Rs.400/no	400
		Total	**2130**

Total :Rs.2,130x5=10,650

8. Results:

Table 1 : Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio	Data on Other performance indicators*
Farmers Practice	5	31.9	140360	2.20	26
Technology 1 (Timely sowing. Stem application of Flonicamid 50%WG@150g/ha at 15,30,45 DAS.)		36.42	174700	2.49	11

Technology 2 (Basal application of Neem cake @ 250kg/ha. Application of Chlorantraniliprole 18.5% SC @0.3ml/lit and Clothianidin 50% WDG @0.2g/lit on 15 & 30 DAS.)		38.21	195584	2.77	6

**** cotton stem weevil infestation (%)***

Constraints: Nil

8. Feedback of the farmers involved:

Basal application of Neem cake 250 Kg/ha helps to reduce incidence of Stem weevil pupal stage. Foliar application of Chlorantraniliprole18.5% SC 3ml/lit, Which gives better control of Stem weevil at vegetative and boll formation stages and then the application of Clothianidin 0.2g/lit significantly manage the stem weevil at later stage. These two technologies reduce the cost of pesticide spray against stem weevil.

9. Feed back to the scientist who developed the technology

The TO2 is improved the stem weevil management efficiency from early to different stage of cotton and also cost effective.

9. OFT on Assessment on augmenting fertility through estrous synchronization in Ariyalur District

1. Thematic area: Production and Management (Dairy)

2. Title: Assessment on augmenting fertility through estrous synchronization at Ariyalur District

3. Scientists involved: SMS (Animal Science), SMS (Agri. Extension)

4. Details of farming situation:

This study was carried out through On-Farm Testing during 2021 at Kodali Karuppur village of T.Palur block in Ariyalur district. The animals were reared by open grazing system. Hence most of the animals lack proper nutritional management leading to repeat breeders. The objective is to assess estrous synchronization of repeat breeders in dairy cattle compared to the farmers practicing method of hormonal injection.

5. Problem definition / description:

- Poor efficiency and improper practices of existing invasive hormonal treatments leads to disease transfer and vaginal irritations
- Less Conception rate due to irregular oestrus (Repeat breeder)
- High cost (Rs 2000/treatment) involvement of invasive hormonal treatment
- Non-adoption of recent technology

6. Technology Assessed:

	TO1 **Prosyn NF** TANUVAS-TRPVB 2018	**TO2** **Prosyn NC** TANUVAS-TRPVB 2017	**Farmer's practices**
Description	A non-invasive friendly method were Progesterone loaded Nanoliposmoal fibre used as transdermal patch for estrous synchronization. It induces ovulatory heat within 5-7 days of application thereby facilitating artificial insemination	A non-invasive, farmer friendly method which can be applied on the skin without the need of veterinary assistances. It induces ovulatory heat within 5-7 days of application thereby facilitating artificial insemination	Farmer uses invasive hormonal therapy like GnRH, PGF2 , Progesterone and Vitamin A and 3 days the animals are inseminated.

7. Critical inputs given:

Inputs	**Quantity/Trail**	**Value (Rs.)**
Prosyn NF	1 No @ Rs 450	450
Prosyn NC	1 No @ Rs 400	400
Mineral Mixture	2 Kg @ Rs 400	400
Dewormer	250 ml @ Rs 100	100
Field Board	1 No.@ Rs 400	400
	Total	**1,750**
Rs 1750 * 3 = 5250		

8. Results:

Technology Option	**No. of trials**	**Yield (Induction %)**	**Net Returns (Rs./ha)**	**B:C**	**Data on Other performance indicators**
Farmers Practice	3	95%	66000	2.21	Pregnancy% - 100 Milk Yield- 1440 litre/ lactation
Technology 1(Progesterone loaded Nanoliposmoal fibre used as transdermal patch for estrous synchronization. It has major advantage of non-invasive practices reducing the risk caused by earlier technique)		90%	66000	2.23	Pregnancy% - 100 Milk Yield- 1550 litre/ lactation

Technology 2(a non-invasive, farmer friendly method which can be applied on the skin without the need of veterinary assistances. It induces ovulatory heat within 5-7 days of application thereby facilitating artificial insemination)		95%	66000	2.23	Pregnancy% - 100 Milk Yield-1550 litre/ lactation

Description of the results:

This trail was conducted to assess the use of new non-invasive technologies in augmenting fertility in dairy cows. The results showed that all the three technologies (TO1, TO2 and FP) gave good results. However, the cost involvement and ease of application are better in TO1 and TO2 compared to FP. The performance of TO2 is better compared to TO1 and farmers' practice. The induction of estrous in repeat breeders is highest in TO2 (95%). The animals came to estrus after 5 days on withdrawn of the progesterone coated transdermal patch and was successfully inseminated by artificial inseminaton

Constraints faced: Nil

9. Feedback of the farmers involved:

- The application of both technology TO1 and TO2 are simple and user friendly
- The cost involved in this both technologies TO1 and TO2 are less compared to hormonal therapy which involves highere cost and expert supervision.
- The performance of TO2 is better compared to TO1 and FP

10. Feed back to the scientist who developed the technology:

- Prosyn NC and Prosyn NF are both good technologies and can be used for augumneting fertility in dairy cows in Ariyalur district
- Prosyn NC is best technology compared to Prosyn NF

10. OFT on Assessment of different coating formulations to improve the shelf life of fruits and vegetables

1. Thematic area: Post Harvest Management

2. Title: Assessment of different coating formulations to improve the shelf life of fruits and vegetables

3. Scientists involved: SMS (Home Science) and SMS (Horticulture)

4. Details of farming situation:

Brinjal, Bhendi and Chillies are the major vegetables grown at Ariyalur District under irrigated conditions and gives sizeable income to the famers from smaller areas. Besides market **xxx** reduce the price of vegetables and led to lesser net income to the farmers by vegetable cultivation. As the vegetables are pereshables it has to be marketed immediately. Lack of cold storage facilities in the vicinity also forces the farmers to for immediate selling of produces. The shelf life of Brinjal and Bhendi at room condition upto 2 days and afterwards it loses the quality

5. Problem definition / description:

Poor Shelf life of fruits and vegetables because of its perishable nature. Lack of Post-harvest facilities i.e Non availability of refrigerated transport and cold storage facilities for food manufactures and sellers

6. Technology Assessed:

By considering the above problem, an OFT was undertaken to test the different coating formulations to increase the shelf life of Brinjal and Bhendi. The details of technologies assesses are as follows :

Technology option	Technology
Technology option 1	ICAR-IINRG Fresh coat
Technology option 2	TNAU Fruity Fresh
Farmer Practice	Washing in water

7. Critical inputs given:

S.No.	Inputs	Quantity (Nos.)	Value (Rs.)
1	ICAR-IINRG Fresh coat	5 lit	5500
2	TNAU Fruity Fresh	5 lit	5000
	Total		**10,500**

8. Results:

The OFT results revealed that both the coating formulations was effective is enhancing shelf life of Brinjal and Bhendi upto 7-10 days while in the farmers practice it was only 2-3 days. There was no color change and the vegetables were fresh in TO1 and TO2.

Constraint faced: Availability of coating formulations on time

9. Feed back of the farmers involved:

TNAU coating formulation has no visible coat over the vegetables but IINRG Fresh coating formulation has prominent wax coating on vegetables. Hence the consumer preference for TO2 treated vegetables was less.

10. Feed back to the scientist who developed the technology:

The concentration to be formed while treating the vegetables with TNAU Fruity fresh formulations (TO2) has to be tine tuned as it leaves the visible wax coating on the vegetables and its tends to less consumer preference..

11. OFT on Assessment of effectiveness of opinion leaders in dissemination of cashew nut cultivation technologies

1. Thematic area: ICT

2. Title: Assessment of effectiveness of opinion leaders in dissemination of cashew nut Cultivation technologies

3. Scientists involved: SMS (Agricultural Extension) & Senior Scientist & Head

4. Details of farming situation:

The OFT was conducted at DFI village of Veerakkan. Farmers of this region are more experienced in Cashewnut farming. Most of the lands are under rain fed condition.

5. Problem definition / description:

Personal contact with every farmer is difficult and inconsistency occurs in availing information. Dependency of farmer on numerous specialists to get information through different leaders

6. Technology Assessed:

Based on the problems, three groups of beneficiaries were selected having 20 members in each group. Pre test and Post test were conducted for these groups to identify the knowledge and adoption level. The technological options tried to effectiveness of opinion leaders in dissemination of cashew nut cultivation technologies are as follows

Technology option	Technology
Technology option 1	Training organized by the Farmer Friends of ATMA
Technology option 2	Training organized by the Farmer Interest Group Leader
Farmer Practice	Contact farmer of KVK

7. Critical inputs given:

S.No.	Inputs	Quantity (Nos.)	Value (Rs.)
1	Training and Method demonstration	60	3000

8. Results:

Table 1: The gain in Knowledge (%) as assessed by pre and post test are presented here

Name of the technologies	Class	**Technology Option 1 –** Farmer Friends of ATMA				**Technology option 2 –** Farmer Interest Group Leader				**Farmer Practice–** Contact farmer of KVK			
		No. of Participants - 20				**No. of Participants - 20**				**No. of Participants - 20**			
		Pre-test knowledge		**Post-Test knowledge**		**Pre-test knowledge**		**Post-Test knowledge**		**Pre-test knowledge**		**Post-Test knowledge**	
		No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Cashewnut Production Technologies	L	15	75	11	55	16	80	6	30	15	75	10	50
	M	4	20	7	35	3	15	9	45	3	15	6	30
	H	1	5	2	10	1	5	5	25	2	10	4	20

(1-5 Mark – Low, 6-10 Mark – Medium, 11-15 Mark – High)

The adoption percentage of **opinion leaders** delivered cashew production technologies are depicted below :

S.No	Name of the technologies	Class	**Technology Option 1 -** Farmer Friends of ATMA		**Technology option 2 -** Farmer Interest Group Leader		**Technology Option 3 –** Contact farmer of KVK	
			No. of Participants - 20		**No. of Participants - 20**		**No. of Participants - 20**	
			Adoption		**Adoption**		**Adoption**	
			No.	**%**	**No.**	**%**	**No.**	**%**
1	Pruning Practices	L	4	20	2	10	5	25
		M	9	45	6	30	6	30
		H	7	35	12	60	9	45
2	Soil & water conservation	L	6	30	2	10	2	10
		M	6	30	7	35	8	40
		H	8	40	11	55	10	50
3	Application of Manures & fertilizers	L	9	45	1	5	3	15
		M	6	30	6	30	7	35
		H	5	25	13	65	10	50
4	Spraying of Panchakavya	L	4	20	0	0	5	25
		M	9	45	3	15	7	35
		H	7	35	17	85	8	40
5	Control of Tea Mosquito bug	L	7	35	1	5	2	10
		M	6	30	1	5	8	40
		H	7	35	5	25	10	50
6	Management of Stem borer	L	4	20	1	5	4	20
		M	9	45	4	20	8	40
		H	7	35	15	75	8	40
7	Value Addition	L	14	70	13	65	14	70
		M	5	25	4	20	4	20
		H	1	5	3	15	2	10

Table 2 : Performance of the technology

Effectiveness of Opinion leaders	Adoption percentage of different cashewnut production technologies							Average adoption %
	1	2	3	4	5	6	7	
By Farmer Friends of ATMA	35	40	25	35	35	35	5	**30.0**
By Farmer Interest Group Leader	60	55	65	85	25	75	15	**54.3**
By Contact farmer of KVK	45	50	50	40	50	40	10	**40.71**

Description of the results:

In this OFT, one problem was selected (Cashew cultivation techniques) in veerakkan village of Sendurai block. Three groups of beneficiaries were selected having 20 members of each group. Pre Test and Post Test conducted for these groups to identify the knowledge and adoption level.

Pre Test Knowledge level

By conducting this Pre Test, Opinion leader of Farmer friend group revealed that 5 % of the farmers noticed high level knowledge, 20 % of the farmers having medium level and 75% of famers had low level of knowledge. By conducting Pre Test for FIG leader Group, it is revealed that the knowledge level results 5 % of the farmers noticed high level knowledge, 15 % of the farmers having medium level and 80% of famers had low level of knowledge. Technology option group 3 noticed that 10% of the farmers having high level knowledge, 15 % of the farmers having medium level and 75% of famers obtained low level of knowledge.

Post Test Knowledge level

By conducting this Post Test, , Opinion leader of Farmer friend group revealed that 10% of the farmers noticed high level knowledge, 35 % of the farmers having medium level and 55% of famers had low level of knowledge. The FIG leader group revealed that the knowledge level results 25 % of the farmers noticed high level knowledge, 45 % of the farmers having medium level and 20% of famers had low level of knowledge. Technology option group 3 noticed that 36% of the farmers having high level knowledge, 30 % of the farmers having medium level and 50% of famers had low level of knowledge. The Pre Test and Post Test was analysed based on the score rated Low as 1-5 mark, Medium as 6-10 mark and High as 11-15 mark.

Adoption level

The adoption level of seven different technologies delivered through three different opinion leaders reveals that training conducted by farmer interest group leader as when required scores high adoption percentage for all the seven technologies and the average was

54.3%. It is followed by contact farmer of KVK (40.71 %) and conducted training by farmer friend of ATMA (30.0 %). The high adoption percentage was one is the fact that the FIG leaders were attended training at KVK and regular contact to KVK scientist.

Constraint faced: The farmers need inputs along with technologies.

9. Feed back of the farmers involved:

ATMA farmer friends needs more coordination with KVK to acquire more knowledge

10. Feed back to the scientist who developed the technology:

The OFT results concluded that the technologies can be very well delivered through opinion leader of Farmers Interest Group .

12. OFT on Assessment of effectiveness of training modules in transfer of technologies in goat farming

1. Thematic area: ICT

2. Title: Assessment of effectiveness of training modules in transfer of technologies in Goat farming

3. Scientists involved: SMS (Agricultural Extension)

4. Details of farming situation:

The study was carried out through On-farm testing during 2021 at KVK campus with an different training module to study the effectiveness of training modules in transfer of technologies in goat farming

5. Problem definition / description:

- Lack of awareness, availability of services and their sources were not known to farmers
- Unavailability of technical sources during peak times of agriculture operations

6. Technology Assessed:

Based on the problems, three groups of beneficiaries were selected having 20 members of each group. Pre test and Post test conducted for these groups to identify the knowledge and adoption level. The technological options tried to deliver the technologies are as follows:

Technology option	Technology
Technology option 1	Technology transfer through lectures + slide shows + Method demonstration
Technology option 2	Technology transfer through lectures + Sheep and Goat Expert system
Farmer Practice	Technology transfer through lectures

7. Critical inputs given:

S.No.	Inputs	Quantity (Nos.)	Internet charge Value (Rs.)
1	Training on goat rearing	60	4000

8. Results:

Table 1: The gain in Knowledge (%) as assessed by pre and post test are presented here

Name of the technologies	Class	Technology Option 1 – lectures + slide shows + Method demonstration				Technology option 2 – lectures + Sheep and Goat Expert system				Farmer Practice– lectures			
		No. of Participants - 20				No. of Participants - 20				No. of Participants - 20			
		Pre-test knowledge		Post-Test knowledge		Pre-test knowledge		Post-Test knowledge		Pre-test knowledge		Post-Test knowledge	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Goat rearing	L	10	50	1	5	8	40	6	30	9	45	9	45
	M	6	30	10	50	10	50	8	40	8	40	7	35
	H	4	20	9	45	2	10	6	30	5	25	4	20

(1-5 Mark – Low, 6-10 Mark – Medium, 11-15 Mark – High)

8a.. Description of the results:

Pre Test Knowledge level

By conducting this Pre test, lectures + slide shows + Method demonstration group revealed that 20 % of the farmers noticed high level knowledge, 30% of the farmers having medium level and 50% of famers had low level of knowledge. By conducting Pre test for lectures + Sheep and Goat Expert system group, it is revealed that the knowledge level results 10 % of the farmers noticed high level knowledge, 50 % of the farmers having medium level and 40 % of famers had low level of knowledge. Farmer practice (Lectures) group noticed that 25% of the farmers having high level knowledge, 40 % of the farmers having medium level and 45 % of famers obtained low level of knowledge.

Post Test Knowledge level

By conducting this Post Test, lectures + slide shows + Method demonstration group revealed that 45 % of the farmers noticed high level knowledge, 50 % of the farmers having medium level and 5 % of famers had low level of knowledge. The lectures + Sheep and Goat Expert system revealed that 30 % of the farmers noticed high level knowledge, 40 % of the farmers having medium level and 30 % of famers had low level of knowledge. Technology option group 3 noticed that 20% of the farmers having high level knowledge, 35 % of the farmers having medium level and 45% of famers had low level of knowledge. The Pre Test and Post Test was analyzed based on the score rated Low as 1-5 mark, Medium as 6-10 mark and High as 11-15 mark.

Constraint faced: Internet connectivity in rural areas posses problems in accessing knowledge through expert system was difficult**.** We could did the OFT only with literate farmers.

9. Feedback of the farmers involved: Understanding of concepts and procedures in goat training through expert system is difficult

10. Feed back to the scientist who developed the technology:

The OFT results concluded that the technologies can be very well delivered through lectures + slide shows + Method demonstration

Frontline Demonstrations in Detail

Details of FLDs implemented during the reporting period

FLD No.:	**1**
Status	New Proposal
Thematic area	Varietal Assessment/ICM
Crop/ enterprise:	Banyard millet
Technology demonstrated	**Demonstration of ICM in Barnyard millet variety MDU-1**
Season and year	Summer 2021
Farming situation	Irrigated
Source of Fund	KVK, Main
No. of Village	1
No. of demonstration	10
No. of SC/ST farmers and women farmers	-
Area proposed (ha)	4
Actual area (ha)	4
Justification for shortfall, if any	NIL
Feedback from farmer	• The MDU 1 Banyard millet has good resistance against sucking pest and high capable of withstanding water logging conditions with early maturity (100days) and gives better yield (23 q/ha) than local. • Better quality and taste which could be useful for value added products preparation
Feedback of the scientist	Early maturity MDU 1 Banyard millet which is highly suitable for clay soil with water logged condition also.
Extension activities on the FLD	Group meeting – 2 Method demonstration – 2 Training – 2 Field visit - 5

FLD No.:	**2**
Status	New Proposal
Thematic area	Varietal Assessment/ICM
Crop/ enterprise:	Paddy
Technology demonstrated	**Demonstration of ICM in Paddy variety ADT-51 for samba season as alternate for CR 1009**
Season and year	Samba 2021
Farming situation	Irrigated
Source of Fund	KVK, Main
No. of Village	1
No. of demonstration	10
No. of SC/ST farmers and women farmers	-
Area proposed (ha)	4

Actual area (ha)	4
Justification for shortfall, if any	NIL
Feedback from farmer	• ADT 51 has high potential against false smut disease and lodging. • Gained higher grain yield (53.5 q/ha) and good quality straw than CR 1009. • 20 Percent increased yield over CR 1009 even in flood situation
Feedback of the scientist	ADT 51 is highly suitable for samba season to replace the CR 1009 variety
Extension activities on the FLD	Group meeting – 3 Method demonstration – 2 Training – 2 Field visit - 6

FLD No.:	**3**
Status	New Proposal
Thematic area	Varietal Assessment/ICM
Crop/ enterprise:	Blackgram
Technology demonstrated	**Demonstration of ICM in Black gram variety VBN 11**
Season and year	Rabi 2021
Farming situation	Irrigated& Rainfed
Source of Fund	KVK, Main
No. of Village	1
No. of demonstration	10
No. of SC/ST farmers and women farmers	-
Area proposed (ha)	4
Actual area (ha)	4
Justification for shortfall, if any	NIL
Feedback from farmer	• Synchronized flowering and maturity which helps harvest in on-time • No incidence of YMV led to less pesticide usage and reduced cost of cultivation • Good grain yield was recorded (7 q/ha) and haulm yield.
Feedback of the scientist	VBN 11 is highly suitable for Irrigated and Rainfed situation with higher grain yield at Ariyalur district
Extension activities on the FLD	Group meeting – 1 Method demonstration – 2 Training – 3 Field visit - 4

FLD No.:	**4**
Status	New Proposal
Thematic area	Integrated Crop management – Inter cropping system
Crop/ enterprise:	Pulses + Oil seed

Technology demonstrated	**Demonstration of Intercropping of Castor with Redgram in Ariyalur District**
Season and year	Rabi 2021
Farming situation	Rainfed
Source of Fund	KVK, Main
No. of Village	1
No. of demonstration	5
No. of SC/ST farmers and women farmers	-
Area proposed (ha)	2
Actual area (ha)	2
Justification for shortfall, if any	NIL
Feedback from farmer	• Better alternate cropping system against maize cultivation (FAW infestation) in rainfed situation • Gained good net returns than maize cultivation
Feedback of the scientist	Intercropping of Castor with Redgram cropping system holds better BCR 2.49 against Maize cultivation (1.92). which is highly suitable and befit for maize grower (1 crop / year)
Extension activities on the FLD	Group meeting – 2 Method demonstration – 2 Training – 4 Field visit - 5

FLD No.:	**5**
Status	New Proposal
Crop	Banana
Thematic area	Varietal Demonstration
Technology demonstrated	**Demonstration of Banana variety Kauveri Saba**
Season and year	Rabi, 2020
Farming Situation	The demonstration was conducted during Rabi season of 2020-21 at Sembiyakudi village of Thirumanur block in Ariyalur District with an objective to demonstrate the new variety Kauveri saba in banana with NRCB technologies. The conventional irrigation method was followed in both the practices. The planting of Banana was done during the 1st week of December, 2020 and harvesting done in the 4th week of December, 2021. Five farmers each having 0.2 ha of Irrigated land was selected and compared with the existing farmers practice. All the demo fields have clay loam soil with good fertility and the pH of the soil range from 8.1 to 8.3.
Source of Fund	KVK, Main
No. of locations (Villages)	1 (Sembiyakudi)
No. of demonstration	5
No. of SC/ST farmers and women farmers	-
Area proposed (ha)	1 ha
Actual area (ha)	1 ha

Justification for shortfall if any	Nil
Feedback from farmers	The growth and yield of Banana variety Kaveri saba under saline condition is very good. Sigatoka leaf spot incidence is very less (7%) in this variety.
Feedback of the scientist	Performance of the Kaveri Saba variety in saline soil condition is good. So, it is recommended for cultivation in saline soil of Thirumanur block of Ariyalur District.
Extension activities on the FLD	Group meeting – 1 Method demonstration – 1 Training – 2 Field visit – 9 Field Advisory service – 28

FLD No.:	**6**
Status	New Proposal
Crop	Jasmine (*Jasminum Sambac)*
Thematic area	Integrated Crop Management
Technology demonstrated	**Demonstration of Integrated Crop Management in Jasmine for Higher yield in Ariyalur District**
Season and year	Kharif, 2021-22
Farming Situation	The demonstration was conducted during Kharif season of 2021-22 at Athukurichi village of Andimadam block in Ariyalur District with an objective to demonstrate the ICM practices among the Jasmine growing farmers. The conventional irrigation method of flood irrigation is followed both the demonstrated and farmers practice. The planting of the jasmine was done during the 1st week of June, 2021 and harvesting flowers started from 1st week of September, 2021 and continued for one year. Ten farmers each having 0.1 ha of Irrigated land was selected and compared with the existing farmers practice. All the demo fields have Red sandy loam soil with good drainage facility and the pH of the soil ranging from 7.4 to 7.7
Source of Fund	KVK, Main
No. of locations(Villages)	1 (Athukurichi)
No. of demonstration	10
No. of SC/ST farmers and women farmers	-
Area proposed (ha)	1 ha
Actual area (ha)	1 ha
Justification for shortfall if any	Nil
Feedback from farmers	The flower yield was higher in ICM followed field and the pest and disease incidence was very less in the demo field.
Feedback of the scientist	The ICM practices gave higher yield in Jasmine field and its recommended for Andiadam Block in Ariyalur District.
Extension activities on the FLD	Group meeting – 1 Method demonstration – 1

	Training – 1 Field visit – 7 Field advisory services - 21

FLD No.:	**7**
Status	New Proposal
Crop	Chilli
Thematic area	Integrated Crop Management
Technology demonstrated	**Demonstration of Integrated Crop Management in chilli.**
Season and year	Rabi, 2021 -22
Farming Situation	The demonstration was conducted during Rabi season of 2021-22 at Karaikurichi village of T.Palur block in Ariyalur District with an objective to demonstrate the ICM practices among the chilli growing farmers. The conventional irrigation method of flood irrigation is followed both the demonstrated and farmers practice. The sowing of chilli in nursery was done on the 1st week of December, 2021 and transplanting was done in 1st week of January, 2022. And the harvesting started one and half month after planting and completed in the 4th week May 2022. Five farmers each having 0.2 ha of Irrigated land was selected and compared with the existing farmers practice. All the demo fields have sandy clay loam soil with good drainage facility and the pH of the soil ranging from 7.5 to 7.7.
Source of Fund	KVK, Main
No. of locations(Villages)	1 (Karaikrichi)
No. of demonstration	5
No. of SC/ST farmers and women farmers	-
Area proposed (ha)	1 ha
Actual area (ha)	1 ha
Justification for shortfall if any	Nil
Feedback from farmers	Chilli fruit yield was higher in the ICM practice followed field and the pest and disease incidence was very less in the chilli field.
Feedback of the scientist	The ICM practices adopted field gave higher yield than the farmers practice so it is recommended for chilli farmers of Ariyalur District.
Extension activities on the FLD	Group meeting – 1 Method demonstration – 1 Training – 1 Field visit – 12 Field advisory services - 18

FLD No.:	**8**
Status	New Proposal
Crop	Bhendi
Thematic area	Varietal Demonstration
Technology demonstrated	**Demonstration of Bhendi hybrid CO 4 resistant to YMV disease**
Season and year	Rabi Summer, 2021 -22
Farming Situation	The demonstration was conducted during Rabi Summer season of 2021-22 at Asthinapuram village of Ariyalur block in Ariyalur District with an objective to demonstrate the high yielding bhendi hybrid CO 4 resistant to YMV disease among the bhendi growing farmers. The conventional irrigation method of flood irrigation is followed in both the demonstrated and farmers practice field. The sowing of bhendi was done on the 1st week of December,2021 and the harvesting started one and half month after planting and completed in the 3rd week of March, 2022. Five farmers each having 0.2 ha of Irrigated land was selected and compared with the existing farmers' practice. All the demo fields have Red sandy loam soil with good drainage facility and the pH of the soil ranging from 7.6 to 7.8.
Source of Fund	KVK, Main
No. of locations(Villages)	1 (Asthinapuram)
No. of demonstration	5
No. of SC/ST farmers and women farmers	-
Area proposed (ha)	1 ha
Actual area (ha)	1 ha
Justification for shortfall if any	Nil
Feedback from farmers	The growth and yield was higher in the CO 4 Bhendi hybrid field and the pest and disease incidence was very less in the demo field.
Feedback of the scientist	The Bhendi hybrid CO 4 gave higher yield than the farmers practice and resistant to YMV disease, so it is recommended for cultivation among Bhendi farmers of Ariyalur District.
Extension activities on the FLD	Group meeting – 1 Method demonstration – 1 Training – 2 Field visit – 14 Field advisory services – 21

FLD No.:	**9**
Status	New Proposal
Thematic area	Integrated Crop Management
Crop/ enterprise:	Drumstick/Honey bee
Technology demonstrated	**Demonstration of Apiculture in Moringa**
Season and year	Kharif & 2021
Farming situation	Irrigated
Source of Fund	KVK, Main
No. of Village	3
No. of demonstration	5
No. of SC/ST farmers and women farmers	Nil
Area proposed (ha)	4
Actual area (ha)	4
Justification for shortfall, if any	Nil
Feedback from farmer	The neighboring farmers sprays pesticide during flowering stage and hence the honey bees are goes away from colonies and not formed again.
Feedback of the scientist	Honey bee rearing improves the pollination and resulted in high pod setting. Reduced cost for application of growth promoter at periodical interval.
Extension activities on the FLD	Group meeting – 2 Method demonstration – 2 Training – 4 Field visit - 4

FLD No.:	**10**
Status	New Proposal
Thematic area	Integrated Crop Management
Crop/ enterprise:	Paddy
Technology demonstrated	**Demonstration on Integrated Rodent management in Paddy**
Season and year	Rabi & 2021
Farming situation	Irrigated
Source of Fund	KVK, Main
No. of Village	1
No. of demonstration	5
No. of SC/ST farmers and women farmers	Nil
Area proposed (ha)	2
Actual area (ha)	2
Justification for shortfall, if any	Nil
Feedback from farmer	Excellent control of rodents found at wonder trap 15-20 rats in this

	device at same time. Saves operational cost to the tunes of Rs.2000/time and avoided 20% yield loss by rodent at field level.
Feedback of the scientist	Wonder trap is cost effective and farmer can afford easily.
Extension activities on the FLD	Group meeting – 4 Method demonstration – 2 Training – 4 Field visit - 6

FLD No.:	**11**
Status	New Proposal
Thematic area	Integrated Crop Management
Crop/ enterprise:	Groundnut
Technology demonstrated	**Demonstration of Wild Animal Repellent against wild boar and monkey in Groundnut.**
Season and year	Rabi & 2021
Farming situation	Groundnut is an important oil seed crop which is damaged by monkey and wild boar at pod development stage and causes yield loss up to 20%. Man power requirement is also high to ward off monkeys and its adds to increased cost of cultivation.
Source of Fund	KVK, Main
No. of Village	1
No. of demonstration	5
No. of SC/ST farmers and women farmers	Nil
Area proposed (ha)	2
Actual area (ha)	2
Justification for shortfall, if any	Nil
Feedback from farmer	i. Better control against wild animals up to 20 days if there is no rainfall. ii. It saves the crop and yield loss prevented.
Feedback of the scientist	Wild Animal Repellent not only controls the wild animals and also improves the crops growth and act as pest and disease control agent. Further study is needed in this line.
Extension activities on the FLD	Group meeting – 8 Method demonstration – 20 Training – 4 Field visit – 5

FLD No.:	**12**
Status	New Proposal
Thematic area	Integrated Pest Management
Crop/ enterprise:	Brinjal
Technology demonstrated	**Demonstration on Integrated Pest Management in Brinjal**
Season and year	Kharif & 2021
Farming situation	Brinjal is being cultivated in 200 ha at Hasthinapuram village and

	the farmers have to spray series of chemicals to manage pests like shoot and fruit borer, epilachna beetle, white flies etc. Harvesting of vegetables without advisory waiting period resulted in chemical residue full brinjal which is harmful.
Source of Fund	KVK, Main
No. of Village	1
No. of demonstration	5
No. of SC/ST farmers and women farmers	Nil
Area proposed (ha)	2
Actual area (ha)	2
Justification for shortfall, if any	Nil
Feedback from farmer	The given IPM technologies very easy to adopt and monitoring the pest. Field releasing of egg card of *Trichograma chillonies (*2cc -3times) at 20 days interval helps reduce the shoot and fruit borer damages. Cost saving ensured by avoiding frequent application of different pesticide
Feedback of the scientist	This IPM modules is highly efficient management of Brinjal pests. Recommenced for brinjal grower
Extension activities on the FLD	Group meeting – 6 Method demonstration – 4 Training – 4 Field visit - 8

FLD No.:	**13**
Status	New Proposal
Area	Fisheries
Thematic area	Varietal Assessment
Crop/ enterprise:	Fisheries
Technology demonstrated	**Demonstration of intensive culture of Jayanthi Rohu**
Season and year	August 2020 – Feb 2021
Farming situation	Most of the farmer use traditional rohu variety in the composite fish culture farms. These rohu variety has less production performance and highly susceptible to *Aeromonas* infection leading to high mortality, if the pond is not maintained properly
Source of Fund	ICAR KVK - SCSP
No. of Village	2
No. of demonstration	2
No. of SC/ST farmers and women farmers	2 SC farmer
Area proposed (ha)	0.25
Actual area (ha)	0.25
Justification for shortfall, if any	NIL
Feedback from farmer	• Jayanthi Rohu has increased yield (35%) compared conventional rohu variety

	• Further, the early mortality of fingerling in this variety is least compared to conventional rohu variety
Feedback of the scientist	The performance of this variety in form of better yield, increased body weight gain and growth period is better than the conventional rohu variety
Extension activities on the FLD	Group meeting – 1 Method demonstration – 1 Training – 1 Field visit - 4

FLD No.:	**14**
Status	New Proposal
Area	Animal Science
Thematic area	Feed Management
Crop/ enterprise:	Dairy
Technology demonstrated	**Demonstration on mixed fodder (10 cent model) in Ariyalur district**
Season and year	2021
Farming situation	Dairy cow rearing is widely practiced in this region and farmers predominantly depend of grazing land and single fodder variety like COFS29 for feeding their cows leading nutritional deficiency. Further green fodder shortage also happens during summer season.
Source of Fund	ICAR KVK - SCSP
No. of Village	2
No. of demonstration	6
No. of SC/ST farmers and women farmers	6 (5 SC farmer and 1 SC women farmer)
Area proposed (ha)	0.24
Actual area (ha)	0.24
Justification for shortfall, if any	NIL
Feedback from farmer	• Mixed fodder cultivation gave better results compared toy single fodder cultivation • The animal performance like regular oestrous, increased milk production and body weight gain were noticed
Feedback of the scientist	Overall animal nutritional status as improved. Feeding Mixed fodder along with mineral mixture has reduced the incidence of repeat breeding and less milk yield
Extension activities on the FLD	Group meeting – 1 Method demonstration – 1 Training – 2 Field visit - 6

FLD No.:	**15**
Status	New Proposal
Area	Animal Science
Thematic area	Varietal Introduction

Crop/ enterprise:	Poultry
Technology demonstrated	**Demonstration of Nandanam Chicken IV under backyard in Ariyalur district**
Season and year	2021
Farming situation	Desi bird rearing is widely practiced in this region and farmers get less income from this desi bird due to less body weight gain at marketing age and low annual egg production
Source of Fund	ICAR KVK - SCSP
No. of Village	3
No. of demonstration	10
No. of SC/ST farmers and women farmers	10 (8 SC farmer and 2 SC women farmer)
Area proposed (ha)	0.2
Actual area (ha)	0.2
Justification for shortfall, if any	NIL
Feedback from farmer	• This Nandanam IV gave better growth performance and body weight gain within 4 months of rearing • The egg production is also high (130 eggs/year) compared to desi chicken
Feedback of the scientist	This variety birds attained 1 kg body weight within 4 months and FCR(2.5) is also better compared desi poultry. The growth rate and egg production are better than desi birds. The variety is highly suitable for both meat and egg production.
Extension activities on the FLD	Group meeting – 2 Method demonstration – 2 Training – 2 Field visit - 10

FLD No.:	**16**
Status	New Proposal
Area	Animal Science
Thematic area	Disease Management
Crop/ enterprise:	Dairy
Technology demonstrated	**Demonstration on Mastiguard Teat spray for prevention of mastitis in dairy cow in Ariyalur district**
Season and year	2021
Farming situation	Milch animal rearing is widely practiced by farmers and most of the farmer doesn't wash the udder after milking leading to mastitis. Additionally milk men who are milking cow regularly don't wash their hands and hence spread the diseases from animal to animal.
Source of Fund	ICAR KVK - SCSP
No. of Village	10
No. of demonstration	10
No. of SC/ST farmers and women farmers	10 (5 SC farmer and 5 SC women farmer)
Area proposed (ha)	0.25
Actual area (ha)	0.25

Justification for shortfall, if any	NIL
Feedback from farmer	• After the use of mastiguard teat spray the incidence of mastitis drastically reduced to next to zero • Other teat related problems like crack, teat blockages and pox was also reduced
Feedback of the scientist	Mastiguard teat spray acts like antimicrobial agent and also gives layer of protection over the udder. It also blocks the teat pores thereby reducing the chances of microbes' entry into the udder. Since mastitis causes severe economical loss to farmer and by using this low cost technology the farmer can avoid such losses like treatment cost and reduced milk yield.
Extension activities on the FLD	Group meeting – 2 Method demonstration – 5 Training – 2 Field visit - 10

FLD No.:	**17**
Status	New Proposal
Area	Animal Science
Thematic area	Disease Management
Crop/ enterprise:	Poultry
Technology demonstrated	**Demonstration of Probeads-EC on growth performance of Desi-Chicken in Ariyalur district**
Season and year	2021
Farming situation	Backyard poultry consisting of 10-30 country birds in the common practice particularly to meet the family protein needs and for income. No proper disease management practices are followed in most of the farmers. Many desi bird generally suffer from enteric borne disease like colibacillosis, salmonella and coccidiosis leading to severe mortality and economic loss.
Source of Fund	ICAR KVK - SCSP
No. of Village	2
No. of demonstration	5
No. of SC/ST farmers and women farmers	5 (2 SC farmer and 3 SC women farmer)
Area proposed (ha)	0.25
Actual area (ha)	0.25
Justification for shortfall, if any	NIL
Feedback from farmer	• Initially birds showed hesitation in taking the EC pro-beads however once they were mixed with other feed ingredients, the birds took them • Incidence of diarrhoea and other gut related problems also reduced leading to less mortality in birds
Feedback of the scientist	Generally desi birds showed increased mortality during monsoon season due to water contamination and over stocking leading stress. Providing this EC probeads to these desi birds reduces the stress and act like niche filling of gut so that other pathogenic

	bacteria like E.coli and Salmonella cannot attach in the gut so that chances of disease outbreak is less. Further these probiotics also enhance the gut flora and help in better FCR and digestion causing increased body weight
Extension activities on the FLD	Group meeting – 1 Method demonstration – 2 Training – 1 Field visit - 5

FLD No.:	**18**
Status	New Proposal
Area	Home Science
Thematic area	Post Harvest Management
Crop/ enterprise:	Cahew
Technology demonstrated	**Demonstration on Spiced candy preparation from cashew apple**
Season and year	April-June, 2021
Farming situation	Cashew is grown in 31,000 ha. Both under irrigated and rainfed condition. The cashew apple are just wasted after collecting the nuts
Source of Fund	KVK Main
No. of Village	1
No. of demonstration	10
No. of SC/ST farmers and women farmers	2 and 4
Area proposed (ha)	--
Actual area (ha)	--
Justification for shortfall, if any	--
Feedback from farmer	Good technology to utilize cashew apple and it may be promoted as an entrepreneurial activity at small to medium scale.
Feedback of the scientist	Useful technology to utilize cashew apple. The technology may still require some refinements to reduce the astringency
Extension activities on the FLD	Training – 4 Media - 1

FLD No.:	**19**
Status	New Proposal
Area	Home Science
Thematic area	Post Harvest Management
Crop/ enterprise:	Blackgram
Technology demonstrated	**Demonstration on TNAU Sweet flag 6EC for management of pulse beetle in Blackgram**
Season and year	April-June, 2021
Farming situation	Blackgram is cultivated as sole crop and also as intercrop in cashewnut plantations. Pulse beetle is the major menace at storage and loss estimated upto 20 to 80 percent due its damage

Source of Fund	KVK Main
No. of Village	1
No. of demonstration	10
No. of SC/ST farmers and women farmers	10
Area proposed (ha)	--
Actual area (ha)	--
Justification for shortfall, if any	--
Feedback from farmer	Sweet flag 6EC treatment of Blackgram seeds safeguard the Blackgram very well upto 40-50 days. There is no loss in quality and quantity of Blackgram seeds stored.
Feedback of the scientist	Very effective technology to contain storage parts of Blackgram
Extension activities on the FLD	Field visit -1 Training – 2 Extension activity - 1

FLD No.:	**20**
Status	New Proposal
Area	Home Science
Thematic area	Waste Management
Crop/ enterprise:	
Technology demonstrated	**Demonstration on Bio conversion kitchen organic waste into compost using Black Soldier Fly**
Season and year	August – November, 2021
Farming situation	Dumping of kitchen wastes from every household to land fill causes environment pollution and human health hazard. So it has to be properly converted into useful composts by Black Soldier Fly of larva and besides the pre-pupal stage of larva can be utilized as an excellent feed supplement to poultry birds
Source of Fund	KVK Main
No. of Village	1
No. of demonstration	5
No. of SC/ST farmers and women farmers	5
Area proposed (ha)	--
Actual area (ha)	--
Justification for shortfall, if any	--
Feedback from farmer	• Black Soldier Fly (BSF) technology is easily converting house wastes into manure. The larva of BSF is very much useful to reduce the poultry feed cost. • Difficult to handle the foul odour of food wastes
Feedback of the scientist	The quantity of recovery of manure from wastes is very minimum. But BSF larvae production is viable one for poultry
Extension activities on the FLD	Method Demo -1 Training – 2 Extension activity - 3

FLD No.:	**21**
Status	New Proposal
Area	Home Science
Thematic area	Drudgery reduction
Crop/ enterprise:	Vegetables
Technology demonstrated	**Demonstration on Vegetable seedling transplanter**
Season and year	September, 2021
Farming situation	Brinjal, Tomato, Bhendi, Annua Moringa are the important vegetable crops in the district under irrigated condition. Brinjal is the transplanted vegetables and it consumes more labour for transplanting. The bending posture of farm women which transplanting gives drudgery to the labours.
Source of Fund	KVK Main
No. of Village	2
No. of demonstration	2
No. of SC/ST farmers and women farmers	2
Area proposed (ha)	--
Actual area (ha)	--
Justification for shortfall, if any	--
Feedback from farmer	The transplanter is of weight (5 kg) and difficult to handle.
Feedback of the scientist	Cannot be of much practical utility to the farmers
Extension activities on the FLD	Not carried out as it was not preferred by the farmers

FLD No.:	**22**
Status	New Proposal
Area	Home Science
Thematic area	Varietal introduction
Crop/ enterprise:	Paddy
Technology demonstrated	**Demonstration on VGD-1 Briyani rice variety**
Season and year	Samba season and August – December, 2021)
Farming situation	Paddy is being cultivated in wet lands. Farmers used to cultivate the bold, medium slender rice varieties like BPT 5204, CO 51, ADT 50, ASD 16
Source of Fund	KVK Main
No. of Village	1
No. of demonstration	5
No. of SC/ST farmers and women farmers	1
Area proposed (ha)	2
Actual area (ha)	2
Justification for shortfall, if any	--

Feedback from farmer	Excellent crop growth performance like number of productive tillers (55), non lodging character and high yield (55.75 q/ha.). Highly suitable for Briyani making and fetched premium price in the market
Feedback of the scientist	Very good fine variety and highly suitable for Ariyalur district
Extension activities on the FLD	Method Demo-1 Training-2 Media-1

FLD No.:	**23**
Status	New Proposal
Area	Agricultural Extension
Crop	All crops
Thematic area	ICT
Technology demonstrated	**Demonstration of News on AIR app in Android mobile app**
Season and year	Throughout the year
Farming Situation	Most of the agriculture in Ariyalur District is Rainfed condition. Most of the animals are reared by open grazing system.
Source of Fund	ICAR – SC SP
No. of locations(Villages)	1
No. of demonstration	10
No. of SC/ST farmers and women farmers	7 and 3
Area proposed (ha)	--
Actual area (ha)	--
Justification for shortfall if any	Nil
Feedback from farmers	News on AIR app is very useful to know the information immediately and wherever required
Feedback of the scientist	This app is very useful for farmers and available in Multilanguage. The record and play back option is very useful to farmers especially when they miss the programme due to other works.
Extension activities on the FLD	Group meeting – 1 Method demonstration – 1 Field visit – 4 Feedback collection - 1

FLD No.:	**24**
Status	New Proposal
Area	Agricultural Extension
Crop	Cashew
Thematic area	ICT
Technology demonstrated	**Demonstration of Cashew India App in Android based Mobile**
Season and year	Rabi and 2021
Farming Situation	Cashew is being cultivated in around 30,000 ha under rainfed condition. The farmers are small land holders and scattered hence

	the reach the technologies is slow
Source of Fund	ICAR - Main
No. of locations(Villages)	1
No. of demonstration	10
No. of SC/ST farmers and women farmers	1 and 1
Area proposed (ha)	4ha
Actual area (ha)	4 ha
Justification for shortfall if any	Nil
Feedback from farmers	The Cashew Expert system app is very useful during the pandemic situation of COVID 19 without expecting the experts physically
Feedback of the scientist	The app should be updated every year for knowing new technology and as per the new problem emerges
Extension activities on the FLD	Group meeting – 1 Method demonstration – 1 Field visit – 4 Feedback collection - 1

FLD No.:	**25**
Status	New Proposal
Area	Agricultural Extension
Crop	Goat
Thematic area	ICT
Technology demonstrated	**Demonstration of Android based IVRI Disease control Mobile app for Goat**
Season and year	Throughout the year
Farming Situation	Goat is being reared in semi intensive system and reared in flock
Source of Fund	ICAR – SC SP
No. of locations(Villages)	1
No. of demonstration	10
No. of SC/ST farmers and women farmers	6 and 4
Area proposed (ha)	--
Actual area (ha)	--
Justification for shortfall if any	Nil
Feedback from farmers	The IVRI Disease control app is very useful to goat farmers during critical situation
Feedback of the scientist	The app should be updated every year for knowing new technology and as per the new problem emerges
Extension activities on the FLD	Group meeting – 1 Method demonstration – 1 Field visit – 5 Feedback collection - 1

FLD No.:	**26**
Status	New Proposal
Area	Agricultural Extension
Crop	TNAU and Govt apps
Thematic area	ICT
Technology demonstrated	**Demonstration on TNAU and Government app**
Season and year	Throughout the year
Farming Situation	For all crops and schemes information
Source of Fund	ICAR – SC SP
No. of locations(Villages)	1
No. of demonstration	10
No. of SC/ST farmers and women farmers	10
Area proposed (ha)	--
Actual area (ha)	--
Justification for shortfall if any	Nil
Feedback from farmers	The TNAU & Govt.app is very useful to know the Govt.schemes
Feedback of the scientist	The app should be updated every year for knowing new technology and as per the new problem emerges. The Govt.schemes should also be updated.
Extension activities on the FLD	Group meeting – 1 Method demonstration – 1 Field visit – 4 Feedback collection - 1

Extension Studies

Impact of Interventions of ICAR - KVK on Groundnut Cultivation and Socio Economic Status of Farmers of Ariyalur District of Tamil Nadu, India

ABSTRACT

Groundnut occupies 3,38,300 ha in Tamil Nadu including 28,000 ha in Ariyalur District but its productivity is less (1.51 t/ha). To improve the productivity of Groundnut in the District, the Krishi Vigyan Kendra (KVK) has implemented series of interventions viz., On-Farm Trials, Front Line Demonstrations, Cluster FLDs, trainings and method demonstrations from 2015-16 to 2019-20. The present study was undertaken to assess the impact of interventions of KVK in yield and income enhancement in groundnut cultivation. The study was conducted with the randomly selected 250 farmers at four blocks of Ariyalur District. The yield was recorded for all the years of the study both in control and demonstration plots. The parameters viz., frequency, mean, percentage, impact in adoption and yield increase were worked out. The adoption rate was the highest for the technologies viz., timely sowing and recommended spacing (96%), spray of crop boosters (86%), seed treatment (84%) and post harvest management (82%). The interventions of KVK had paved the way for increased productivity of Groundnut from 13.4 q/ha during 2015-16 to 22.1 q/ha during 2019-20 (65 percent increase). The adoption of improved varieties and technologies resulted in an additional income of Rs. 48,550.00 per ha. By the efforts of KVK and convergence activities of line department the improved practices were adopted in 13,250 ha. An additional cash inflow to District farmers realized was INR 64.33 crores/annum and it benefitted 16,400 farmers and thus socio economic empowerment of Groundnut growers of Ariyalur District of Tamil Nadu, India was improved.

KEYWORDS: Adoption, Cash inflow, Impact, Production technologies

INTRODUCTION

Groundnut (*Arachis hypogaea*) is commonly branded as poor man's nut also important food crop frequently used as edible oil and vegetable protein. It is sixth most important oilseed crop in the world. It is cultivated in 26.4 Million ha with 37.1 million MT of total production throughout the world. It is habituated in the tropical, subtropical and warm temperate regions with average yield of 1,520 kg/ha. Groundnut crop can be cultivated in region were annual rainfall ranges from 500 to 1250 mm. It cannot withstand severe drought, water logging and frost. The major groundnut production states of India are Gujarat, Andhra Pradesh, Karnataka, Tamil Nadu and Maharashtra and contribute 86 percent of groundnut production in the country. In Tamil Nadu, Groundnut occupies 3,38,300 hectares with a production of 7,83,200 tonnes every year. The major groundnut producing districts of Tamil Nadu are Vellore, Cuddalore, Thiruvannamalai, Dharmapuri, Salem, Erode, Theni, Trichy, Madurai, Perambalur, Ariyalur, Pudukkottai and Kancheepuram.

Ariyalur district has been considered as productively potential region of groundnut as it is the main remunerative crop of farmers as it is being cultivated in both Kharif and Rabi seasons in an area of 28000 ha. However, there was a wide gap of upto 33 percent between the potential (2.4 t/ha) and the actual production realized by the farmers (1.51 t/ha) due to poor adoption of recommended package of practices by the farmers. Technological gap *i.e.,* poor knowledge about newly released crop production and protection technologies and its adoption in the farmers' fields is a major limiting factors in groundnut production during 2000 to 2010. Lack of awareness and poor adoption of scientific production technologies *viz.,* improved varieties, seed treatment with fungicide, application of biofertilizers, Integrated Pest and Disease management practices and post harvest management which were a key reason for low productivity of groundnut. The possible solutions to improve the production potential identified were adoption of recommended scientific production practices with improved and high yielding varieties. The Indian Council of Agricultural Research- Krishi Vigyan Kendra (ICAR- KVK), Ariyalur District functioning under the aegis of Indian Council of Agricultural Research, New Delhi has identified the technological gaps by field visits, surveys with the farmers during 2013-14 to 2014-15. Accordingly the KVK has contemplated series of programmes in terms of On-Farm Trials, Front Line Demonstrations (FLDs), Cluster Front line Demonstrations (FLDs), trainings and method demonstrations to improve the production potential of Groundnut by improving the adoption rate of advanced cultivation practices. The list of various interventions of KVK is listed in Table 1.

Table 1: Series of intervention of KVK, Ariyalur to improve the productivity of Groundnut during 2015-16 to 2019-20

Sl. No.	Name of the intervention	Technologies assessed/ disseminated	No. of programmes	No. of participant farmers
1	On- Farm Trials (OFTs)	• Assessment of high yielding varieties for irrigated and rainfed conditions • Assessment of drought mitigating and Integrated Pest and Disease Management (IPDM) technologies	4	24
2	Front Line Demonstrations (FLDs)	• Demonstrations on High Yielding varieties like GJG 9, Khadiri 7 and Dharani • Demonstration on Integrated crop management • Demonstration of IPDM practices • Demonstration on Mechanized sowing, weeding, harvesting and stripping • Demonstration on preservation of Groundnut haulm	5	50
3	Cluster Front Line Demonstration	Large scale Demonstrations on improved varieties and ICM practices	250	250

	s (CFLDs)			
4	Field Schools	Complete ICM practices in Groundnut – series of field classes throughout the cropping period	4	100
5	Trainings	• Soil test based fertilizer application • ICM practices • Organic cultivation of Groundnut • Seed production	21	480
6	Method demonstrations	• Seed treatment with *Rhizobium* and *Trichoderma* • Basal application of FYM and gypsum • Chemical weed control • Installation of IPM kits • Spraying of crop boosters and drought mitigating chemicals and microbes • Mechanized sowing, weeding, harvesting and pod stripping	18	373

The objectives of the present study were to analyse the impact of the interventions of KVK over the period of five years in terms of productivity enhancement and improvement in socioeconomic condition of the Groundnut farmers at Ariyalur District of Tamil Nadu, India.

MATERIALS AND METHODS

The study was carried out during the five consecutive years from 2015-16 to 2019-2020 by the KVK Ariyalur District of Tamil Nadu. Though the Ariyalur comprising of six blocks, Groundnut is mainly cultivated in T. Palur, Jayankondam, Andimadam and Sendurai blocks. The respondents of the study were randomly selected from 25 villages in the four blocks at the rate of ten farmers per villages comes to 250 respondents for the study. Selected farmers were the beneficiaries of KVK interventions and also they were trained to follow the package of practices for groundnut cultivation as recommended by the National Agricultural Research System (NARS) and need based inputs were also provided to the beneficiaries at large scale under National Mission on Oilseeds Production (NMOOP) as CFLDs. The farmers followed the full package of practices like soil testing, seed treatment with biofertilizer, soil test based fertilizer application, weed management, Integrated Pest Management (IPM) practices, mechanization etc. For comparison the farmers' practices (check) were followed by using existing varieties and their known practices. An area of 100 hectare was covered with plot size 0.4 ha under cluster front line demonstration with active participation of 250 farmers in the study period. In demonstration plots, use of quality seeds of improved varieties (GJG9, Khadiri 7 and Dharani), Mechanized sowing and timely weeding, need based pesticides application as well as balanced fertilizer were emphasized and comparison has been made with the existing practices. Visit of neighbouring farmers and the extension functionaries from line departments was organized at demonstration plots as field days to disseminate the practical utility of

demonstrated technologies at large scale. The data were collected from demo plots throughout the study period.

The yield data of demonstration plots as well as control plots were collected immediately after harvesting to assess the impact of interventions on the yield of Groundnut (2015-16 to 2019-20). However, structured and pre-tested interview schedule was used to elicit the information from beneficiary farmers about adoption, varietal replacement and horizontal spread of technologies in adopted villages. The personal interview was conducted with the beneficiary farmers in the year of 2020-21 to assess the adoption of improved package of practices by the farmers. The secondary data like district area, average yield and number of groundnut growers were obtained from Department of Agriculture to conclude the study. The following formulae were used to assess the impact of interventions on the different parameters Groundnut.

Impact on adoption = (% change)	No. of adopters after demo. – No. of adopters before demo. / No. of adopters before demonstration	× 100

Impact on Yield =	Yield of demonstration plot (ha) – Yield of control plot (ha) / Yield of control plot (ha)	× 100

The simple statistical tools like frequency, percentage, mean were adopted to interpret the data in a meaningful way (Samui *et al.*, 2003).

RESULTS AND DISCUSSION

Impact of Interventions of KVK on Adoption of Groundnut Production Technologies

Thirteen production technologies were identified as major contributing factors in production cost reduction and yield improvement of Groundnut. The change in number of adopters after the study period and its impact in terms of percent change are depicted in Table 2.

Table 2: Impact of interventions of KVK on adoption of groundnut production technologies

(n=250)

Sl. No.	Technology	No. of adopters		Change in no. of adopters	Impact (% change)
		Before Demo	After Demo		
1	Use of improved varieties	21(8)	122 (49)	101	481
2	Optimum seed rate	36 (14)	195 (78)	159	442
3	Seed treatment	10 (4)	210 (84)	200	2000
4	Timely sowing and optimum spacing	60 (24)	240 (96)	180	300
5	Soil test based Fertilizer application	12 (5)	180 (82)	168	1400
6	Proper Weed management practices	48 (19)	205 (72)	157	327
7	Irrigation scheduling using Soil	3 (1)	85 (34)	82	2733

	Moisture Indicating tool (SMI)				
8	Adoption of mechanization in sowing, weeding, harvesting and stripping	13 (5)	176 (70)	163	1254
9	Earthing up operation 30 DAS and gypsum application	80 (32)	196 (78)	116	145
10	Foliar spraying of crop boosters on time	26 (10)	215 (86)	189	727
11	Adoption of IPM strategies	38 (15)	185 (74)	147	387
12	Timely disease management practices	55 (22)	172 (69)	117	213
13	Post harvest management practices	35 (14)	206 (82)	171	489
Overall adoption		**33 (13)**	**184 (74)**	**150**	**838**

Note: Figures in the parenthesis denotes percentage of adopters.

The data from Table 2 reveals that majority of the key technologies are being adopted by the famers after the interventions of KVK. Timely and season bound sowing plays an important role in obtaining higher productivity in any crop. Groundnut is sown during June-July as *kharif* crop and Nov-Dec as *Rabi* crop at Ariyalur District. Ninety six percent of the farmers took have the custom of sowing in the correct season. Likewise the recommended spacing of 30 cm × 15 cm was also adopted by 96 percent of the farmers to maintain optimum plant population. After the release of Groundnut Rich– a crop booster from Tamil Nadu Agricultural University, Coimbatore the farmers are well aware of its beneficial effects in improving the groundnut yield to the tune of 15 to 20 percent besides increasing quality of the pods and hence 86 percent of the farmers adopted foliar spray of Groundnut Rich. Seed treatment with biofertilizers (Rhizophos) and bioproducts (*Trichoderma viride*) and/or Potassium Chloride for drought tolerance find the third place in the major technologies adopted as 84 percent of the respondents adopted the same. Post harvest management practices like proper drying, grading and storage were also adopted by 82 percent of the farmers. The least adoption (34%) was observed for irrigation scheduling using soil moisture indicating tool due to the farmers' tendency of 'more irrigation will give more yield'. The overall percentage of adopters of technologies was increased from 13 to 74 by the relentless efforts of KVK in disseminating the technologies among the farmers. The impact of interventions of KVK on adoption of groundnut production technologies by the farmers of Ariyalur District measured in term of percentage change and it was 838 percent in the study period of five years by considering the mean value arrived for 13 technologies.

Impact of Interventions on Groundnut Productivity (yield ha^{-1})

Results of Cluster Front Line Demonstrations conducted during 2016-17 to 2019-20 in different villages of Ariyalur district indicated that the cultivation practices comprised under CFLD *viz.,* use of improved varieties, optimum seed rate, machine sowing, balanced application of fertilizers and control of pest and diseases through an integrated approach resulted in improved yield in Groundnut. It is evident from the results that under the demonstrated plots, the yield of groundnut was comparatively much higher than the local

check from the year one of demonstrations and it was incremental year after year. The data of table 3 reveals that there was the consistent increase in productivity of Groundnut over the last five years as it recorded 16.4, 18.4, 21.1, 24.2 and 30.0 percent increased yield over the control plots. Whereas the yield was 42.7 percent increased in the demo plots as it recorded 15.6 q/ha during 2015-16 and it rose upto 22.1 q/ha during 2019-20. This could be due to the adoption of recommended varieties and package of practices as an impact of efforts put forth by the KVK in the last five years. Similar yield enhancement in different crops in cluster front line demonstrations were documented by Hiremath *et al.,* 2007 in Onion; Mishra *et al.,* 2009 in Potato; Kumar *et al.,* 2010 in Bajra; Surywanshi and Prakash, 1993 in Oil seeds, Dhaka *et al.,* 2010 in Maize, and Dhaka *et al.,* 2015 in Coriander. The increase in percent of yield was ranged from 16.4 to 30.0 during the five years of study. The results were in conformity with the findings of Katare *et al.,* 2011, Meena *et al.,* 2012 and Tomar *et al.,* 2003. The results also showed that there was an increasing trend of productivity in check plots also as it was 13.4, 14.7, 15.6, 16.5 and 17.0 q/ha during the year 2015-16, 2016-17, 2017-18, 2018-19 and 2019-20 respectively. The increase in yield of check plots from 2015-16 to 2019-20 was 26.9 percent and it could be due to the technologies learnt and adopted by the farmers from other sources like newspapers, magazines, agriculture departments, listening of radio talks, NGO contacts etc.

Table 3: Impact of interventions of KVK, Ariyalur on productivity enhancement in Groundnut

Year	Average yield (q/ha)		Impact on Yield (% change)
	Check	Demonstration	
2015 -16	13.4	15.6	16.4
2016-17	14.7	17.4	18.4
2017-18	15.6	18.9	21.1
2018-19	16.5	20.5	24.2
2019-20	17.0	22.1	30.0
Average of five years	**15.4**	**18.9**	**22.7**

Impact of CFLDs on Horizontal Spread of Different Varieties of Groundnut

In the present study, special emphasis were given to replace the old low yielding varieties with the newly released high yielding varieties thorough CFLDs after assessment through OFTs. Then the efforts were made to study the impact of CFLDs on the horizontal spread of different varieties to augment the productivity in groundnut crop. It was evident from the Figure 1 that CFLDs organized on groundnut crop helped to increase the area under improved varieties in adopted villages. There was a significant increase in area under the improved varieties from 190 ha during 2015-16 to 2750 ha during 2019-20 in the KVK cluster villages itself. The maximum area was expanded under GJG9, Kadhiri 7 and Dharani varieties of groundnut. By the convergence with the department of agriculture and the subsidies extended by the department to popularize these high yielding varieties, now it is being cultivated in 13,250 ha in the district. The reasons for higher adoption of these three varieties might be their agronomical attributes such as semi-spreading type, high yielding nature and

tolerance to major pest, disease and drought. This data revealed that FLDs, CFLDs and trainings conducted by KVK made a significant impact on horizontal spread of improved varieties of Groundnut in the district.

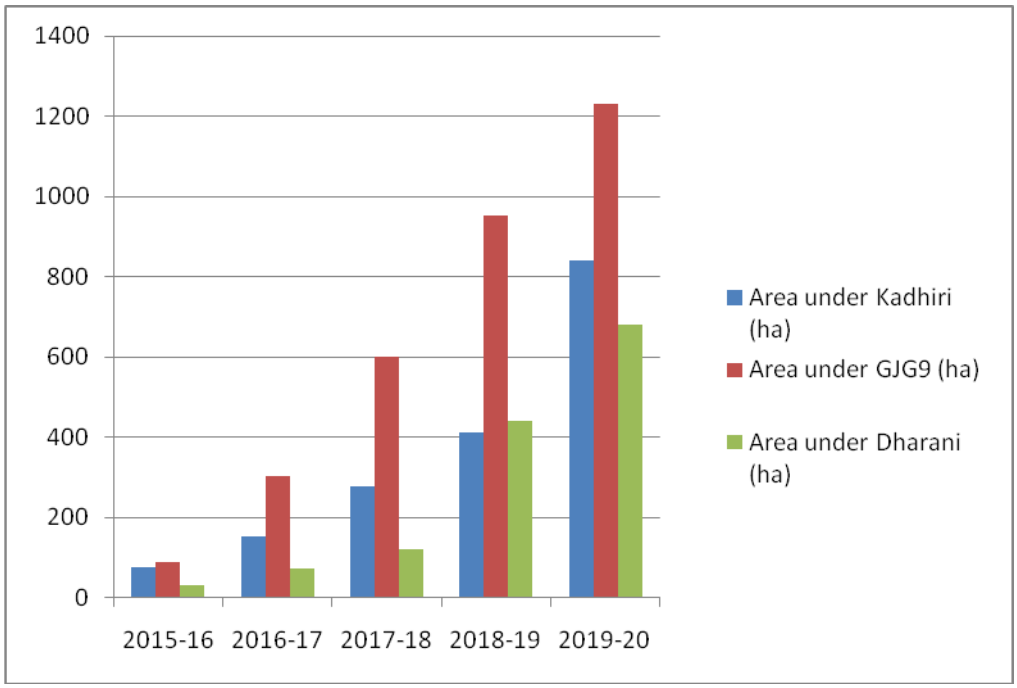


Figure 1: Impact of interventions of KVK on horizontal spread of improved varieties of Groundnut

Impact of Interventions on Socio-Economic Condition of Farmers of Ariyalur District

Groundnut as the predominant oilseed crop in the district, it is being cultivated in 28,000 ha by 33,200 farmers. By the series of interventions made by ICAR–KVK, Ariyalur District the farmers could save the cost in cultivation to the tune of INR 8,350.00 per ha by mechanized sowing, chemical weed control, soil test based fertilizer application, use of IPM practices. By the improved cultivars and cultivation practices it could be possible to enhance the yield from 15.4 q/ha to 22.1 q/ha (43.5% increased yield) as the mean yield of study period over five years. The additional economic gains obtained by the additional yield per ha worked out to INR 40,200.00. The total net income increase per ha was Rs. 48,550.00. Now the improved practices disseminated by the KVK, Ariyalur is being adopted in 13,250 ha by 16,400 farmers. Hence the additional net cash inflow to the District is INR 64.33 crores during the year 2019-20 itself. An individual farmer could reap an additional income of Rs. 39,225 every year by the Groundnut cultivation. From the perusal of the above data it is evident that the technological and economical status of farmers enhanced and thereby their social status elevated. These results are in line with the findings of Naidu *et al.*, 2019 as they also reported the similar socio-economic improvement of sericulture farmers at Madakasira mandal of Andhra Pradesh by cluster promotion programmes.

CONCLUSION

The Krishi Vigyan Kendra functioning under the financial support of Indian Council of Agricultural Research plays a major role in improving the livelihood of all categories of farmers across the country. The present study on impact analysis of interventions of KVK, Ariyalur revealed that it made the commendable difference in the productivity of Groundnut and additional net income to the Ground nut farmers by its series of interventions like OFTs, FLDs, CFLDs and trainings in the last five years period. The National Mission on Oilseeds Promotion played the crucial role on large scale demonstrations of Ground nut improved varieties and technologies and it paved the way for increased productivity from 1.56 t/ha to 2.21 t/ha in the five years. By the enhanced income from groundnut cultivation the socio-economic status of Groundnut farmers in the District also improved besides acquiring technological backup.

Salient Findings of the study:

- Groundnut is the Predominant oil seed crop of the Ariyalur District as it is cultivated in 28,000 ha both during Kharif and Rabi seasons.
- To improve the productivity of the Groundnut, ICAR - KVK, Ariyalur carried out series of interventions viz, DFIs (4), FLDs(50), CFLDs(250), field schools(4), trainings(21) and method demonstrations(18).
- To ascertain the impact of KVK interventions on Groundnut cultivation, a study was carried out in randomly selected 25 villages and among 250 respondents. The statistical tools like frequency, percentage, mean were adopted to interpret the data collected through structured questionnaires.
- The results revealed that the percentage change in adoption of overall 13 disseminated technologies was 83.8 %.
- By the improved cultivars and cultivation practices, the productivity enhancement achieved was 15.4q/ha to 22.1q/ha (43.5% increase) .
- The additional economic gain obtained per ha was INR 40,200. hence the net income to 16,400 Groundnut farmers increased every year and there by their socio economic condition improved

Technology Week Celebrations : NIL

Training/workshops/seminars etc. attended by KVK staff

Name of the staff	Title	Dates	Duration	Organized by
S.Shobana	Environmental Sustainability and Research Ethics	03.02.2021 to 11.02.2021	9 days	Avinashilingam University, Coimbatore
M.Ashokkumar	Innovation approaches for IPM technology	1.3.21 to 03.03.21	3 days	NIPM, Hyderabad

Y.Raja Joslin	Sandal Wood Cultivation	17.05.2021	1 day	Forest college & Research Institute, TNAU, Coimbatore
M.Thirumalaivasan	Kuruvai Paddy Cultivation	23.05.2021	1 day	Pachaiboomi, Chennai
M.Thirumalaivasan	Fertilizer Management for Field crops	31.05.2021	1 day	Coramental Fertilizer, Chennai
M.Thirumalaivasan	Organic farming for Sustainable Agriculture	01.06.2021 to 05.06.2021	5 days	MANAGE, Hyderabad
Y.Raja joslin	Mango Hi – tech cultivation	03.06.2021	1 day	Directorate of Extension Education, TNAU, Coimbatore
Y.Raja joslin	Role of beneficial insects in pest Management	04.06.2021	1 day	TRRI, Aduthurai
M.Thirumalaivasan	Weed Management practices	08.06.2021	1 day	KVK, Virudhachalam
Y.Raja joslin	Cashewnut Hi – tech cultivation techniques	09.06.2021	1 day	KVK, Virudhachalam
Dr.G.Alagukannan A.Rajkala	Agri Export Management	15.06.21 to 17.06.21	3 days	MANAGE, Hyderabad
M.Thirumalaivasan	IFS for doubling farmers income	17.06.21	1 day	TNAU, Coimbatore
Y.Raja joslin	Dragon fruit cultivation	19.06.21	1 day	KVK, Villupuram
M.Thirumalaivasan	Rainfed Groundnut cultivation	23.06.21	1 day	SPIC Fertilizer
M.Thirumalaivasan	SRI Paddy Cultivation	23.06.21	1 day	IMTI,Trichy
Y.Raja joslin	Government Schemes for Agri - Startups	26.06.21	1 day	MANAGE, Hyderabad
M.Thirumalaivasan	Key technologies for Kuruvai Paddy	28.06.21	1 day	KVK, Needamangalam
Y.Raja joslin	Sandal Wood cultivation	30.06.21	1 day	IWST,Bengaluru

Y.Raja joslin	Sustainable Integrated cropping and farming system models with special reference to banana for enhanced income for farmers	07.07.21	1 day	NRCB, Trichy
Dr.G.Alagukannan A.Rajkala Y.Raja joslin M.Ashokkumar M.Thirumalaivasan Dr.K.Karthik S.Shobana	Orientation cum training course on use of statistical tools in agriculture and allied fields	16.07.21 to 19.07.21	4 days	Society of Krishi Vigyan
S.Shobana	Role and responsibilities of Home scientist in KVK	31.07.21 to 01.08.21	2 days	Rajmata Vijaya raje scindia Krichi Vishwa Vidyalaya
M.Thirumalaivasan	Minor millet cultivation in TamilNadu	19.07.21	1 day	Department of Agriculture, Chennai
M.Thirumalaivasan	Mechanization in Paddy	05.08.21	1 day	TNAU, oimbatore
M.Thirumalaivasan	Nutrient Management in Paddy	09.08.21	1 day	IMTI, Trichy
Dr.K.Karthik	Management of infertility in cattle	31.08.21 to10.10.21	11 days	CCE,IIT Kanpur, COL,Canada & TANUVAS
S.Shobana Dr.G.Alagukannan	International Conference on Moringa	06.10.2021 to 08.10.21	3 days	HC & RI, Periyakulam
Dr.G.Alagukannan A.Rajkala Y.Raja joslin M.Ashokkumar M.Thirumalaivasan Dr.K.Karthik S.Shobana	Financial Education Webinar	12.10.21	1 day	SEBI -SRO
Dr.K.Karthik	Emergency Response Training Program	20.10.21 to 24.10.21	5 days	CARE INDIA

Details of sponsored projects/programmes implemented by KVK

S.No	Title of the programme / project	Sponsoring agency	Objectives	Duration	Amount (Rs)
1	Capacity Building training to FPO members	ESAF, Kerala	To train the FPO director for smooth running of FPOs	23.07.21	11,000
2	Training on Nutri Garden	ATMA, Ariyalur	To train farm women	01.07.21	12,500
3	Agriculture Community Resource Person Kit	Mahalir Thittam, Ariyalur	To develop CRPs in agricultural technologies	06.08.21	36,787
4	Agriculture Community Resource Person Kit	Mahalir Thittam, Ariyalur	To develop CRPs in agricultural technologies	21.08.21	3,600
5	Training on IFS	ATMA, Ariyalur	To train farmers on IFS	22.12.21	9,900
6	Improved technologies and value addition in Maize cultivation training programme	IMTI, Thuvakudi, Trichy	Training to farmers on Maize cultivation and value addition	01.12.21	15,000
7	CAT Programme	NABARD, Ariyalur	Training on IFS to farmers	16.06.21	49,000
8	Agri based S&T Backstopping towards Socio-economic improvement of SC people of Ariyalur district, Tamilnadu	Department of Science and Technology, New Delhi	To field test, demonstrate and disseminate high end technologies like assorted sexed semes, Black Soldier Fly larvae production, genetic upgradation of goat etc. to improve the livelihood status of SC people in the district	3 years	32,21,880
	Total				**33,59,667**

Success stories

1. Success case on Mrs.R.Sujatha – Lucky Mushroom Farm

1. Situation analyzed/Problem Statement:

Mrs.R.Sujatha,43 years old finished higher Secondary and was an home maker with happy family with two kids. In 2018,after her both son went aboard for further education, she realized to become entrepreneur to generate monthly income for her household expenses. While she was exploring her venture she came to know about ICAR CREED KVK through one of her friend. Her friend advised her to visit KVK for advisory service to start new entrepreneurship according to her resources.

2. Plan, Implement and Support:

In 2018,Sujatha visited our KVK to seek new track of entrepreneurship. Our experts in KVK explained all the opportunities to her to start new enterprise. On 21.04.2018 we conducted training programme on mushroom production. She participated in the training programme and learned many things like spawn production, oyster mushroom production and milky mushroom production with method demonstration. Additionally she also gained knowledge about value addition in mushroom products.

At end of the training, she brought one pocket of mushroom spawn and made five made oyster mushroom beds. She kept those beds in dark room and sprinkled the water everyday. After 15 days, she was delighted to see sprouting of mushroom from her bag. She shared her excitement to our expert team over the phone and decided to take this venture to the next level.

Then our team visited her house for providing additional support for large scale production. We advised her to arrange a small area of about 5-10 cent to initiate mushroom production. After that, she decided to use her first floor vacant rooms for mushroom production. She layered the floor with one inch of sand and tied gunny bags around the walls with water sprinkler setup to provide ambient temperature for mushroom growth.

Then, She brought mushroom spawns from KVK and made 50 bags in a room. After 15 days she harvested 3 kgs oyster mushroom. On her journey in her venture, now she has harvesting about 100 kg per month with monthly income of Rs.20,000.

3. Output

Motivated by her hard work, she decided to try other type of mushroom production like milky mushroom. In 2020, she started milky mushroom production, initially she faced minor set back in production. But she never gave up and went for seven days training on milky mushroom production conducted by TNAU. Finally, she succeed milky mushroom production and obtained yield of about 15 kg per month with the monthly income of Rs.10,000.Currently she have named her enterprise as “Lucky Mushroom Farm” and selling her products both mushroom and value added products under her brand.

4. Outcome and Impact

As an outcome, now Mr.Sujatha is earning an net income of Rs.40,000/month. Her farm has a become role model in Ariyalur District for Mushroom Production. About 112 farmers and farm women from various villages of Ariyalur have visited her farm. Further, She is also giving employment for two more female workers in her farm.

Mr.Sujatha has also received various awards including best Female Entrepreneur on World Womens Day from District Collector. Apart from farming, she is also serving as Master Trainer in various sponsor training Programmes. Her success was disseminated to AIR Karikal and Trichy and even published as an article in Kalnadai Velanmai. She is also serving farmers over phone calls to different district in TamilNadu.

2. Success case on Mr.G.Vijayakumar – Modified Sugarcane Ratoon Management

1. Situation analyzed/Problem Statement:

Mr.G.Vijayakumar (57 years) doing Sugarcane cultivation for the past 35 years in his 10 acres of land at Mallur village, Thirumanur block of Ariyalur district. Sugarcane is under cultivation in an area of 8,000 ha. in district. The Sugarcane yield from his farm was higher during the first cropping (60 to 70t/ha) and was drastically reduced in subsequent ratoon cropping (30 to 35t/ha) due to poor ratoon crop management practices like poor trimming operation after harvest, improper ratoon shoot population management, earthing-up in older beds year after year made distance for nutrient and water uptake by roots. Further the compactness of the black soil added fuel to fire for additional management practices with more labour expenses.

Generally after harvesting of cane at 5 cm above ground level farmer used to burn it trashes and there after the shoots emerging from them are unhealthy leading to less productivity. Additionally earthing up operation year by year make water and nutrient available to root due to mounting of soil goes up. To overcome the above problems and make good ratoon crop cultivation he searched and practiced many advanced machineries for ratoon management but he failed initially during 2017.

2. Plan, Implement and Support:

In 2020, he visited our KVK to get advisory source for his sugarcane crop. Later he explained the problem regarding ratoon cultivation and his failure in managing it using modified machinery. Currently, he is using machinery which has trimmer but it cut the mother plant since the moulded ridger two disc or not adjustable. After, series of discussion with Senior Scientist and other experts of agri engineering. The finally came up with an excellent innovation in the machinery that has adjustable ridger two disc and best suited for cutting sugarcane at soil surface level.

The features of modified Sugarcane ratoon manager are boron steel blades, stronger main frame, adjustable disc and cultivator shovel. The boron steel blades has high quality boron steel reversible blades, long life of blades against wear and tear, self sharpening blades cut the sugarcane stubble below the ground level. The adjustable cultivator shovel makes machines suitable for various row spacing (upto 3.5 feet) and any size and height of ridge, combination of operation which provides saving in cost of operations and two sides cultivator

shovel enables to plough the soil for intercultural operation and facilitates water supply at root zone.

The total weight of the machinery is around 260 kg and three point hitch mounted type, 380-450 RPM and the suitable tractor models are 45-50 HP and above. The modified device works well in clay soil and other types of soils when the soil moisture of 50% and in stubble free field. The boron steel blades cut the mother plant shoots (15-20 days old ratoon crops) below the soil level with 380-450 RPM without any shake to the root system which allowed the bed height of 20 cm only. Behind this cuts the extra shoots from mother plants which allowed 4-5 cane shoots for emerging. The cultivator shovel ensures balancing of the device and intercultural operations. The device can cover the area of 1 ac. of land in 2 hours with the combination of operations like trimming, bunding and inter cultural practices at same time.

3. Outcome/ Output of the Machineries

- After three years of innovation, last year (2020-21) the area of 200 ha. was covered by him for ratoon management around the district.
- This operation ensures the nutrient and water at root zone of the crop which reflect in growth and yield of the crop.
- The 4-5 cane per hill gives average 20% more yield than first crop.
- The cost per acre is Rs.3, 000/- for ratoon manger which results in Rs.30,000/- additional income by more cane yield.
- The yield of the ratoon crop by ratoon manager practice is about 45-50 t/ac. against 30t/ac. in conventional method (50% increase)
- His innovative model bagged the second prize in the Innovators Meet held at KVK, Theni sponsored by National Innovation Foundation, Gujarat.

3. Success Case of Mr.S.Tamilselvi on Desibird rearing

1. Situation analyzed/Problem Statement:

Mrs.S.TamilSelvi 26 years old completed BE graduation and worked in a private company for a monthly income of Rs.20,000/month. She was unable to care her family properly as there were day and night shifts. Also she was not satisfied with her job as she could not meet out her family requirements.

2. Plan, Implement and Support:

Mrs.S.TamilSelvi approached our KVK seeing our advertisement in Famous Tamil Magazine “Pasumai Vikatan” for desi bird rearing training and attended training on Desi Bird Rearing on 24.02.2016. As a women farmer, she was much more interested in becoming an entrepreneur in Desi bird poultry farming. She started feeding his birds with locally available feed stocks to reduce the cost on feed. Previously she was rearing 20 mother Desi bird poultry birds, after seeing the demand of Desi bird chicks she has expanded her poultry rearing unit with 75 parent mother birds and 10 cocks to utilize the eggs effectively for the production of chicks, she has purchased one low cost hatchery unit from Mr.R.Suresh (An innovator developed by ICAR-KVK, Ariyalur Dt.) with a capacity of 120 eggs and one automatic hatchery unit with a capacity of 250 eggs.

3. Output:

Desi bird poultry farming is fetching more income to this women entrepreneur as the cost of a desi bird is fetching her Rs.800/bird which is 3 times more cost than the normal desi bird rearing and she is selling Desi bird chicks eggs @Rs.30/egg. A One day old chick cost is Rs.70/chick and one month old chick cost is Rs.170/chick. She is earning an income of Rs.36,000/month now from her desi bird chicks rearing.

Sl.No.	Particulars	Amount (Rs.)
A	**Fixed cost**	
1	Poultry shed (1 Nos.)	
	16 x 21 feet	30,000
2	Auto feeder (10 Nos.)	2,000
3	Auto drinker (10 Nos.)	2,000
4	Automatic Hatchery Unit (1 nos.) Low cost Hatchery Unit (1 nos.)	47,000 8,000
	Total	89,000
	10% depreciation /year (I)	**8,900**
5	Parent bird (100 birds)	80,000
	Depreciation per year (II)	**12,000**
	Fixed cost per year(I + II)	**20,900**
B	**Expenditure**	
1	Feed cost per year (2.5 kg feed/bird/month for 100 birds (250 kg feed/day) @Rs.800/100 kg of feed)	60,000
2	Vaccination and Ethno veterinary practices per year	2,000
3	Fixed cost per year	20,900
	Total Expenditure	**82,900**
C	**Gross Income**	
	Sale of 250 chicks per month @Rs.170/chicks Sale of 3,000 chicks per (year)	**5,10,000**
D	**Net Income (Gross Income – Expenditure)**	**4,27,100**
	Benefit Cost Ratio (BCR)	**1: 6.15**

4. Outcome/Impact:

She is now supplying Desi bird chicks to a large number of farmers and farm women and helping them in marketing tie-ups also. She has also developed 25 women entrepreneurs like her in this poultry rearing enterprise. She is serving as a master trainer in the poultry training programme which is being conducted at our KVK. She is earning an income of Rs.45,000/month now and serving as a role model for other women entrepreneurship farmers. Her low cost feed management and ethno veterinary practices are getting popular among the backyard poultry/native chicken growers in Ariyalur district. Her technology has spread through All India Radio, Karaikal at several occasions

Mrs.Tamil Selvi a Poultry Entrepreneur has received an honorarium award for successful women entrepreneurship activities from ICAR KVK, Ariyalur District given by the NABARD Manager in the programme of Mahila Kisan Celebration during March 2018. She also awarded as Best Women Entrepreneur during International Women day during March, 2019 by District Collector, Ariyalur.

4. Success Case of Mr.Ragunath on Genetic up gradation of Local Goat stocks with Tellichery breed

1. Situation analyzed/Problem Statement:

Mr.Ragunath, 27 years old BE graduate worked in a private company at Chennai for an income of Rs.25, 000/ month during 2016. But due to his interest in organic farming he quitted his job and returned to native place Thinakudi village of Jayankondam block of Ariyalur district to start organic farming in his 12 acres of land.

Initially to start organic farming he purchased 2 Cows and 5 Local goat breed in his village itself. But his goats kidding rate was less and milk yield for lactating mother is less leads to poor weight gain in kid.

2. Plan, Implement and Support:

In 2017, he visited our KVK to get advisories for organic farming. Later he joined as member in KVK rural youth group and started getting advices through youth WhatsApp group and in person regularly. He visited KVK farm and enquired about Tellicherry goat breed. Senior Scientist and Head explained that Tellicherry breed is grown in our KVK to promote the technology of genetic upgradation of local breed to earn more income in our Ariyalur district i.e crossing local breed and Tellicherry breed results in more weight gain in kid. He was also given advise for developing 10 cent mixed fodder model for feeding the goat. He registered for one male Tellicherry goat and purchased 1 year old 30 kg Tellicherry buck after a month. Meanwhile he selected 2 healthy female goats of “Kodi aadu” and “Palai aadu” breed for crossing.

3. Output:

The Kodi aadu crossed with Tellicherry breed gives birth to 2 – 3 kids. The lactation in mother kodi aadu was good due to good feed management like plenty of green fodder, concentrate feed and mineral mixture leading to increased milk yield in mother goat whereas in his earlier practice has no enough lactation was there due lack of green fodder and he fed kid with cow milk leading to weak kids. It is also found that crossed kid had good weight gain i.e. 10 months old kid weight gains upto 20-24 kg whereas in his local practice 10 months old kid has only 10 – 15 kg. Now he is having 30 goats in his farm.

It is also noticed that crossing Tellicherry with Palai Aadu is not profitable as such as crossing Tellicherry with Kodi aadu. The palatability of the meat obtained from this cross breed goats was good and hence the marketability is good. The price and demand of meat due to COVID lock down period also was high. Currently, the sales crossbred goats at for Rs 350/Kg live weight for meat purpose and Rs 450/Kg live weight for breeding purpose.

4. Outcome and Impact:

As an outcome, now Mr. K. Ragunath is earning a net income of Rs.45,000/month from selling these goats for both meat purpose and rearing purpose. His farm becomes model farm in Ariyalur district for this genetic upgradation of goat and also for organic farming.

About 60 farmers and farm women from various villages of Ariyalur district and 25 B.Sc Agri final year RAWE students from JSA Agriculture college, Thittakudi were visited his

farm for learning purpose. 35 farmers were adopted and started this model for their improved economic status by goat farming

He is serving as master trainer for our KVK trainings on goat rearing and his success was disseminated through AIR, Karaikal, Trichy and DD Pothigai. He is also serving farmers over phone calls to different districts in Tamil Nadu.

5. Success Story on Hi tech Tuberose Cultivation

1. Situation analyzed/Problem Statement:

In Ariyalur district, Sugarcane is the major crop cultivated by farmers in Kuvagam village of Andimadam block. Farmers are getting a low income from these crops due to the high cost of cultivation, labour scarcity, high input cost and less market price. In sugarcane, the productivity is lower due to low yielding old varieties and lack of non adoption of integrated nutrient management and susceptibility of old varieties to pest and disease.

Mr.S.Kamaraj, a farmer aged 39 residing at Kuvagam village of Andimadam block, Ariyalur District approached the ICAR – KVK to get advisory to improve his income level from agriculture. In his traditional method of farming, he was spending his money for labour wages and to carry out farming operations in his 5 acres of land. The climate condition of Ariyalur district is best suitable to cultivate cut flower crop tuberose. Tuberose *(Polionthes tuberosa)* is a traditional flower used in all the social functions of Tamil Nadu as garland making, festival times and in perfume industry for extracting of essential oil. It is used as both loose flower and cut flower.

2. Plan, Implement and Support:

Our KVK Scientists have recommended cultivation of tuberose flower hybrid Prajwal released by ICAR – IIHR, Bengaluru. A Front Line Demonstration was conducted by our Krishi Vigyan Kendra, Cholamadevi, Ariyalur district in this farmer field to disseminate the technology. A training on hi tech tuberose cultivation was given to the farmers of Kuvagam village on the Integrated Cop Management practices in tuberose before conducting the front line demonstration. In this training, the following topics were taught viz., soil test based fertilizer application, land preparation, basal application of fertilizer and 25t/ha FYM, spacing (45cm x 25cm), bulb treatment with *Psuedomonas* @ 10g/kg of bulb, neem cake @250kg/ha and *Pacelomycetes linacious* (Nematon) for management of nematode, good planting material selection, mulching for weed management, irrigation, fertigation techniques, IPM and harvesting. Our KVK team along with SMS (Horticulture) has visited his field and gave technical guidance for cultivation of tuberose. Our KVK has helped the farmers in getting the tuberose bulbs planting material from ICAR – IIHR, Bengaluru. Around 10 farmers including Mr. Kamaraj were taken to ICAR – IIHR, Bengaluru to see the tuberose cultivation and Directorate of Cashew Research, Puttur, Karnataka to learn about the new technologies in horticulture. The printed article on tuberose cultivation was given to the farmers for further spread of this technology. The tuberose bulbs were sown in the field after the seed treatment with *pseudomonas,* spacing 45 x 25 cm and polythene mulching technique to control weed s and soil moisture conservation. Consultancy services were given to the tuberose farmer for getting higher productivity of about 15.04 tonnes per hectare per year.

Soil application of 25 tonnes per hectare farm yard manure, 400 kg single super phosphate, 2 kg azospirillum, 2 kg phospobacteria, 2.5 kg/ha *Trichoderma viridi*, nematicides 2.5kg/ha were done.

The gross cost of cultivation incurred for land preparation, tuberose bulbs, labour wages, mulching sheet, fertilizer, pesticide, irrigation and harvesting is Rs.1,50,000 per hectare. Harvesting of flowers starts from the 3rd month of the planting onwards in daily basis. On an average of 30 – 35 kg of flower yield was harvested everyday from his 1 acre of land and it is taken to the nearby market in Kumbakonam. Now the tuberose farmer has attained knowledge and skill on tuberose cultivation. The nematode incidence in his field is reduced due to the application of nematicide and *pseudomonas* (bio pesticide) in his field. In general, the other tuberose farmer are harvesting only 20 kg flower in 1 acre area.

3. Output:

There was a significant increase in the yield of the Prajwal tuberose compare to that of the local variety. The yield potential of this hybrid is 15 – 16 tonnes per hectare which is significantly higher compare to the local variety which was synergized by the Integrated Crop Management Practices. The price of the tuberose flower was ranged from Rs.50 – Rs.150 in the local market during the different month of the year. The adoption of the successful technology namely precision farming techniques of TNAU like raised bed planting, INM, IPM, mulching, drip and fertigation enhanced the yield by 50% on an average.

The individual flower weight was significantly higher in Prajwal than the local variety as indicated by the number of flower per kilogram. The flower merchants also like the Prajwal flowers for garland making due to its quality i.e fragrance and appearance.

4. Outcome:

This farmer has converted three acre of his land into tuberose cultivation. His annual income has increased from 1 lakh to more than 5 lakh in the year from the sales of flower and tuberose bulbs to neighbouring farmers.

The success story of Mr.S.Kamaraj has got wide publicity in both print and mass media like radio (AIR, Karaikal, Trichy), Makkal TV, Door Dharshan and electronic media. As of now, the area under tuberose cultivation in Kuvagam village and neighbouring village has been increased upto 100 hectares in the district.

5. Impact:

- Tuberose cultivation could increase the farmer income than any other crop in Ariyalur district
- Huge number of farmers are coming forward to cultivate tuberose
- Though it is of new origin to Ariyalur District. 2000 acres brought under tuberose cultivation

6. Success Story of Mr. E. Rahul in Biofloc fish rearing

1. Situation analysed /Problem Statement:

Mr. E. Rahul, 25 years old residing at Silal, Udayarpalayam block, Ariyalur district. He finished his graduation in Mechanical Engineering and was working in a private company in Chennai. His annual salary was around Rs 1.2 lakhs. He quit the job due to personal reasons and started one biofloc fish farming unit of 4m diameter at his backyard. From this one biofloc unit, he could earn around Rs 1 lakh/ batch but due to lack of awareness on scientific practices and technical support he could not get the excepted income.

2. Plan, Implement and Support:

In 2020, he came aware about our KVK from friends, visited KVK and met Scientists. He explained about existing problem and got technical advices to develop the farm. After field visit to his farm, our scientist suggested technical and scientific advisories in water, biofloc and sludge management in biofloc system

As per our advice, the Biofloc unit was refurbished and water and biofloc management was done accordingly. Through our KVK, we have provided him GIFT fingerlings by FLD programme and we have also linked him to nearby Fisheries University for further technical support.

3. Output:

Biofloc fish rearing is potential area to be explored in Ariyalur district were consumption of fresh water fishes is high. This technique is also getting latest attention due to several advantages like less space requirement, faster growth and less mortality. Now Rahul is getting more income than his previous harvest after KVK intervention. He is growing GIFT and he is doing two harvests in a year. Around 400-425 Kg of fish is harvested per tank per harvest. Now he is having two biofloc unit and getting an annual income of Rs 2.5 lakh. Further he is also planning for 1 lakh litre capacity biofloc tank for next year. Apart from sale of fishes, he also assists in construction and fabrication of biofloc unit for new farmers. Till date he as constructed 9 nine biofloc units with net income of Rs. 10,000/unit. Additionally, he is also supplying fingerlings and giving paid training programme for Rs. 1000/training.

4. Outcome and Impact:

He is now supplying fingerlings and acting as a biofloc consultant. He is serving as a master trainer in biofloc training programme which is being conducted at our KVK. By his efforts and technical support of KVK, Ariyalur, 10 re-migrated workers (due to COVID -19 pandemic) converted into agripreneur with steady income of 1.2 lakhs per year and have vast scope to improve their income level by adding additional units of Biofloc fish rearing. He is earning a regular income of Rs.3.5 lakhs /annum now and serving as a role model for other emerging youth entrepreneurs.

7. Success Story of Mr. J. Dhinesh on Rabbit rearing

1. Situation analyzed/Problem Statement:

Mr. J. Dhinesh 23 years old completed 12th standard and would not able to complete BSc Math degree due to financial reasons. He initially started rearing two rabbits for pet purpose and it become his hobby to spend time with these rabbits apart from helping his father in agriculture. Later, as the number of rabbits increased, he started rearing his rabbit in cage system and selling the bunnies at regular intervals

2. Plan, Implement and Support:

Mr. J. Dhinesh became aware about KVK, Ariyalur through friends and Whatapps groups approached our KVK for fodder seeds and advisory services on rabbit rearing. He explained his constraints like increased mortality in adult rabbits, feed shortage and weaker bunnies. After field visit to his farm, Scientist suggested to change the structure and housing space of the rabbit farm and suggested feeding management practices for different age group of rabbits.

As per our advice, the rabbit shed was modified with enough housing space with good ventilation. Further feeding modification like inclusion of green fodder, tree fodder and concentrate feed with mineral mixture was followed by him. Through our KVK, we provide him marketing linkage and technical advisories during COVID lockdown period.

3. Output:

Rabbit rearing is now fetching him more income after implementing the modification suggested by our KVK. Apart selling rabbit for pet purpose, he is now selling hybrid giant rabbit variety for meat and breeding purpose. He is selling 2 month old bunnies for Rs 400-500 for pet purpose and hybrid meat varieties for Rs350/kg live weight. During COVID lockdown period he used the Whatsapp platform for selling rabbit meat by door to door delivery with Rs 5 extra charge for 1km distance.

Apart from regular sales of bunnies and adult rabbit for meat, he is also selling breeding pair for Rs 2000-3000 and cages for rabbit rearing at Rs 5000/unit.

4. Outcome/Impact:

He is now supplying breeding and adult rabbits to a large number of farmers and also helping them in marketing tie-ups. He is serving as a master trainer in rabbit training programme which is being conducted at our KVK. He is earning a regular income of Rs.15,000- 20,000/ month now and serving as a role model for other youth entrepreneurship farmers.

Case studies

1. Title : ICAR – KVK, Ariyalur Excelled in Enhancement of productivity in Blackgram and thereby the socio economic conditions of farmers

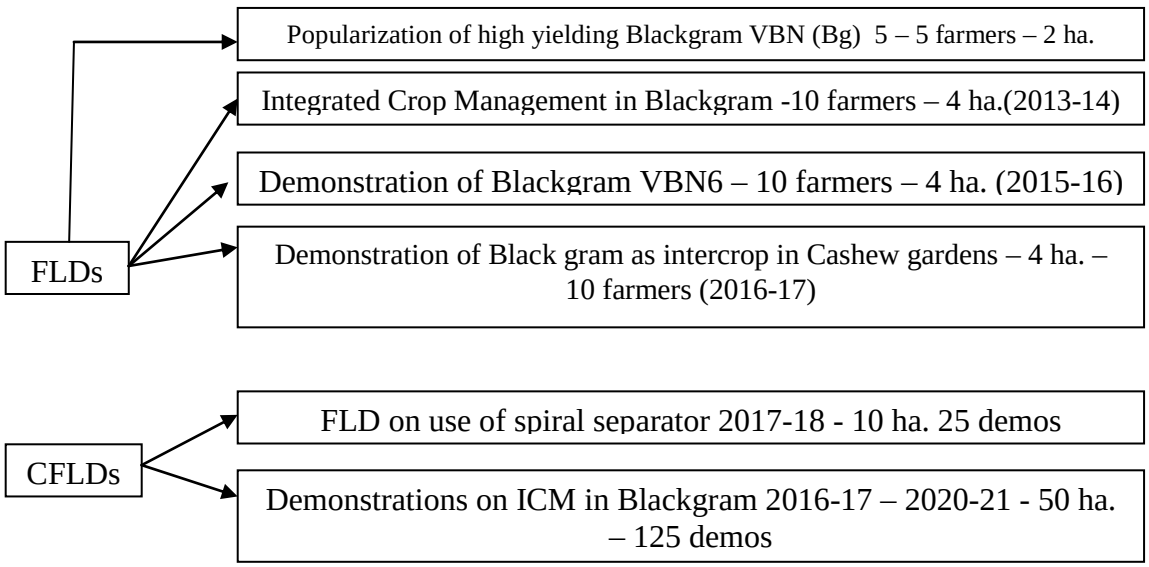
a. Problem Statement

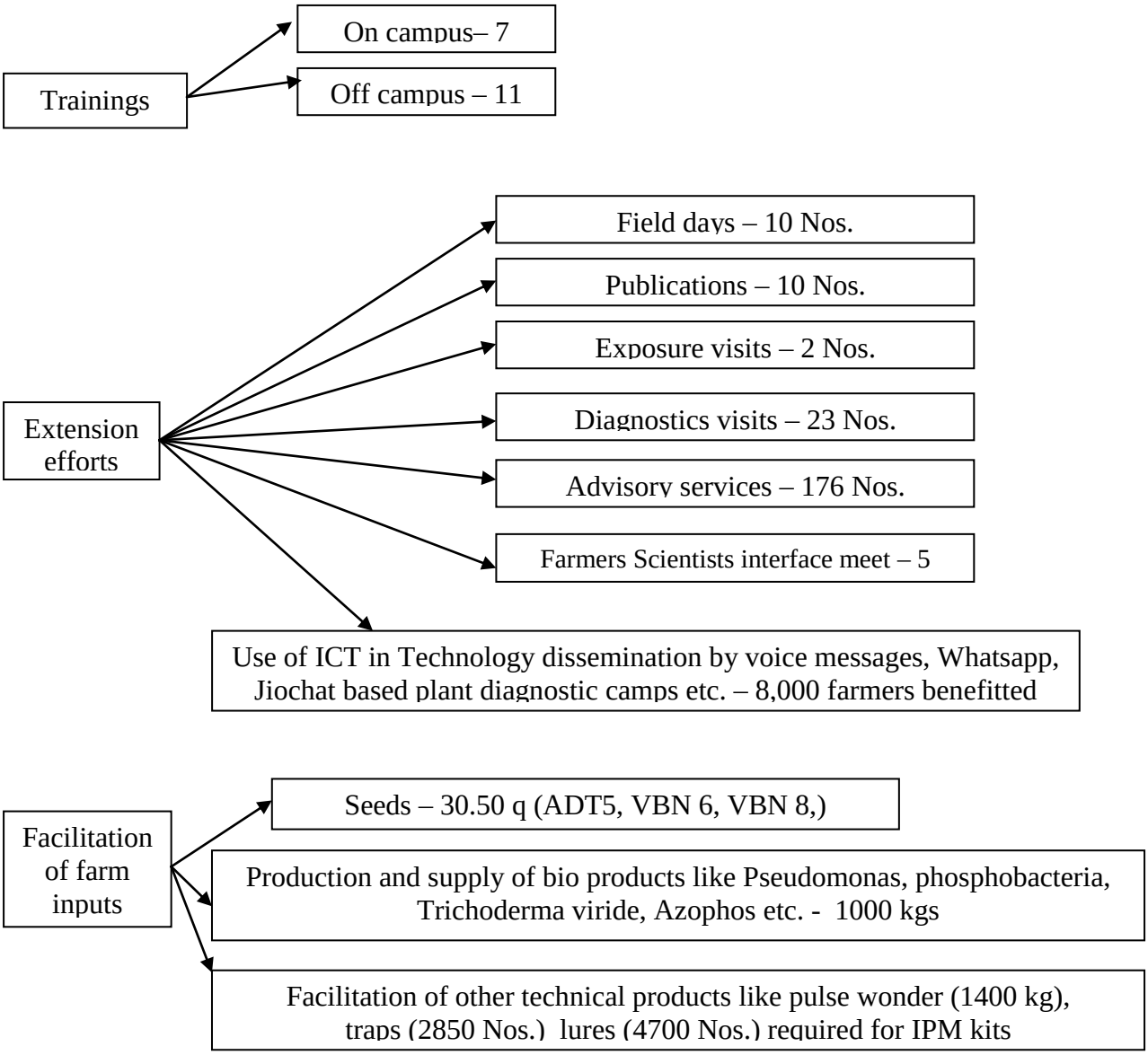
Blackgram popularly known as 'Urad' is one of the most important pulse crop grown in India. In Tamil Nadu it is being grown in an area of 3.41 lakhs ha. during Kharif, Rabi and Summer seasons in almost all the districts of Tamil Nadu wherever paddy is cultivated. Blackgram is the predominant Rice fallow pulse crop. In Ariyalur district blackgram is grown in an area of 4,042 ha. in almost all blocks of the district as sole crop and intercrop in cashewnut plantations. The productivity is low (520 kg/ha.) when compared to the potential yield of 1,000 kg/ha. due to various problems.

1. Use of seeds of age old varieties like ADT 5, T9 and VBN 3
2. Non adoption of proper seed rate. The farmers are using 25-30 kg/ha. instead of recommended seed rate of 20 kg/ha. It led to over population and thereby reduction in yield.
3. Susceptibility of ADT 5 and T9 varieties to YMV disease resulted in 30-35% yield loss and upto 60% yield loss when it is grown during summer season
4. Non availability of seeds of latest varieties like VBN 6, VBN 8 that are tolerant or free from YMV disease.
5. Non adoption of recommended package of practices like fertilizer application, weed management, IPDM, etc.

b. Plan, Implement and Support

ICAR- Krishi Vigyan Kendra hosted by CREED, Ariyalur district put forth series of efforts through its mandated activities to tallies these problems and achieve higher productivity in blackgram and thereby the enhanced income of the farmers. The following flowchart depicts the series of interventions implemented step by step to tackle the above problems.





c. Output

By series of interventions provided by ICAR – KVK, Ariyalur the participating farmers gained knowledge and skills in different technologies as depicted in the following table.

Sl.No.	Crop / Enterprises	Technologies	% gain in knowledge	% gain in adoption
1	Blackgram	Adoption of VBN 6 variety	72	54
2	Blackgram	Foliar spraying of Pulse wonder @5kg/ha or DAP 2% during flowering stage	72	68

By adopting the basket of technologies disseminated through series of interventions the productivity level in the demonstration field has increased sizably along the economic benefits. The details are presented hereunder.

Sl.No.	Crop	Year	Productivity / ha.			Increase in income / ha.	
			From	To	% increase	From	To
1	FLD	2016-17	6.24 q	8.84 q	42	26,085	45,564
2	CFLD	2017-18	5.9 q	8.5 q	44	38,200	62,160
3	CFLD	2018-19	6.1 q	8.8 q	44	40,500	68,500
4	CFLD	2019-20	6.1 q	8.9 q	46	43,000	72,500
5	CFLD	2020-21	6.4 q	9.1 q	42	46,500	74,000

d. Outcome

Based on the knowledge and skill enhancement, improved adoption of various technologies by the participating farmers and their income level increase, the farmers in the neighboring villages and nearby blocks started adopting those technologies in black gram cultivation. The details are given below:

S. No.	Technologies	Horizontal spread to neighboring villages	No. of Farmers	Area	Horizontal spread to neighboring blocks	No. of Farmers	Area
1	Cultivation of high yielding Black gram VBN 6 variety	45	3550	575ha	3	555	245 ha.
2	Foliar spraying of Pulse wonder @5kg/ha or DAP 2% during flowering stage	52	2850	725ha	4	625	395 ha.

By adoption of different technologies disseminated by KVK and by horizontal spread of the technologies, the first level beneficiaries accrued increased income from black gram cultivation as below :

Sl.No.	Village	No. of farmers	Net Income realized (Rs.)/ ha.	
			Before adoption	After adoption
1	Cholamadevi, Kodalikarupur, T.Palur, Alagapuram, Anaikudam, Andimadam, Anikudichan (North), Chinnapattakadu, Devamangalam, Devanur, Edaayankurichi, Edanganni, Edayar, Ariyalur, Edayathankudi, Elaiyur, Elaiyur (East), Elaiyur (West) Elakurichi, Elandakudam, Elayaperumalnallur, Eravangudy	1075	Rs.36,085	Rs.45,564

Likewise, by adoption of the technologies disseminated by ICAR-KVK, Ariyalur , the usage of chemical inputs in black gram cultivation by the farmers have reduced sizably.

Sl.No.	Technologies	Reduction in terms of Kind	Reduction in terms of Cost
1	Seed treatment with *T.viridi*, *Rhizobium, Phosphobacteria*	Urea application to the tune of 30kg/ha. DAP @ 25kg/ha MOP @ 20kg/ha	Rs.2500/ha
2	Pheromone traps, Yellow sticky traps	2 No. of Pesticide spray reduced	Rs.1500/ha

FLD on use of spiral separator conducted during 2017-18 added the value to the intervention made in black gram as it is highly useful to grade the black gram grains. The graded black gram by spiral separator fetches good price in the market.

In black gram cultivation farmers reaped a maximum net income of Rs.36, 085/ha. Before KVK intervention. Currently the farmers are getting an income of Rs.45,564/ha as the yield and quality of black gram enhanced substantially. So there is 26.3 % increase in income if the price is stable.

e. Impact

- After KVK interventions, the Department of Agriculture started distribution of VBN 6 black gram seeds through its various subsidy schemes.
- The seeds of VBN 6 and VBN 8 from the KVK farm and from KVK promoted farmer fields is as follows :

Year	Qty. produced at KVK farm (q.)	Seed produced at Farmers field (q.)	Total seed distributed (q.)
2014-15	11.0	22.0	33.0
2015-16	8.0	22.0	30.0
2016-17	18.0	96.5	114.5
2017-18	6.8	94.5	101.3
2018-19	8.5	110.6	119.1
2019-20	9.6	135.5	145.1
2020-21	11.2	145.0	156.2
Total	**73.1**	**626.1**	**699.2**

- Apart from KVK efforts, Department of agriculture also promoting seed production in farmers field to meet the district seed requirement.
- Our KVK is always facilitating the farmers in procurement of seeds, bio products, bio fertilizers, IPM practices and grading, etc.
- During 2015-16, there was the hike in price for blackgram grains and it went upto Rs.100/kg at that time the contribution of blackgram to agricultural economy was high.
- Blackgram cultivation certainly improved the social status of farmers as the income of Rs.45, 564/ha in children education, repaid their loans, etc.

2. Title : Ariyalur District is marching towards self sufficiency in fodder production

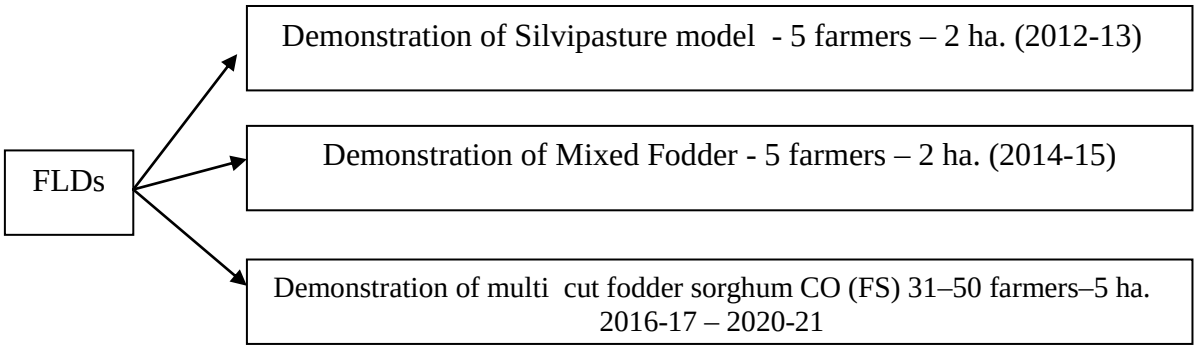
a. Problem:

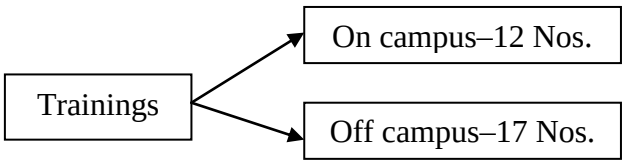
Ariyalur District is classified as Backward district in Tamil Nadu comprising six blocks. Of which Thirumanur, T.Palur and Jayankondam blocks are potential for irrigation facilities favours cultivation of Sugarcane, Paddy and Vegetables. Other three blocks are dry and mostly depends on monsoon showers for crop production. Animal components viz., milch cows. goat, sheep and buffalo forms the integral part of farming here apart from backyard poultry. The productivity in milch animals, goat, sheep and poultry birds are less due to the following reasons / facts.

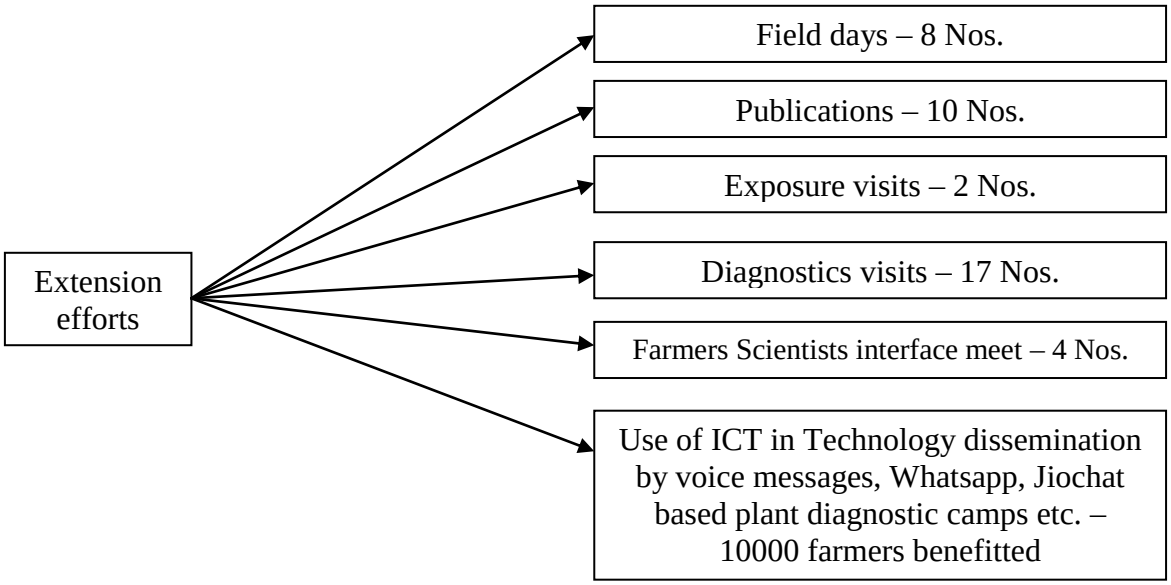
- Less preference of farmers to allocate a piece of land to raise fodder crops and thereby poor nutrition of animals
- Lack of awareness and knowledge on different fodder crops required to provide balanced diet to farm animals
- High cost of concentrate feed results in less remuneration from milch animals. About half of the income spent for concentrate feed.
- Fertility problems in cows due to mal nutrition
- Less weight gain in sheep and goat
- Less egg production in poultry birds and thereby less per bird productivity.

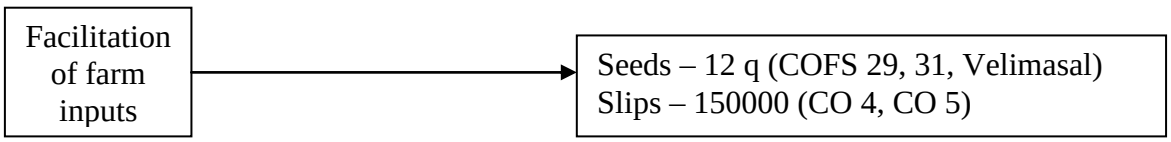
b. Plan, Implement and Support

Considering the fodder situation in the district, ICAR-KVK, Ariyalur planned and implemented strategic plans to bring more area under fodder crops. The different interventions made to achieve the goal of fodder sufficiency is depicted as follows :


FLDs
Demonstration of Silvipasture model - 5 farmers – 2 ha. (2012-13)
Demonstration of Mixed Fodder - 5 farmers – 2 ha. (2014-15)
Demonstration of multi cut fodder sorghum CO (FS) 31–50 farmers–5 ha. 2016-17 – 2020-21


Trainings
On campus–12 Nos.
Off campus–17 Nos.


Extension efforts
Field days – 8 Nos.
Publications – 10 Nos.
Exposure visits – 2 Nos.
Diagnostics visits – 17 Nos.
Farmers Scientists interface meet – 4 Nos.
Use of ICT in Technology dissemination by voice messages, Whatsapp, Jiochat based plant diagnostic camps etc. – 10000 farmers benefitted


Facilitation of farm inputs
Seeds – 12 q (COFS 29, 31, Velimasal)
Slips – 150000 (CO 4, CO 5)

c. Output

By the above interventions, the participating farmers improved in their knowledge and skills in fodder crops raising. Primarily they realized the importance of having fodder cafeteria to feed their animals. All 685 direct participating farmers established their own fodder area in 35 villages. From these fodder units 1,900 animals are provided with green fodder and thereby health and productivity has been improved. Productivity increase in milch animals by providing green fodder and by curtailing concentrate feed the income is also increased.

Table 1: Output due to fodder cultivation

Sl.No.	Parameters	Before Situation	After supplementary green fodder
1	Health of the animal	Weak	Good
2	Calving period	Prolonged (2 calves in 3 years)	Ideal (One calf/year)
3	Milk yield / day	6.5	8.2
4	Cost reduction in concentrated feed (lit.)	---	30-36 %
5	Total milk yeld / lactation / cow (lit.)	1,170	1,476
6	Gross Cost /cow/lactation	Rs.13,600	Rs.10,250
7	Gross return / cow	Rs.25,470	Rs.32,472
8	Net return / cow . lactation	Rs.11,870	Rs.22,222
9	BCR	1 : 1.87	1 : 3.1

Outcome :

Based on the performance of cow after feeding with sufficient green fodder, the farmers started adopting green fodder crops cultivation.

Table 2: Horizontal spread of fodder production technologies

Sl.No.	Technologies	Horizontal spread to neighboring villages	No. of Farmers	Area	Horizontal spread to neighboring blocks	No. of Farmers	Area
1	Cultivation of fodder crops viz,, Co (CN) 4/5, Desmanthus, Subabul, CFS 29/31, Sesbania	35	485	245	6	515	226 ha.

Now the farmers are giving one importance to the cattle by cultivating green fodder crops and feeding the animals. Currently about 600 farmers are having their fodder in the district. Still there is heavy demand for fodder seeds and our KVK is promoting farmers to

produce seeds / slips to facilitate horizontal spread. So far 30 farmers are actively involved in production and supply of fodder seeds including Azolla. By using the green fodder the cost on concentrate feed also reduced substantially to the tune of 30-35%.

Impact

- After the KVK intervention in fodder crops cultivation the milk yield is substantially increased in the district.
- More youth members are coming forward to rear milch animals and calf rearing. About 135 such youth members are being regularly guided in this regard.
- The overall health of the animals were improved and thereby increased yield and income is being realized by our farmers.

Details of innovative methodology, innovative technology and transfer of Technology developed and used during the year by the KVK

1. Resorting pest repellent sprays using Kisan Drone

ICAR CREED KVK is forerunner in taking innovative and advanced technologies for the welfare of farmers. Wild animals (monkey, deer, wild boar and peacock) become the menace in crop cultivation and its damage to the crops resulted in crop loss upto 20-30 percent. Our KVK promoted a wild animal repellent namely Herboliv Plus (An organic product of Mivipro company) since 2017 to ward off / repel wild animals from crop fields. Though its an organic product its efficacy was excellent and there was huge preference among the farmers to mitigate wild animal problems. Farmers' take up Herbolive spray with the sprayers till 2020. During 2021, we launched Kisan drone to resort Herboliv sprays at larger areas and we could cover 478 acres of paddy and groundnut in kharif and rabi season. Apart from wild animal menace, there was a reduction in rat damage, pest infestation and disease incidence. By considering our pro-activeness in use of drones, Government of India sanctioned Drone project for our KVK this year.

2. Rural Youth – Retired Youth (RY-RY model)

Our KVK has maintained the potential of rural youth and planned innovatively to bring them into mainstream of agriculture. We have formed Rural Youth Club and they were capacitated on various agricultural and allied aspects to enter into the income generating activities. As they are lack of financial resources and facing hardship in availing credit facilities, they struggled to start their ventures. Here our KVK think and act differently to bring resourceful and resource less persons in a common platform. We approached retired persons and we formed a club named "Retired Youth Club" which 60 persons are members currently. They are contributing money every month and the lumpsum amount collected will be disbursed to youth members to start their agricultural activities. Currently and amount of Rs.5,30,000 lakhs mobilised such a way to disbursed to 16 members. They were regularly repaying their loan with bank interest.

3. Abridging Resource less and Resourceful

This is and innovation of our KVK to bring uncultivated land into cultivation. The lands owned are sometimes unable to do agriculture due to several reasons viz., over age. No follower (Son / Daughter), working abroad, etc. by having very close association with the farmers our KVK could identify such a resourceful (Land Water) persons and links them with potential youth members. The youth members are identified from our youth club, so far by this kind of linkage 42 ha. Uncultivated area brought under cultivation benefitting 10 farmers and youth members. They will pay the nominal lease to the land owners. Our KVK is technically supporting the youth besides availing them the land resource.

Details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK
1	Cashew	1 kg goat meat + 1 kg cow meat+ 1kg pig meat + 1 kg desi chicken meat + 1 kg fish waste +1 kg blackgram flour+ 1 kg jaggery + 50 lit of water. mixed well. Kept for fermentation for 40 days stiring in morning and evening two times done. 1 litre gunapanjajam mixed with 30 litres of water and sprayed as nutrient for crops and also soil application. It will improve the growth of cashew plants traditionally.	Growth regulator
2	Vegetables	Cow urine and dung are collected, mixed with water and fermented for few days. After fermentation, the content is sieved to control pests. Cow urine act as germicide and cow dung provides nutrients to the crops.	To control the pest
3	Paddy	Soaking the paddy seeds in diluted cows urine before sowing.	To improve the seed germination percentage and early vigour of the seedlings.
4	Paddy	Bunds are strengthened with weeds and stubbles collected from the fields, bunds are plastered with mud.	To prevent rat holes and their damage.
5	Paddy	Placing bird perches in the field to allow birds to sit and predate on the pests.	To control all kinds of larvae.
6	Paddy	Storing of grains on a mud pot of more than 6 feet height.	To control storage pests.
7	Paddy	Keeping neem leaves or pungam leaves in between gunny bags.	To control storage pests.
8	Duck rearing	Duck rearing in Paddy field	To increase soil fertility and collected pupae in summer season
9	Poultry	Use of *Phyllanthus niruri*, cumin seeds, garlic extract, and turmeric is mixed with boiled rice and can be given as feed.	To contain ranikhet as prophylactic and after disease outbreak.

Impact of KVK activities

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs./ha.)	
			Before (Rs./Unit)	After (Rs./Unit)
Varietal introduction CO(R) 50	68	70	14,790	24,600
Mechanization of Transplanting in Paddy	55	70	33,569	48,880
MN Mixture application	32	70	37,760	51,290
Introduction of Groundnut variety VRI 2	52	60	37,014	53,458
Introduction of Sesame variety TMV 7	46	45	26,410	39,300
Vegetable seedling production through protray	57	75	1,14,350	1,44,500
ICM in cashew	46	68	15,000	30,000
Management of shoot and fruit borer in brinjal	26	45	62,300	86,400
Hi-Tech Tuberose cultivation	22	32	7,25,000	1,05,000
Seed treatment with Pseudomonas in paddy and groundnut	70	37	38,014	64,488
Introduction of fodder CO (CN) 5 and CO(FS) 29	59	73	16,500	26,250
Soil test based fertilizer application	37	42	38,670	54,040
Integrated feed management in cattle	46	32	13,600/cow /lactation	21,200/cow /lactation
Integrated disease management in sheep and goat	42	22	4,200/goat /sheep	7,410 /goat / sheep
Mixed fodder cultivation	29	15	36,000/acre	48,100/acre
Composite fish culture	30	17	85,000/ha.	1,75,000/ha.
Stunted earlings for seasonal ponds	25	11	94,000/ha.	1,20,500/ha.
Disease management in poultry birds	162	88	4,800/ 20 birds	6,300/ 20 birds
Spraying of Pulse wonder	594	56	5,060/ha	62,160
Groundnut rich	786	52	23,626/ha	54,331/ha
NCOF Water decomposer	86	48	1,18,000	1,26,000
Paddy AWD Pani pipe technology	115	46	19,420	24,370
Azolla cultivation	110	56	14,800/cow /lactation	18,400/cow /lactation

Impact of five select technologies assessed/demonstrated/popularized by the KVK in the district

1. Large scale adoption of VBN Series of Blackgram

Problem

- Low yielding (5.2 q./ha.) Varieties (T9 & VBN 5) for long period
- Susceptibility to YMV (ADT5)
- Non adoption of foliar nutrient spray yield loss – 20%)
- Non synchronized flowering and maturity

Intervention/ activity

- Introduction of high yielding blackgram varieties – VBN6 & VBN 8
- Foliar application of TNAU Pulse wonder, IPM practices

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	1,500	---
Productivity (in q/ha) in demo	7.4	5.3
Additional yield over check (in q/ha)	2.1	---
% increase in yield over check	26%	---
Gross returns (in Rs/ha)	59,200	42,400
Net Returns (Rs / ha)	41,200	32,900
Additional Net Returns in demo (demo – check)	8,300	---
B:C ratio	1.87	1.55

Outcome	
Area covered, spread in adopted villages (ha)	1,350 ha. in 58 villages
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	2,92,82,400 (8,300 X 3,528 ha.)
Area spread in district through convergence (ha)	2,178 ha

Convergence: Promoted 60 Seed grower and supplied seeds to Department: 435.6 q/year
Area increased from 1350 ha. to 4042 ha. in 8 years

2. Large scale adoption of ICM in Cashewnut

Problem

- Low population @75/ha. instead of 175/ha. due to Cashew stem and fruit borer incidence
- Low productivity (450 kg/ha.) in old senile plantation
- TMB affects the yield and quality of nuts

Intervention/ activity

- Gap filling VRI 3 grafts
- Stem borer and TMB management
- Foliar sprays
- Pruning techniques

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	6,100	---
Productivity (in q/ha) in demo	6.65	5.35
Additional yield over check (in q/ha)	1.30	---
% increase in yield over check	24	---

Gross returns (in Rs/ha)	66,500	53,500
Net Returns (Rs / ha)	35,500	28,950
Additional Net Returns in demo (demo – check)	6,550	---
B:C ratio	2.10	1.70

Outcome	
Area covered, spread in adopted villages (ha)	240 ha. in 16 villages
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	5,52,82,000 (6,550 X 8,440 ha,)
Area spread in district through convergence (ha)	8,200 ha.

Convergence: 8,200 ha. old orchards replaced by grafts by gap filling

3. Large scale adoption of Intercropping in Drumstick with Groundnut

Problem

- Low income per unit area from Drumstick as a sole crop.
- Cultivation of low yielding Drumstick varieties which is susceptible to pest and disease
- Under utilization of existing area between Drumstick during 3 months and Low income

Intervention/ activity

- Introduction of Groundnut as intercrop in Drumstick
- Introduction of ICM practices in Drumstick
- Introduction of PKM 1 variety
- Soil test based fertilizer application

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	42,500	---
Productivity (in q/ha) in demo	445*	240
Additional yield over check (in q/ha)	205	---
% increase in yield over check	85 %	---
Gross returns (in Rs/ha)	3,56,000	1,92,000
Net Returns (Rs / ha)	2,63,500	1,42,500
Additional Net Returns in demo (demo – check)	1,21,000	---
B:C ratio	3.81	2.61

* Intercrop yield converted into main crop yield

Outcome	
Area covered, spread in adopted villages (ha)	28 ha. in 18 villages
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	4,23,50,000 (1,21,000 x 350 ha.)
Area spread in district through convergence (ha)	322

Convergence: Micro irrigation extended to 280 ha

4. Management of Fall Army Worm in Maize

Problem

- Low yield (43 q./ha.) due to fall army warm
- Excess usage of pesticide and high cost of cultivation

Intervention/ activity

- Introduction of TNAU IPM technologies

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	5,100	---
Productivity (in q/ha) in demo	56.20	46.5
Additional yield over check (in q/ha)	9.70	---
% increase in yield over check	20.00	---
Gross returns (in Rs/ha)	89,920	74,400
Net Returns (Rs / ha)	49,780	38,560
Additional Net Returns in demo (demo – check)	11,220	---
B:C ratio	2.02	1.73

Outcome	
Area covered, spread in adopted villages (ha)	780 ha. in 35 villages
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	3,02,94,000 (11,220 X 2,700 ha.)
Area spread in district through convergence (ha)	1920 ha.

Convergence: Supply of IPM package for 1920 ha. in subsidy

5. Large scale adoption of IPDM Technology in Brinjal

Problem

- Non adoption of IPDM practices
- Repeated dose of pesticides
- More pesticide residue in vegetable

Intervention/ activity

- Introduction of IPDM practices in Brinjal

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	6,500	---
Productivity (in q/ha) in demo	307.7	226.9
Additional yield over check (in q/ha)	80.8	---

% increase in yield over check	36	---
Gross returns (in Rs/ha)	2,76,948	2,04,228
Net Returns (Rs / ha)	1,96,197	1,24,577
Additional Net Returns in demo (demo – check)	71,620	---
B:C ratio	3.43	2.56

Outcome	
Area covered, spread in adopted villages (ha)	68 ha. in 18 villages
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	80,93,060 (71,620 x 113)
Area spread in district through convergence (ha)	45 ha.

Convergence: Supply of IPM tool for 45 ha by KVK through PPP mode and by Department

District productivity increased from 22.7 t. to 30.77 t. (36%)

6. Low cost hatchery to augment chick production

Problem

- Low egg yield from desi birds (50-60/year) due to brooding nature
- Less income from backyard poultry
- Lack of other entrepreneurial scopes for rural youth

Intervention/ activity

- Low cost hatchery

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	6,000	---
Productivity (chicks/year) in demo	1,800	1,160
Additional yield over check (chick/year)	640	---
% increase in yield over check	55 %	---
Gross returns (in Rs/year)	81,000	52,200
Net Returns (in Rs / year)	56,000	29,200
Additional Net Returns in demo (demo – check)	26,800	---
B:C ratio	3.24	2.20

Outcome	
Area covered, spread in adopted villages	260 farmers in 21 villages
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of farmer)	81,74,000 (26,800 x 305 farmers)
Area spread in district through convergence (ha)	45 farmers

Self sufficiency in chick production in the district – 5,49,000/year
Convergence: Supply of Desi birds to BPL and Landless farmers
An increase of Rs.81,000/year for a women maintaining 25 desi birds

7. Composite Fish rearing in Farm ponds

Problem

- Low weight gain by poor quality seed materials and poor feed management
- Under utilization of farm ponds

Intervention/ activity

- Composite fish culture

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	16,500	---
Productivity (in q/ha.) in demo	32.00	20.50
Additional yield over check (in q/ha)	11.50	---
% increase in yield over check	56 %	---
Gross returns (in Rs/ha.)	4,85,000	3,07,500
Net Returns (in Rs / ha.)	2,49,000	1,34,000
Additional Net Returns in demo (demo – check)	1,15,000	---
B:C ratio	2.84	2.20

Outcome	
Area covered, spread in adopted villages (ha)	12 ha. in 26 villages
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	34,50,000 (1,15,000 x 30 ha.)
Area spread in district through convergence (ha)	18 ha.

Net income per unit area increased upto Rs.2,49,000
Convergence: Facilitation of farm ponds of about 18 ha. (180 farmers @25 cents)

Cases of large scale adoption/impact of specific technologies

Villages	Crop/ Enterprise	Technology	Treatment	% of Adoption
Throughout the District	Groundnut	Groundnut rich as foliar spray to improve the yield	KVK has recommended spraying of groundnut rich 5 kg/ha at the time of peak flowering stage 2 times for increasing the yield of groundnut by 18 percent.	72
Sembiyakudi, Thirumalapadi, K.Mettutheru Nagamangalam	Paddy CO 50	Varietal introduction CO 50	After seeing the performance of CO®50 over CR1009. The farmers were very much interested in cultivation of CO®50. With the advice of our Kendra and by the demand from the farmers. The state agricultural department has itself started distribution of CO®50 paddy seeds in their depots. Now, it is being spread not	80

Villages	Crop/ Enterprise	Technology	Treatment	% of Adoption
			only our operational area of village but also in other blocks.	
Sembiyakudi, Kulamanikum, Thirumanur, Elakuruchi	Paddy	Mechanization of Transplanting in Paddy	Now, the farmers are carrying out transplanting operation in time at less cost.	70
Cholamadevi, Kodalikaruppur, Aanaikudam, Silal	All crops	MN Mixture application	Now the farmers have realized the importance of micro nutrients and started to regularly apply MN mixture through soil and foliar application.	60
Kasankottai,	Groundnut	Introduction of Groundnut variety Kathiri 1812	After the demonstration on Kathiri 1812, farmers are harvesting 2t/ac. And thereby the income level increased.	64
Puliyankuzhi	Sesame	Introduction of Sesame variety TMV 7	Now the farmers are familiarized in using certified seeds. They also harvest 15-20 % increased yield by cultivation of TMV 7 over the earlier varieties.	40
Devamangalam	Pulses	2% DAP spray in pulses	Farmers are regularly spraying 2% DAP at flowering and pod formation stage. So, they are obtaining bold grains and thereby increased yield.	70
Silal	Vegetables	Vegetable seedling production through protray	Now the farmers using good quality seedling raised in 100 portrays. So the initial establishment and yield is upto the expected level in all the transplanted vegetable like tomato, brinjal, chillies, etc.	45
Veerakkan	Cashew	ICM in cashew	The farmers are learned to manage the tea mosquito bug and stem borer by regular sprays and other management practices. Now the productivity has increased upto 250 kg/acre.	70
Karaikuruchi	Brinjal	Management of shoot and fruit borer in brinjal	Now the farmers are familiarized in usage of pheromone trap and other bio control measures in management of brinjal shoot and fruit borer. Now the infestation is reduced to 10-15 %	45
Kuvagam	Tuberose	Hi-Tech Tuberose cultivation	Farmers are now adopting the new variety of hybrid namely Prajwal with soil mulching techniques and nematode management practices to get higher yield.	30

Villages	Crop/ Enterprise	Technology	Treatment	% of Adoption
Kasankottai	Paddy and groundnut	Seed treatment with Pseudomonas in paddy and groundnut	Farmers are doing seed treatment with Pseudomonas with 10g/kg of seed as prophylactic measures and also the soil application of 1 kg /acre and thereby good control of seed borne and soil borne diseases and ensured.	40
Across the district	Fodder	Introduction of fodder CO (CN)4 and CO(FS) 29	The farmers are well aware of importance of green fodder in management of cattle and also to improve the milk productivity. Now farmers practicing the cultivation of fodder CO(CN)4 and CO (FS) 29 in at least 10 cents.	52
Kasankottai	Groundnut	Mechanization in Groundnut	Now, the farmers are carrying out sowing operation in time at less cost.	46
Across the district	Cattle	Integrated feed management in cattle	Judicious use of green fodder cereal, legume and green fodder crops and concentrated feed along with minerals enhances health of animals	59
Across the district	Cattle	Integrated disease management in sheep and goat	Ethno veterinary practices, animal health Camp	48
Across the district	Cattle	Mixed fodder cultivation	Judicious use of green fodder cereal, legume and green fodder crops and concentrated feed along with minerals enhances health of animals	39
Across the district	fish	Composite fish culture	Intensive fish culture like catla, mirgal and rogu	27
Across the district	fish	Stunted yearlings for seasonal ponds	Useful technology for short water bodies	24

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

1. Impact of FOCT Training on developing self-employment through tree climbing at Ariyalur District

Introduction

Krishi Vigyan Kendra designs different types of training courses for the farmers, farm women and rural youth. Training is an important aspect of the entrepreneurship development and it is considered as part of strategy for growth and development of an organization or individual. Basically, training is intended to help individuals to learn and to bring the desired standard of efficiency, condition and behavior.

The total population of Ariyalur District is 7,52,481 of these 3,51,270 are farmers. The youth members (19-35 years) constitutes 36% of the total population and about 30% of them are unemployed or underemployed. ICAR – Krishi Vigyan Kendra (KVK) hosted by CREED was started during March, 2009 at Ariyalur district. Since then the KVK marching towards empowerment of farming community by dissemination of various technologies related to agriculture and allied sector. Krishi Vigyan Kendra, Ariyalur has conducted training programmes to unemployed rural youth in collaboration with Coconut Development Board, Cochin. The name of the training was "Coconut Tree Climbing using climbing device" under friends of coconut trees (FOCT) concepts. The preferred age of the trainees was 18 to 45 years. In total 160 rural youth were trained during last three years from 2017-18 to 2019-20.

Coconut (Cocos nucifera L.) is an important and versatile tree crop with diverse end-uses, supporting livelihood of many farm households in the primary sector, grown in many states of India. But in recent days coconut farmers are facing serious problems in coconut harvesting due to the shortage of trained climbers to harvest the nuts and clean the trees annually. It costs high ranging from Rs.50 – 80 per tree for climbing and harvesting.

The present study was undertaken to assess the impact of FOCT trainings on income and employment generation to rural youth and its role on reducing problems in coconut harvesting.

Materials and Methods

By considering the problem of shortage of trained tree climbers, the Coconut Development Board, Cochin have introduced the training on climbing of coconut trees using a safe and easy to use climbing device. During 2017-18 to 2019-20 eight such a trainings programmes were conducted at Krishi Vigyan Kendra, Ariyalur District with the financial support of Coconut Development Board (CDB) to 160 coconut farmers or youth members to impart the skill of using palm climbing device and management of coconut plantations for sustainable yields. The knowledge of coconut palm management and associated pest and disease management was also taught to the trainees. The selection of unemployed youth were done through advertising in print and electronic media and also through oral information. For each training programme 20 trainees were admitted. Total 160 rural youth were trained for safe climbing of coconut trees using coconut tree climber and improved coconut cultivation practices. After successful completion of the training they were provided with a palm climbing device, free accidental insurance for one year and a certificate of completion so as to enable him to take this as his profession. These trainees were linked with Coconut Development Board to get regular advices and schemes related to coconut farming. Out of 160 trainees 100 trainees were selected by using simple random sampling. The information pertaining to tree climber by traditional methods and advanced method of using climbing device was collected by using a well-structured pretested schedule. Adoption was operationalized here as a decision to make full use of coconut climbing device for harvesting of coconuts. Farmers adopt them either fully, partially or do not adopt at all. Score 3, 2 and 1 was given for fully, partial and non-adoption respectively. In order to interpret collected data and to draw meaningful conclusions, data were statistically analysed by using analytical statistics i.e. correlation.

Results and Discussion

Trainees adopted the coconut tree climbing device in two ways one is for harvesting their own coconuts and remaining one is as a profession for income generating purpose. The trainees expressed that the device is time saving, simple and safe and reduced the harvesting cost. The device was so designed to attract the youth and non-traditional coconut climbers to take up coconut harvesting as vocation. The small farmers with few number of coconut trees were very happy to harvest nuts by their own by using this simple device.

Table 1. Distribution of respondents according to extend of adoption of coconut tree climbing device at Ariyalur District.

(n=100)

S.No	Technology	Extend of adoption					
		Fully		Partially		Not adoption	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1	Use of coconut tree climbing device	52	52.00	38	38.00	10	10.00

It could be seen from Table 1 that 52.00 percent of the trainees were fully adopted the coconut tree climbing device as an income generating activities by climbing others trees for wage. A person could climb 25 to 30 trees in a day and earned Rs.750 to 1000/day. About 38.00 percent of the trainees were partially adopted the device for climbing for wage, only 10.00 percent of the farmers were not adopted this device. About 80 percent of the trainees were adopted the coconut tree climbing device for earning income and remaining 20 per cent of the trainees adopted the device for harvesting their own coconuts. This might be due to the fact that most of the rural youth trainees were enthusiastic in participation of trainings as it involves more practical exposures and easy to climb apart from ensuring safety. As Ariyalur district is having limited coconut plantations, the trained climbers preferred to go to the nearby districts also to climb the trees and get income. The problem of coconut growers in harvesting the nuts at high cost (Rs.50-80/tree) using the traditional climbers were solved to the maximum extend as they could use this trained climbers at Rs.25-30/tree.

Table 2. Correlation analysis of profile characters and their extend of adoption of coconut tree climbing device

S.No.	Profile character	Correlation Co-efficient ('r' valve)
1	Age	-0.226 ^{NS}
2	Education	0.575**
3	Farm size	0.457**
4	Farming experience	-0.279*
5	Family type	0.047**
6	Annual income	-0.279*
7	Social participation	0.356**
8	Mass Media exposure	0.268*
9	Extension agency contact	0.330*
10	Training exposure	0.285*

11	Risk bearing ability	0.543**
12	Motivation orientation	0.648**

* = significant at 0.05 level of probability
** = significant at 0.01 level of probability

A perusal of data presented in table 2 revealed that, among the twelve profile characteristics of respondents studied, nine characteristics namely education, farm size, family type, social participation, mass media exposure, extension agency contact, training exposure, risk preference and motivation orientation were significantly correlated with adoption of coconut climbing device. However, age, farming experience and annual income were negatively correlated with adoption of coconut climbing device for nut harvest and crown cleaning.

Education and farm size paves the way to quench the need for information for adoption. Social participation act as supporting psychological variable to verify and clarify the misconception in adoption of the device. Mass media exposure, extension contact and training exposure facilitated quick acquisition of knowledge and better adoption. Social participation act as supporting psychological variable to verify and clarify the misconception in adoption of the device.

Table 3. Income and employment generation to youth members by coconut tree climber Device

No. of persons involved in tree climbing as a profession	No. of trees being climbed / month / person	Cost/tree (Rs.)	Income generation/ Person (Rs.)	Employment generation /year (Mandays)
83	750	30	22,500	24,500

It was evident from Table 3 that among the methods of climbing, 83 youth members out of 160 persons trained were involved in tree climbing as a profession. Number of trees climbed / month by one person was 750 trees and thereby Rs.22,500 could be earned by a person per month. About 24,500 mandays of employment is being generated per year to the 83 tree climbers. This was mainly due to use of advance method of climber leads easy to climb the tree, without any life accidental risk by using coconut climber over other method of harvesting of coconuts. Whereas, manually climbing the tall trees, experienced body pain, muscles catch and with lot of risk while climbing and very difficult to meet out financial needs of a family with meager earnings. Hence the Friends of Coconut Trees trainings designed by the Coconut Development Board and imparted by different KVKs certainly could reduce the risk of tree climbing and body pain besides easing out to climb more number of trees per day. This could paved the way for increased income and the employment to the rural youth.

Conclusion

The study partially and fully has shown that ninety per cent of the trainees were adopted the coconut tree climbing device. Correlation analysis also indicated that education, farm size, family type, social participation, mass media exposure, extension agency contact, training exposure, risk preference and motivation orientation were significantly correlated with

adoption of coconut climbing device. The study concludes that coconut climber equipment is a boon for the coconut harvesters, since it has reduced the drudgery in tree climbing and improved the climbing efficiency there by providing employment opportunity for rural youth, which has helped them to improve their livelihood. The FOCT training conducted by the ICAR KVK, Ariyalur paved the way for steady income and employment to the youth members.

(This research paper published in the Journal of Krishi Vigyan)

2. Impact study on Mushroom cultivation for Micro Entrepreneurship development

Introduction

Cultivated mushrooms have now become popular all over the world. Mushroom cultivation can directly improve livelihoods through economic, nutritional and medicinal contributions. Mushroom is a popular food due to their special nutritive value and medicinal properties. Mushrooms are a good source of vitamin B, C and D, including niacin, riboflavin, thiamine, and folate, and various minerals including potassium, phosphorus, calcium, magnesium, iron and copper. They provide high quality fats and low in carbohydrates and cholesterol, which is ideal for reducing body weight. Mushroom cultivation can help reduce vulnerability to poverty and strengthens livelihoods through the generation of a fast yielding and nutritious source of food and a reliable source of income. It is an indoor crop, grown independent without sunlight and do not require fertile land and can be grown on small scale as it does not include any significant capital investment. Mushroom cultivation will improve the socio-economic condition of farmers, families and solve employment problems of both literate and illiterate of rural areas and semi-urban, especially women. Mushroom cultivation is a women friendly profession. Mushroom growing is an agricultural activity in which women can utilize their spare time and play a vital role without sacrificing their household responsibilities. Promotion of mushroom cultivation could relieve pressure on land, increase food and nutritional security and uplift the status of women through earning additional income and in household decision making as far as concerned

Mushroom substrate can be prepared from any clean agricultural waste material, and mushrooms can be produced in temporary clean shelters. They can be cultivated on a part-time basis, and require little maintenance. Mushroom cultivation activities can play an important role in supporting the local economy by contributing to subsistence food security, nutrition, and medicine; generating additional employment and income through local, regional and national trade; and offering opportunities for processing enterprises such as pickling and drying. Oyster as well as Button mushroom offers good potential for its cultivation in Ariyalur district. The demonstration and training conducted by Krishi Vigyan Kendra, Ariyalur. The trained people after getting proper know how and skill started its production. Apart from the trained trainees, a lot of other farmers and farm women started its cultivation by seeing their 105eighbor and fellow farmer nearby villages. But methods of mushroom cultivation of these two groups differ a lot and the difference were mainly due to proper training from KVK taken before mushroom cultivation was started. Keeping in view the increasing demand of mushroom due to globalization and opening of the economy, the present study was undertaken with the specific objective to assess the impact of training and demonstration on mushroom production as an enterprise/self-employment.

Methodology

A complete list of 305 respondents was randomly prepared who have under gone through training and demonstration on mushroom production technique from Krishi Vigyan Kendra, Ariyalur districts from 2014- 15 to 2019-20. A questionnaire was framed covering background information. In order to assess the knowledge gained by the trainees and effectiveness of training, a pre-test before training and post evaluation after training was conducted to know the level of knowledge of participants about species, pest and disease infestation in mushrooms as well as their storage process and value addition etc. To test the knowledge of trainees, a set of 10 questions related to mushroom production, nutritive value, value added products prepared from mushroom, its picking and storage method etc. were prepared and the suggestions from the trainees were also recorded for further improvement in the next training programme. Change in perception level was calculated from the difference of scores obtained in pre and post knowledge test of the trainees. The data were tabulated and statistically analyzed using frequency, percentages and ranking.

$$\text{Change of Knowledge} = \frac{\text{After training} - \text{Before training}}{\text{Total respondents}} \times 100$$

Results & Discussion

Training courses aim at enhancing adoption and diffusion of innovations. Some of the outcomes envisaged for any training programme were gain in knowledge, gain in skill acquired and ultimately in more adoption and integration among farming community. An important indicator of the impact of training programme is the extent, to which they have adopted the package of practice of mushroom cultivation technology. Krishi Vigyan Kendra, Ariyalur has been giving long and short duration training on Mushroom production both to farmers, rural youth and rural women. Mushroom production has become one of few enterprises which rural women of both district has adopted in big way both at household level and as commercial enterprise as a source of income generation after the proper dissemination of technology through KVK.

Change in perception level of respondents (N=305)

Change in perception level of respondents before and after training was shown in Table 1. They develop a favourable attitude towards mushroom production after training. In pretest before training, the knowledge of respondents about mushroom spawn production was zero and 1.75 per cent regarding methods of compost making to 32.0 percent in case of awareness of loans, schemes and subsides provided by public or private institutions for establishment of mushroom production unit as revealed by Table 2. Post training score of various practices ranged from 58.00 per cent in case of mushroom spawn production to 100 per cent in case of profitability in mushroom cultivation. It was thus noticed that pre-training knowledge score was not much satisfactory for all the aspects of training programme. However, the knowledge score gained by respondents after training was more satisfactory in all aspects. The reason behind the satisfactory change in perception level might be due to well educational background, keen interest of participants and methods followed for technology transfer to the trainees.

Table 1: Change in perception level of respondents for mushroom production (N=200)

S.No.	Particulars	Pre-test Knowledge before training (%)	Post-test Knowledge after training (%)	Change in perception level (%)
1	Knowledge of Species of Mushroom and Identification of edible mushroom	8.5	90.25	81.75
2	Nutritive and medicinal value of mushroom	5.5	80	74.5
3	Materials and Techniques used for different types of mushroom production	8	81.75	73.75
4	Methods of compost making	1.75	64.5	62.75
5	Pest and disease infestation in mushroom	5	78.75	73.75
6	Profitability in mushroom cultivation	22.5	100	77.5
7	Harvesting and storage process	7.5	89	81.5
8	Mushroom spawn production	0	58	58
9	Value added products of mushroom	10.25	86	75.75
10	Awareness of loans, schemes and subsides provided by public or private institutions for establishment of mushroom production unit	32	98.25	66.25

Level of adoption

A total of 305 farmers and farm women participated in the training for mushroom production in the year 2014-15 to 2019-20. Out of 305 farmers and farm women, only 122 farmers adopted Mushroom cultivation (Table 2).

Table 2. Impact of training programme of Mushroom cultivation farming

Year	Number of training	Number of participants of training	Number of participants adopting mushroom production	Percent adoption
2014-15	1	26	8	30.76
2015-16	3	61	21	34.42
2016-17	4	73	28	38.00
2017-18	3	40	21	52.50
2018-19	4	60	23	38.33
2019-20	3	45	21	46.66
Total	**18**	**305**	**122**	**Avg: 40.11**

The average rate of adoption from the year of 2014-15 to 2019-20 was 40.11%. The highest rate of adoption was noticed in the year of 2017-18 (52.50%), where as the lowest rate

of adoption was noticed in the year of 2014-15 (30.76%) (Table.2). The low adoption of mushroom production in the year of 2014-15 may be due to hesitation on adoption of new technology as the mushroom production level and lack of availability of spawn and marketing. In consequent years, the adoption level increased on seeing of neighbour farms of benefited farmers.

Conclusion

Training and demonstration are integral part of KVK extension system. Krishi Vigyan Kendra playing an important role in encouraging rural farmers and farm women to take up simple and quick income generating enterprises from where they can earn additional income. The trainee respondents were inspired greatly by the easy method of mushroom production. The mushrooms were included in their daily diet and supplemented additional nutrition to them. The perception levels of the respondents about mushroom and its production after the training have changed. The reason behind the satisfactory change in perception level is due to well educational background, keen interest of participants and methods followed for technology transfer to the trainees. It also provided an opportunity to strengthen the link between farmers and scientists which helped in technology dissemination and overall development of weaker section. The regular supply of quality spawn is the single most important intervention that needs to be addressed for mushroom entrepreneurship to flourish.

(This research paper published in the Journal of Krishi Vigyan)

Linkages

Functional linkage with different organizations

ICAR-KVK, Hosted by CREED is having good rapport and functional linkage with all the stakeholders. The organization and its nature of linkage made are given below.

ICAR Institutes/ NARS

S.No	Name of Organization	Nature of linkage
1	ICAR - National Research Centre for Banana (NRCB), Trichy	Conducting Farmers Training, Sponsored training programmes, exposure visits, disseminating NRCB varieties and technologies through OFTs' and FLDs', member of SAC, serves as a resource person for training programmes.
2	ICAR - Sugarcane Breeding Institute (SBI), Coimbatore	Disseminating SBI released varieties, technologies at Ariyalur district through OFTs, FLDs, Exposure visits
3	ICAR - Indian Institute of Horticultural Research, Bangalore	Introduction of IIHR newly released varieties, technologies through demonstration, exposure visits and trainings
4	ICAR – Directorate of Cashew Research (DCR), Puthur	Obtaining new technologies for Cashew and exposure visits
5	Directorate of Groundnut Research, Junagadh, Gujarat	Popularization of new varieties through CFLD
6	ICFR – IFGTB	Conducting sponsored mela, trainings and obtaining technologies
7	IICPT, Tanjore	Obtaining value addition technologies through trainings and visits
8	CRRI, Cuttack	Introducing Bio fortified variety

Tamil Nadu Agriculture University (TNAU), Coimbatore and Research Stations

S.No	Name of Organization	Nature of linkage
1	TNAU, Coimbatore	Introducing new varieties through OFT, FLDs, technical guidance, Crop boosters, Mineral mixtures & biofertilizers, Exposure visit, publishing technologies in TNAU Magazines, resource person to trainings, SAC member, monitoring by DEE
2	Tamil Nadu Rice Research Institute (TRRI), Aduthurai	Introducing new varieties through OFT, FLDs, technical guidance

3	Regional Research Station (RRS), Virudhachalam	Introducing new cashew varieties, supply of planting materials, serves as resource person, exposure visits
4	Cotton Research Station (CRS), Veppanthattai	Technologies dissemination through OFT and FLDs, trainings, diagnostic visits with CRS scientists
5	National Pulse Research Centre, Vamban	Supply of seed materials

With other KVKs

S.No	Name of Organization	Nature of linkage
1	KVK, Karur	Exposure visits, serve as resource person, cross learning, supply of inputs, obtaining technologies
2	KVK, Perambalur	
3	KVK, Trichy	
4	KVK, Cuddalore	
5	KVK, Namakkal	
6	KVK, Salem	
7	KVK, Erode	
8	KVK, Thirunelveli	
9	KVK, Madurai	

Tamil Nadu Veterinary and Animal Sciences University *(*TANUVAS*)*, Chennai

S.No	Name of Organization	Nature of linkage
1	TANUVAS, Chennai	Obtaining technologies for FLD and OFTs and input purchase, Publishing articles in TANUVAS magazine
2	Veterinary University Training Research Centre (VUTRC), Perambalur	Scientist from VUTRC, Perambalur Serves as resource person, SAC Members, purchase of book materials

Linkage with Line Departments

S.No	Name of Organization	Nature of linkage
1	Department of Agriculture	Conducting Farmers Training at village level, Joint diagnostic visits, ATMA sponsored training programmes. Monthly Zonal meeting to identify the season oriented problem, exposure visits, exhibitions, Kisan Mela, FFS, collection of district profiles, facilitating farmers to avail departmental subsidy schemes, MSDA schemes
2	Department of Horticulture	Collection of District Profile on Horticultural crop production, NADP training programme, Precision farming training programme, facilitating farmers to avail schemes
3	Agricultural Engineering Department	Trainings on mechanization, facilitating farmers to avail subsidy and to hire farm machineries

4	Department of Animal Husbandry	Azolla seed supply for Free Goat and Dairy animal supply scheme beneficiaries, training for beneficiaries of the scheme, animal health camps, serves as resource person, identification of farmers for hydrophonics scheme
5	Department of fisheries	Identification of beneficiaries for Fish pond scheme
6	Department of Sericulture	Training for farmers
7	Department of Forestry	Supply of tree saplings , Tree mela

Financial Institutions

S.No	Name of Organization	Nature of linkage
1	NABARD	Supporting two FPOs, capacity building programmes, exposure visits, MEDP trainings, Jal Dhoot programme, facilitating DEDS scheme, funding for publications, trainings
2	Tamil Nadu Grama Bank	RY-RY group account and credit linkages to rural youth, training certificate from KVK to avail agri loans
3	State Bank of India	Credit linkages, SAC member, participating in trainings to create awareness on schemes

Skill Development Organizations

S.No	Name of Organization	Nature of linkage
1	National Skill Development Corporation (NSDC) and ASCI	Long duration skill training programmes to rural youth
2	SBI – Rural Self Employment Training Institute (RSETI)	Conducting vocational trainings, exposure visits, women SHG, credit linkages
3	Mahalir Thittam (Women Development Corporation)	Capacity building programmes to SHG members, Community resource persons
4	National Commission for Women, New Delhi	Workshop to empower farm women for livelihood security

Science &Technology organizations

S.No	Name of Organization	Nature of linkage
1	Department of Science and Technology (DST), New Delhi	Special Projects to empower SC/ST farmers of Ariyalur district

CSR Companies

S.No	Name of Organization	Nature of linkage
1	RAMCO Cement	Problem analysis around cement factory areas, trainings to SHG members, farmers, technical support to CSR farmers club
2	Ultra Tech Cement	
3	Dalmia Cement	

Non Government Organizations (NGO)

S.No	Name of Organization	Nature of linkage
1	Reliance Foundation	Trainings, Collaborative programmes, TV programmes, Jio chats, voice messages
2	RISE	Trainings to SHG members, college students
3	JP Trust	
4	CREATE	
5	OSAI	

Technology Dissemination through mass media

S.No	Name of Organization	Nature of linkage
1	AIR, Trichy	Disseminating technologies through radio talk by farmers and KVK scientists
2	AIR, Karaikal	
3	Doordharshan	Disseminating technologies through TV programmes Pon Vilaiyum Boomi and Malarum Boomi by farmers and KVK scientists
4	Makkal TV	
5	Dailies and Magazines	Publishing training details and popular articles, post event news

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

Title: Agri based S & T backstopping towards socio-economic improvement of SC people of Ariyalur district, Tamil Nadu

Budget : Rs. 71,31,000/-

Duration: 3 years (August,2021 to July,2024)

Objectives:

- To establish Science Technology and Innovation (STI) hub to showcase the technologies that could improve the productivity of livelihood activities suitable for SC population
- To built the capacity of 1000 SC people on various Science and Technology based entrepreneur activity that are novel.
- To develop 300 SC landless and migrant workers into entrepreneur on Science and Technology based activities
- To improve the socio-economic status of SC population by paving the way employment and income generation.

Expected Deliverable

- Establishment of STI hub at host premises with the relevant infrastructure to serve the SC farmers
- Standardization of Artificial Insemination procedures using sexed semen
- Standardization of operating procedures for the production of Black Soldier Fly (BSF) and

its product refining strategies

- Optimization of BSF feed supplement with the conventional feed by series of field experiments
- Development of hatchery that could be affordable to SC landless women i.e. Less than Rs.3000/- cost
- Development of lure or antagonistic agent (either fungal or bacterial or insect) for Tea Mosquito Bug
- Capacity building of 1,000 SC people including women and migrant workers on the proposed five technologies

Remarks : An exclusive programme for inclusive development of SC/ST people

AWARDS and RECOGNITIONS

KVK, KVK Staff, KVK Contact Farmers etc. at district, state, national and international level supported by copies of certificates and photographs

S. No.	Name of the Staff	Name of theAward	Awarded by	Description about the award
1	Dr.G.Alagukannan , Senior Scientist and Head	Best Extension Professional Award	Society for Biotic and Environmental Research	For transferring agricultural technology towards farmers prosperity
2	Dr.G.Alagukannan, Senior Scientist and Head	Best Senior Scientist cum Head Award	Society of Krishi Vigyan	For commendable contribution towards team building and disseminating latest technologies

Farmers Award

S.No	Farmer Name	Award
1	Mrs.Azhaku Dheeran	Best Women Entrepreneur Award for serving as a Model in vermicompost Production during Mahila Kisan Diwas and International Women's Day
2	Mrs. R.Sujatha	Best Women Entrepreneur Award for excelling in Mushroom Cultivation during Mahila Kisan Diwas and International Women's Day

Important Visitors to KVKs during 2021

S. No.	Date	Name and designation of the visitor	Purpose	Comments
1	01.03.2021	Mr.R.Palanisamy Joint Director of Agriculture Department of Agriculture Ariyalur District	To visit organic farms and monitored PKVY scheme	Appreciated about the programme implementation in small farmers' fields
2	14.10.2021	Mr. M.Ananthan, Deputy Director of Horticulture Department of Horticulture Ariyalur District	To visit the facilities available at KVK to conduct capacity building programmes	Highly satisfied with the facilities available at our KVK
3	16.07.2021	Mr.Bhaskar Principal Scientist National Research Centre for Banana Trichy	To visit KVK organic farm	Appreciated the KVK farm maintenance by organic ways
4	02.12.2021	Mr.P.Elangovan Professor & Joint Director of Agriculture Irrigation Management Training Institute, Thuvakudi, Tichy	For the conduct of training on Hiend technologies in Maize cultivation	Overwhelmed by the method demonstrations given while conducting training programme

Annexure - 1

Minutes of Ninth SAC meeting

Minutes of Ninth Scientific Advisory Committee Meeting held on 07.01.2022

Ninth Scientific Advisory Committee meeting of ICAR Krishi Vigyan Kendra, Ariyalur was held at the premises of ICAR KVK, Ariyalur District on 07.01.2022 by 10.00 am. On hybrid mode. Among 28 SAC members, twenty two members presented in the meeting. The SAC meeting was started with welcome address by Dr.V.Nadanasabapathy, Chairman, ICAR KVK and gave brief introduction about KVK activities.

Dr.G.Alagukannan, Senior Scientist and Head, presented the report of activities carried out in past year to SAC Members. After submission of report, the Scientific Advisory Committee members were interacted and gave their valuable suggestions to improve and strengthen the KVK activities. After interaction, finally chairman briefed all the suggestions given by Scientific Advisory Committee members and gave assurance to execute the suggestions given.

1. Joint Director of Agriculture, Ariyalur District

- Create awareness on importance of soil fertility management
- Promotion of organic farming around district and reduce chemical fertilizer load on soil.
- Demonstration of High Density Planting in Cotton along with Agriculture Department.
- Promotion of rice follow pulses in district.
- Popularize drum seeder for Direct Sown Paddy.
- Demonstration of intercrop in Cashew like Blackgram, Green gram, Horsegram.

2. Professor and Head, CRS, Veppanthattai, Perambalur District

- Introduce and demonstrate new Cotton variety CO17 suitable for mechanized cultivation and high density planting.
- Conduct method demonstration in mechanization in Cotton cultivation like sowing machine, power weeder, spraying and bring Cotton farmers to CRS for exposure visit.

3. Principal Scientist, NRCB, Trichy

- Promote new Banana varieties released by NRCB.
- Trainings for women entrepreneurs in Banana value addition at NRCB campus will be arranged this year.
- Promote NRCB app during the training programme

4. Assistant Professor and Head, VUTRC, Perambalur

- Arrange more trainings on Livestock along with VUTRC, Perambalur.
- Promote livestock activities especially Desi bird rearing and Goat rearing to ensure livelihood during Covid pandemic situation.

5. Assistant Professor, RRS, Virudhachalam

- Promote groundnut rich booster continuously and also promote other crop boosters.
- Conduct demo on New Groundnut variety VRI 9 & VRI 10 (90 – 95 days) released by RRS

- Introduce new sesame variety VRI 4 which is national variety.
- Both scientists and farmers visit IFS model developed in RRS, Virudhachalam.

6. AEE, Department of Agricultural Engineering, Ariyalur
- Disseminate technologies in YouTube and make use of other social medias.

7. DDM, NABARD, Perambalur
- Conduct more Livestock related trainings.
- Conduct Japanese quail rearing training with NABARD funding support.
- Promote organic cultivation in good manner.
- Promote K1812 Groundnut seed production and increase district productivity.
- Get provision from ATARI to establish mini custom hiring centre which also serves as income generating activity to KVK.
- Establish Sales counter at KVK

8. Inspector, Department of Forestry, Ariyalur
- Supply and ensure availability of VRI 3 Cashew grafts always at KVK to the farmers as department has more demand.
- Disseminate proper cultivation technologies for Cashew grafts.

9. Department of Animal Husbandry, Ariyalur
- Promote green fodder cultivation and management to curtail infertility among land holding farmers.

10. Chairman, RISE NGO, Varadarajanpettai
- Training on Value addition in Cashew apple and Cashewnut shell to SHG members.

11. ADH, Department of Horticulture, Ariyalur
- Promote proper Drumstick cultivation technology as it has more export opportunities.
- Training on cultivation technology on Onion and Tapioca.
- Popularization of departmental subsidy schemes among farmers like terrace garden, organic farming, etc.,

12. All India Radio, Trichy
- Create mass awareness among farmers about state and central government schemes through Air, Trichy programs.
- Give more radio talks in “Vasantha Azhaippu” live program broadcasted every Friday 9 AM.
- Send success cases to AIR, Trichy to motivate more farmers and entrepreneurs.
- Share all programs to AIR, Trichy being conducted by KVK for live broadcast.

13. Sericulture, Ariyalur
- Give training on Sericulture to all block farmers.
- Create awareness among farmers about subsidy scheme available for shed construction.
- Popularize Uzhavan App.

14. Lead Bank Manager, State Bank of India, Ariyalur

- Provide more advisories to farmers to be followed during this Covid 19 Pandemic.
- Present KVK activities in Grievance Day Meeting for outreach.
- Conduct training on Value Addition in Cashew Apple and establish processing unit.

15. Director, SBI - RSETI, Ariyalur District

- The same collaboration may be extended in conduct of training in all agri aspects with SBI-RSETI.
- Conduct trainings on honey bee rearing, herbs cultivation, Mushroom production, Goat rearing, Poultry rearing with funding support from SBI – RSETI, Ariyalur.

16. Mr.Palanisamy, Farmer

- Ensure farm organic inputs availability
- Promote value addition and marketing facilities in Maize and Groundnut.

17. Mr. Velmurugan, Farmer, Sirukalathur

- Organic recommendations for pest and disease management in Capsicum and Cucumber cultivation in polyhouse.

18. Mrs.R.Sujatha, Farmer, Udayarapalayam

- More support and trainings to develop mushroom cultivation and value addition.

19. Mrs. Devi, SHG Leader, Cholamadevi

- Entrepreneur Development training to SHG members.

20. Mr.N.Sundar, Farmer, Karuppur

- Provide training on Cotton cultivation technologies.

List of Participants of 9th SAC Meeting

Sl.No.	Name	Designation and Department	Remarks
1	Dr.V.Nadanasabapathy	Chairman ICAR-CREED KVK	Direct
2	Mr.R.Palanisamy	Joint Director of Agriculture Ariyalur	Direct
3	Dr.C.Karpagam	Principal Scientist NRCB, Trichy	Virtual
4	Mr.L.S.Naveenkumar	District Development Manager NABARD, Perambalur	Direct
5	Dr.R.Ravikumar	Assistant Professor and Head VUTRC, Perambalur	Direct
6	Dr.Somasundaram	Professor and Head CRS, Veppanthattai, Perambalur Dt.	Virtual
7	Mr.A.Durairaj	Director SBI-RSETI, Ariyalur	Direct
8	Dr.T.Parthiban	Assistant Professor RRS, Virudhachalam	Direct
9	Dr.S.Vasuki	Veterinary Assistant Surgeon Department of Animal Husbandry Ariyalur	Direct
10	Mrs.V.Jothi	Junior Inspector Department of Sericulture, Ariyalur	Direct
11	Mr.P.Praveen	Assistant Horticulture Officer Department of Horticulture, T.Palur	Direct
12	Mr.Elavarasan	Assistant Engineer Department of Agrl. Engg. Ariyalur	Direct
13	Mr.J.Lionel Beendici	LEAD Bank Manager, Ariyalur	Direct
14	Mrs.S.Chitra	Assistant Director Air, Tiruchirapalli	Direct
15	Mr.M.Sevamani	Forester, Dept. Of Forest, Jayankondam	Direct
16	Mr.Aruldoss	Secretary, RISE NGO, Varatharajapettai	Direct
17	Mrs.R.Sujatha	Farm women, Udayarpalayam, Ariyalur Dt.	Direct
18	Mrs.Devi	SHG Leader, Cholamadevi, Ariyalur Dt.	Direct
19	Mr.G.Palanisamy	Farmer, Kallakudi	Direct
20	Mr.N.Sundar	Farmer, Kodalikaruppur	Direct
21	Mr.V.Velmurugan	Farmer, Sirukalathur	Direct
22	Mr.G.Vasanth	Farmer, Kodalikruppur	Direct

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