PROFORMA FOR PREPARATION OF ANNUAL REPORT
(1st January 2023 to 31st December 2023)

1. GENERAL INFORMATION ABOUT THE KVK

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

Name of the KVK as per official records (MoU)	:	Thiruvarur
Address	:	ICAR-Krishi Vigyan Kendra Needamangalam Thiruvarur District PIN – 614 404
Phone	:	04367- 260666
Fax	:	04367- 260666
Email	:	kvkndm@tnau.ac.in

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

Name of the Host Organization as per Official Records	:	Tamil Nadu Agricultural University
Status of the Host Organization (As per the MoU)	:	State Government University-AU
Address	:	Tamil Nadu Agricultural University, Coimbatore PIN - 641 003
Phone	:	0422- 2431222
Fax	:	0422-2431821
Email	:	registrar@tnau.ac.in
Name of the Chairperson	:	Dr.V.Geethalakshmi
Mobile No	:	-
Email	:	tpo@tnau.ac.in

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

Name of the Programme Coordinator	:	Dr. D.Periyar Ramasamy
Residential Address	:	Staff Quarters, ICAR - Krishi Vigyan Kendra Needamangalam - 614 404, Thiruvarur District
Phone No	:	-
Mobile No	:	9043425488
Email	:	periyarramasamyd@tnau.ac.in

1.4. Year of sanction of the KVK (as per Official Order):2004

1.5. Month and year of establishment: 01.08.2004

1.6.Total land with KVK (in ha) (Consolidated figure):18.66

S. No.	Item	Area (ha)
1	Under Buildings	1.22
2.	Under Demonstration Units	2
3.	Under Crops	13
4.	Orchard/Agro-forestry	1
5.	Others- Old threshing floor, ditch & fallow/not in use	1.44
	Total	**18.66**

1.6. 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
1.	Administrative Building	ICAR	23.2.08	548.24	42.47	-	-	Completed
2.	Farmers Hostel	ICAR	23.2.08	353.00	27.00	-	-	Completed
3.	Staff Quarters	ICAR	23.2.08	459.00	32.00	-	-	Completed
4.	Demonstration Units							
	1. Vermi compost	ICAR-RF	31.03.07	30	-	-	-	Completed
	2.Mushroom	ICAR-RF	31.03.07	20	-	-	-	Completed
	3.Shade net	NADP	03.02.08	930	1.0	-	-	Completed
	4. Azolla production	ICAR-RF	05.07.09	120	-	-	-	Completed
	5. Slatted house goat rearing	ICAR-RF	30.11.09	24	0.15	-	-	Completed
	6. Back yard poultry	ATMA	30.11.09	36	0.50	-	-	Completed
	7. Farm pond –composite fish culture	ICAR	18.11.10	3500	2.00	-	-	-
	8.. Bio control production unit	ICAR	20.03.11	160	4.00	-	-	-
	9. Composted Coir pith	ICAR	2019					Completed

	10. Crop cafteria	ICAR	2020					Completed
	11. Integrated Farming System	ICAR	2020					Completed
	12.Roof top garden	ICAR	2013					Completed
	13. Fodder bank	ICAR	2018					Completed
	14.Nutrion garden	ICAR	2022		0.30			Completed
	15.Organic input production centre	ICAR	2022					Completed
	16.Egg Incubator centre	ICAR	2022	-	0.24			Completed
	17.Herbal garden	ICAR	2022		0.30			Completed
	18. Paddy cum Fish culture	NABARD	2022	1 ha	1.5	-	-	Completed
5	Fencing	ICAR	23.2.08	1200 RM	5.00	-	-	-
6	Rain Water harvesting system	Govt. of TN	31.03.07	1320	0.36	-	-	-
7	Threshing and drying yard	ICAR	20.3.11	394	2.00	-	-	-
8	Farm godown	Govt. of TN	-	3 Nos	-	-	-	-
9	Vehicle and Implement shed	ICAR	20.03.11	37	3.00	-	-	-
10	Farm road	ICAR	29.3.11	2200	2.00	-	-	-
11.	Irrigation system	ICAR	18.11.10	282 RM	1.00	-	-	-
12	Borewell- Northern Farm	TNAU	2023		5.00	-	-	Completed

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms covered as on 31.12.2023	Present status
Jeep Bolero-TN 66 V 0317	2017	8,34,445	127356	Good running condition
Tractor with Trailer - Mahindra & Mahindra D1-475-40 HP	2004	4,37,607	3550	Condemned
Two wheeler - TVS STAR CITY	2006	39,400	51472	Good running condition
Two wheeler – Honda Activa	2009	50,000	74507	Good running condition
Power tiller – VST Sakti	2011	1,35,870	-	Good running condition

C) Equipment & AV aids

Name of the equipment	**Year of purchase**	**Cost (Rs.)**	**Present status**
Lenova Desktop computer – 2 Nos	31.03.2022	119800	Good
Dell vostro Desktop computer (ci5)	29.11.2022	75900	Good
HP Printer Laser Jet-2606Dn	29.11.2022	30900	Good
Canon LBP 6230 DN printer	12.03.2021	9900	Good
CANON LBP 2900 printer	09.10.2018	7839	Good
HP Printer Laser Jet M 1005	04.07.2018	9900	Good
Desktop Computer Acer- 2 Nos	31.03.2016	82,500	Good
Desktop Computer Acer-DAMU	1.12.2020	25600	Good
Brother Printer	01.12.2020	13650	Good
Desktop Computer- HP	31.03.2015	39480	Good
Apple IMAC Workstation	02.11.2009	56000	Good
Laptop Dell inspiron	12.11.2021	57503	Good
Laptop Dell inspiron	24.03.2010	40040	Good
Ricoh Photo copier	31.03.2016	76,800	Good
Online Shinewave UPS	22.03.2021	21500	Good
Online Shinewave UPS	20.10.2021	21500	Good
Portable LCD projector	18.03.2021	10800	Good
Class room LCD projector	22.03.2021	38000	Good

LCD projector screen 5'x7'	26.03.2018	9750	Good
LCD projector screen 8'x3'	18.03.2021	10800	Good
LCD projector screen 5'x5'	22.03.2021	38000	Good
PA system Portable	29.03.2021	12200	Good
PA system	30.03.2019	9950	Good
Stand Mic, AMP DPA 770	30.03.2019	9950	Good
Speaker SR 500 DX	30.03.2019	4200	Good
Steel almirah unit	31.03.2011	44488	Good
Storage cabinet pricillab	31.03.2011	44837	Good
Land leveler	Jan' 2011	10,000	Good
Furniture and furnishing	March , 2011	2,00,000	Good
Digital Visible Spectrophotometer	2011	37600	Good
All Glass Single Distillation unit	2011	35000	Good
Senior plain cupboard 78x36x19	2011	46892	Good
Willey mill	2011	31500	Good
UP based Flame Photometer	2011	43500	Good
Electronic Top loading balance	2011	19800	Good
Instrument table	2011	78000	Good
Exhaust fan	2011	12240	Good
LG Refreigirator	2011	9890	Good
Sink Unit	2011	36770	Good
LPG Set up	2011	8075	Good
Wall Storage Cuboard	2011	15936	Good
Wall side storage Cabinet	2011	15936	Good
Steel rack	2011	13005	Good
Stotted Angle iron rack	2011	8670	Good
Work Table	2011	15725	Good
Portable soil and water and kit	2011	27200	Good
GPS gramin E-trix	2011	17000	Good
Vaccuam pump	2011	7200	Good

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

S.No.	Date	No of Participants	Salient Recommendations
1	16.03.2023	33	Suitable small millet is to be identified and popularized for cultivation in Thiruvarur district
2			Training programmes on IPM for the control of sucking pests in cotton have to be conducted for the farmers / FPOs and feedback is to be obtained
3			More number of trainings on Organic vegetable production and Soil health management may be conducted for the farmers
4			Demonstrations and Trainings may be organized by KVK for suitable Power weeder for rice crop with enhanced efficiency in Delta Region
5			Rice varieties CO57, ADT 57, ADT 58 may be popularized among farmers
6			FLD may be conducted for popularizing thesunnhemp variety ADT 1
7			VBN 6 Greengram variety may be popularized through FLDs.
8			Training and demonstration of Value added products in Pulses, Casava and Banana may be organized
9			Awareness on Sericulture and Digital marketing may be created among the farmers/ FPOs
10			Trainings and demonstration of Silage making, Production of animal feed, Azola production have to be conducted for the farmers / FPOs and feedback is to be obtained
11			More number of Training and demonstration on Cultivation of small millets and preparation of small millets recipes / value addition may be organized by the KVK
12			Castor crop may be introduced to Thiruvarur District through FLD
13			Maize may be popularized as alternate crop for rice among farmers so as to enhance the Maize crop area
14			Banana Sakthi may be introduced among farmers through FLD and trainings
15			Regular programmeon various technologies may be broadcasted regularly in Karaikal FM
16			Exposure visit is to be organized for farmers to visit VC&RI, Orathanadu so as to witness the various Animal and feed units
17			Collaboration training may be organized along with NIFTEM, Thanjavur and NRCB, Trichy
18			Awareness and training programmes may be organized to promote green manures like Kozhinji (Tephrosia *purpurea*)

			and Awri (*Indigofera tinctoria*) which are not grassed by the cattle
19			NRCB App may be popularized among Thiruvarur District farmers
20			More number of trainings and demonstration may be organized by the KVK on traditional paddy and Mushroom cultivation and Honey bee rearing

**** Attach a copy of SAC proceedings along with list of participants***

Attached in Annexture I

2. DETAILS OF DISTRICT (2023)

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
Thiruvarur	-	8 Taluks and 10 Blocks

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

S. No	Farming system/enterprise
1	Rice based cropping system

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

S. No	**Agro-climatic Zone**	**Characteristics**
1	Cauvery Delta Zone	Alluvial terrain with gentle slope
	Agro ecological situation	**Characteristics**
2	Wet land eco system	Low land delta plain

2.3. Soil types

S. No	**Soil type**	**Characteristics**	**Area in ha**
1	Clay to clay loam- Old Delta	Low land	1,27,506
2	Sandy to sandy clay loam- New Delta	Light textured soil	27,048

2.4. Area, Production and Productivity of major crops cultivated in the district (or the jurisdiction as the case may be) for 2022-2023

Kharif

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
1.	Paddy	61588	2709872	44
2.	BlackGram	1904	16660	8.75
3.	Gingelly	188	951.28	5.06
4.	Groundnut	131	5371	41

Rabi

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
1.	Paddy	148319	5487803	37
2.	BlackGram	18772	161439.2	8.6
3.	Green gram	45864	148599.36	3.24

Summer

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
1.	Paddy	8202	352686	43
2.	Gingelly	4572	24460.2	5.35
3.	Groundnut	2463	102460.8	41.6
4.	Cotton	16401	229614	14
5.	Ragi	3	27	9
6.	Maize	13	832	64
7.	Soyabean	39	312	8

2.5. **Weather data-Rainfall Details – 2023**

S.No	Season	Month	Normal Rainfall (mm)	Rainfall Receipt(mm)
1	Winter	January	48.26	3.156
2		February	42.66	99.98
		Total	**90.92**	**103.136**
3	Summer	March	16.05	16
4		April	12.76	34.644
5		May	35.35	124.256
		Total	**64.16**	**174.9**
6	South West Monsoon	June	26.31	31.47
7		July	72.74	37.09
8		August	93.12	89.51
9		September	151.48	63.5
		Total	**343.65**	**221.57**
10	North East Monsoon	October	205.65	55.81
11		November	350.54	410.79
12		December	175.28	114.07
		Total	**731.47**	**580.67**
Total Rainfall			**1230.2**	**1080.276**

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district (2023)

Category	Population	Production	Productivity
Cattle			
Crossbred	163187		8.5 litres/Animal
Indigenous	47225		7 Litres / Animal
Buffalo	1347		4.5 Litres/ Animal
Sheep			
Crossbred	225		12 kg
Indigenous	497		8.5 kg
Goats	148435		16 kg / Animal

Pigs			
Crossbred	47		-
Indigenous	635		-
Rabbits	343		-
Poultry			
Hens			1.25 kg / bird
Desi			
Improved			
Ducks			
Turkey and others			

Category	Area	Production	Productivity
Fish			
Marine	47 km	647t	-
Inland	370 ha	9100 t	-

2.7. Details of Adopted Villages (2023)

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	Needamangalam	Needamangalam	Pullavarayankudikkadu	2022	Rice	Farmers are unaware of newly released rice varieties suitable for Thaladi cultivation	OFT-Assessment of Rice varieties in Thaladi season of Thiruvarur district
2	Needamangalam	Needamangalam	Pullavarayankudikkadu	2022	Greengram	Farmers are unaware of newly releasedgreengram variety suitable for rice fallow	FLD-Demonstration of rice fallow greengram variety (VBN 6) in Thiruvarur district Method demonstrations/ Training/ Field day
3	Needamangalam	Needamangalam	Pullavarayankudikkadu	2022	Blackgram	Pulse being the core crop in one district one product (ODOP). In this district pulse is being taken up as rice fallow/irrigated crop with poor weed management options. To offer competition free environment for pulse crop.	OFT-Assessment of the Performance of weed management practices in black gram
4	Needamangalam	Needamangalam	Pullavarayankudikkadu	2022	Groundnut and Black gram	Germination is one of the problems encountered by the farmers & Pulse being the core crop in one district one product (ODOP).	FLD- Demonstration of TNAU Vigourplus Seed booster for Groundnut and Black gram Field day/Method demonstrations/ Training

5	Needamangalam	Needamangalam	Pullavarayankudikkadu	2022	Coconut	Non adoption of macro, micro nutrient and bio-fertilizers	OFT- Assessment of INM for yield enhancement in coconut
6	Needamangalam	Needamangalam	Pullavarayankudikkadu	2022	Recycling of farm wastes	The soil fertility depletion due reduced application of organic manures for crop production. Environmental pollution due to improper disposal of the crop residues	FLD- Demonstration of Enriched Biocompostpreparation with TNAU Biomineralizer Method demonstrations/ Training
7	Needamangalam	Needamangalam	Pullavarayankudikkadu	2022	Rice	Burning of rice straw and stubbles is a serious constraint during Rabi (Thaladi) season on rice. Reduces the soil microbial load and alters the soil physical property.	FLD-Demonstration of PUSA decomposer for in-situ rice straw decomposing to improve the fertility status of the soil Method demonstrations/ Training
DFI villages							
1	Needamangalam	Needamangalam	VaduvurSathanur, Vaduvur Pudukkottai	2018	Rice, Pulses, Cotton	Low zinc uptake and poor zinc use efficiency by the rice. Therefore, biofortification of essential nutrients in rice grains is a necessity. The assessment of efficacy of zinc solubilizing bacteria	OFT-Assessment of Zinc Solubilizing Bacteria for enhancing Zn in rice variety CO 52

						is also essential for zinc fortification in rice	
2	Needamangalam	Needamangalam	VaduvurSathanur, Vaduvur Pudukkottai	2018	Rice, Pulses, Cotton	Low availability and high cost of the chemical potassium fertilizers, and poor zinc use efficiency by the rice. Therefore, the assessment of suitable potash releasing bacteriais essential for increasing of the K use efficiency and higher yield in rice.	OFT-Assessment of suitable potash releasing bacteria for maximizing the yield in rice
3	Needamangalam	Needamangalam	VaduvurSathanur, Vaduvur Pudukkottai	2018	Rice	Declining in factor productivity in rice is a major problem in Cauvery Delta Zone. In order to improve the rice productivity crop booster's role is inevitable.	OFT-Assessment of TNAU Rice Reap for Higher yield in rice
4	Needamangalam	Needamangalam	VaduvurSathanur,	2018	Cowpea	Farmers are unaware of new cowpea varieties. The farmers of three blocks in Thiruvarur district are cultivating pulses and vegetables under irrigated condition. They need knowledge and	OFT-Assessment of Cowpea varieties in Thiruvarur district

						technology input to improve their livelihood	
5	Needamangalam	Needamangalam	VaduvurSathanur	2018	Coconut	Non adoption of macro, micro nutrient and bio-fertilizers	OFT- Assessment of INM for yield enhancement in coconut
6	Needamangalam	Needamangalam	Vaduvur pudukottai	2018	Poultry	Low yield of desi chicken	OFT-Assessment of Production Performance of Quail breeds for Thiruvarur district
7	Needamangalam	Needamangalam	VaduvurSathanur	2018	Rice	Farmers are unaware of newly released rice variety for Kuruvai season	FLD-Demonstration of Rice variety (ADT 57) suitable for Kuruvai season in Thiruvarur district Method demonstrations/ Training/ Field day
8	Needamangalam	Needamangalam	VaduvurSathanur	2018	Rice	Many farmers of Thiruvarur district are interested in cultivating traditional rice variety.	FLD-Demonstration of Rice variety (CO 57) suitable for Thaladiseaason in Thiruvarur district Method demonstrations/ Training/ Field day
9	Needamangalam	Needamangalam	VaduvurSathanur, Vaduvur Pudukkottai	2018	Rice	Rice grown in wetland ecosystem in which the beneficial plant growth promoting phyllosphere application will improve the crop the performance in all three *kharif*, *rabi* and *summer* seasons	FLD-Demonstration of Methylobacterium(PPFM) application in rice Method demonstrations/ Training

10	Needamangalam	Needamangalam	VaduvurSathanur, Vaduvur Pudukkottai	2018	Rice	Declining in factor productivity in rice is a major problem in Cauvery Delta Zone. In order to improve the rice productivity crop booster's role is inevitable.	FLD-Demonstration of TNAU Rice Bloom for Higher yield in rice Field day/Method demonstrations/Training
11	Needamangalam	Needamangalam	VaduvurSathanur,	2018	Groundnut and Black gram	Germination is one of the problems encountered by the farmers & Pulse being the core crop in one district one product (ODOP).	FLD- Demonstration of TNAU Vigourplus Seed booster for Groundnut and Black gram Field day/Method demonstrations/ Training
12	Needamangalam	Needamangalam	VaduvurSathanur	2018	Oilseeds Groundnut	Soil borne diseases leads to major yield loss for groundnut crop	FLD-Demonstration of biological methods for the Management of Soil-borne Diseases in Groundnut Method demonstrations/ Training
13	Needamangalam	Needamangalam	VaduvoorSathanur	2018	Millet	Lack of awareness on value addition	FLD-Demonstration of MilletFlavouredbeverage Method demonstrations/ Training
14	Needamangalam	Needamangalam	VaduvurSathanur,	2018	Ridgegourd	As there is very less yield introduce new variety	FLD- Popularisation of Ridgegourd MDU1 Method demonstrations/ Training

15	Needamangalam	Needamangalam	Vaduvur Pudukkottai	2018	Sunnhemp	Farmers are unaware of newly released green manure variety	FLD-Demonstration of Sunnhemp variety (ADT 1) in Thiruvarur district Method demonstrations/ Training/ Field day
16	Needamangalam	Needamangalam	VaduvurSathanur, Vaduvur Pudukkottai	2018	Recycling of farm wastes	The soil fertility depletion due reduced application of organic manures for crop production. Environmental pollution due to improper disposal of the crop residues. Nutrient	FLD-Demonstration of Rapid Vermicompost production technology Method demonstrations/ Training
17	Needamangalam	Needamangalam	VaduvurSathanur	2018	Rice	Burning of rice straw and stubbles is a serious constraint during Rabi (Thaladi) season on rice. Reduces the soil microbial load and alters the soil physical property.	FLD-Demonstration of PUSA decomposer for in-situ rice straw decomposing to improve the fertility status of the soil Method demonstrations/ Training
18	Needamangalam	Needamangalam	VaduvurSathanur VaduvurPuthukottai	2018	Fodder	Fodder Scarcity	FLD-Demonstration of 10 cent multi-crop fodder model on productivity of dairy animals Method demonstrations/ Training
19	Needamangalam	Needamangalam	VaduvurSathanur	2018	Dairy cattle	Low yield of fodder	FLD-Demonstration of Sex Pre Selection in Dairy cattle Method demonstrations/ Training

2.8. Priority/thrust areas

Crop/Enterprise	**Thrust area**
Vermi-compost, Compost, Pusa decomposer, Bio mineralizer	Resource management
Ridgegourd, Rice, Cowpea, Ridge gourd	Varietal demonstration
Rice, Black gram, Green gram, Groundnut, Sunhemp, Bottle gourd	Varietal evaluation
Rice, Cotton , Coconut, Chilli	IPM, IPDM, Integrated Crop Management, INM
Sheep/goat,Poultry,Dairy cattle, Quail	Animal Husbandry/Dairy animal/small ruminant backyard poultry
Groundnut,Millet,Jackfruit, Milk	Value addition
Cumbu Nappier hybrid grass, multi-crop fodder	Fodder production

3. Salient Achievements

Achievements of Mandated activities (1st January 2023 to 31st December 2023)

S. No	Activity	Target	Achievement
1.	Technologies Assessed and refined(No.)	15	15
2.	On-farm trials conducted (No.)	61	61
3.	Frontline demonstrations conducted (No.)	170	170
4.	Farmers trained (in Lakh)	1215	1984
5.	Extension Personnel trained (No.)	215	261
6.	Participants in extension activities (in Lakh)	0.061	1.21457
7.	Production and distribution of Seed (in Quintal)	300	175.6
8.	Planting material produced and distributed (in Lakh)	1.0	0.6
9.	Live-stock strains and finger lings produced and distributed (in Lakh)	0	0
10.	Soil samples tested by Mini Soil Testing Kit (No)	100	350
11.	Soil samples tested by Traditional Laboratory (No)	50	80
12.	Water, plant, manure,and other samples tested (No.)	100	148
13.	Mobile agro-advisory provided to farmers (No.)	24	47
14.	No.of Soil Health Cards issued by Mini Soil Testing Kits (No.)	100	350
15.	No.of Soil Health Cards issued by Traditional Laboratory (No.)	50	80

Give Salient Achievements by KVK during the year in bullet points:

Totally **15** OFT S and **23** FLDS were conducted in **231** farmers field during 2023-24. Through these OFTS and FLDS new varieties and new technologies were demonstrated in the farmer's field. Rice varieties TRY 5, Karuppu Kavuni,CO 52,ADT 57, CO 57, Blackgram ADT 7, Greengram VBN 6, Cotton CO 17, Sunnhemp variety (ADT 1), Arka kiran Guava variety, Kaveri poupulu Banana variety, Ridgegourd MDU1, Cumbu Napier Hybrid grass – CO6,Kaveri Saba Banana Variety were introduced. 10 cent multi-crop fodder model,Tick shield to control tick infestation in dairy animals,Sex Pre Selection in Dairy cattle were also demonstrated. New technologies like, Demonstration of Value addition in Non Diary Flavored beverages from Peanut,Millet Flavoured beverage,Jackfruit concentrate also conducted.Demonstration of Demonstration of TNAU Rice Bloom for Higher yield in rice, PPFM,PUSA decomposer for in-situ rice straw residue decomposing, Rapid vermicompost production were also introduced to the District farmers in addition to Plant protection technologies for Soil-borne Diseases in Groundnut, chilli and herbal repellant for the management of wild boar

- Regional Agricultural Mela was conducted for two days and **4084** participants benefitted
- Technology week in lie of ICAR foundation day was conducted for seven days, **572** farmers participated

- As mandate of KVK training programmes are being conducted regularly. Totally **4250** farmers were benefitted through **115** on campus, off campus, vocational and sponsored training programmes.
- **648** Extension activities viz., method demonstrations Exhibition, Radio talks, diagnostic visits, Farmers visit to KVK and Field day, T.V. programmes were conducted regularly. Totally **45293** farmers were benefitted from ten blocks of Thiruvarur District
- Totally **6** successful farmers were formulated and 6 farmers documented
- Technologies were disseminated through various print media *viz.,* full research article (3), Book (6), Popular article (5), Pamphlets (22), Seminars (4) and Conference papers (8) and dailies (166) which are predominately reaches the farmers.
- **430** soil health card was issued to 419 farmers and 148 water sample anaysed for 134 farmers
- Totally **175.6** quintal for paddy seeds *viz.,* ADT 51, ADT 55, ADT 54, ADT 57, TPS 5 were produced and distributed to 364 number of farmers for Rs **627020**
- Planting materials viz. Napier grass CO 5 (**57511** Nos) and Agathi were produced and distributed to 540 farmers with an value of Rs **174305**
- Bio products like Azolla (675 Kg), Vermicompost (11009 Kg), crop boosters were produced with an value of Rs 318733 and distributed to 1300 farmers
- **47** Numbers of mobile agro- advisory services were provided to 2643871 farmers through mkisan portal
- Totally **22** numbers of awards namely, Best KVK Award, Best Extension Professional Award, Best Extension Worker Award, Best Poster Presentation Award, Best Research Article Award, Achiever Award were received by KVK and KVK staffs
- Totally **65** nos of Radio and TV talks on various agriculture allied technologies provided to farmers through AIR, Karaikkal, AIR Trichy and DD Pothigai
- Five numbers of videos on various agriculture allied technologies including Animal science were documented and uploaded in youtube for the benefits of farming community
- Awareness programmes were conducted on Natural farming, Soil Health Management, Drone spray to **21025** farmers in **96** villages through various VBSY activities during the reporting period

4. TECHNICAL ACHIEVEMENTS

Details of target and achievements of mandatory activities by KVK during 2023

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
15	15	30	30	15	15	61	61

FLD (crop/enterprise/CFLDs)

No of Demonstrations		Area in ha		Number of Farmers / Beneficiaries / Replications	
Targets	**Achievement**	**Targets**	**Achievement**	**Targets**	**Achievement**
23	23	46.5	46.5	170	170

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	45	58	1215	1984
Rural youth	11	11	295	313
Extn.Functionaries	5	7	215	261

Extension Activities

Number of activities		Number of participants	
Targets	**Achievement**	**Targets**	**Achievement**
582	982	6100	121457

Seed Production (q)

Target	Achievement	Distributed to no. of farmers
300	175.6	364

Planting material (Nos.)

Target	Achievement	Distributed to no. of farmers
100000	57511	540

Technology Assessments(OFTs) in Detail

2022-23

Management of Fusarium wilt disease in Cotton

1	Thematic area	:	Plant Protection-Disease Management
2	Title	:	**Management of Fusarium wilt disease in Cotton**
3	Scientists involved	:	Dr.M.Rajesh
4	Details of farming situation	:	Irrigated
5	Problem definition / description: (one paragraph)	:	Thiruvarur district farmers usually growing the cotton crop after rice fallow. One of the major belt in Valangaimaan and Koradacherry block farmers facing lot of wilt problem during the last year. To overcome the wilt disease, the current OFT was proposed
6	Technology Assessed: (give full details of technology as well as farmers practice)	:	**TO1**: Seed treatment with *Trichoderma asperellum*@ 10g/kg; Soil application of Neem cake @ 60 kg/ acre; Basal application of ZnSO4 @ 20 kg/acre; Soil application of *B. subtilis* + *T. asperellum* mixture @ 1 kg/acre - 90 DAS; Soil drenching with Carbendazim 1 gram/lit of water **TO2**: Seed treatment with *Bacillus subtilis* @ 10g/ kg; Apply ZnSO4 @ 10 kg/acre as soil application; Soil drenching with *T. asperellum*@ 4 kg/acre with 80 kg FYM **Farmers Practice**: Spraying of fungicides
7	Critical inputs given: (along with quantity as well as value)	:	***TO1****: Trichoderma asperellum,* Neem cake, *Bacillu subtilis* and Carbendazim ***TO2****: Bacillus subtilis* and *Trichoderma asperellum*
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: Spraying of fungicides	5	10.5	26,765	1.46	-
Technology 1: Seed treatment with *Trichoderma asperellum*@ 10g/kg; Soil application of Neem cake @ 60 kg/ acre; Basal application of ZnSO4 @ 20 kg/acre; Soil application of *B. subtilis* + *T. asperellum* mixture @ 1 kg/acre - 90 DAS; Soil drenching with Carbendazim 1 gram/lit of water		12.9	35,525	1.59	-
Technology 2: Seed treatment with *Bacillus subtilis* @ 10g/ kg; Apply ZnSO4 @ 10 kg/acre as soil application; Soil drenching with *T. asperellum*@ 4 kg/acre with 80 kg FYM		12.5	33,015	1.55	-

**** Other performance indicators: such as pest intensity, weed population, test weight, duration etc.***

9	Constraints	:	Repeated application of bio-control agents may increase the labour cost
10	Feedback of the farmers involved	:	The farmers are satisfied with the technology. But, they are in need of immediate control for Fusarial wilt
11	Feed back to the scientist who developed the technology	:	Demonstrated the Technology 1 & 2 in cotton was conducted at Valangaimaan and Koradacherry block farmers field

2023-24

1. Assessment of Rice varieties in Thaladi season of Thiruvarur district

<table>
<tr><td>1.</td><td>Thematic area</td><td>:</td><td>Varietal Assessment</td></tr>
<tr><td>2.</td><td>Title</td><td>:</td><td>Assessment of Rice varieties in Thaladi season of Thiruvarur district</td></tr>
<tr><td>3.</td><td>Scientists involved</td><td>:</td><td>Dr. S. Arulselvi, Assoc. Prof. (PBG)</td></tr>
<tr><td>4.</td><td>Details of farming situation</td><td>:</td><td>Irrigated</td></tr>
<tr><td>5.</td><td>Problem definition / description</td><td>:</td><td>Farmers are unaware of newly released rice varieties suitable for Thaladi cultivation</td></tr>
<tr><td>6.</td><td>Technology Assessed</td><td>:</td><td>
<table>
<tr><td>TO-1</td><td>ADT 58</td></tr>
<tr><td>Source and year</td><td>TNAU variety release, 2023</td></tr>
<tr><td>Description (short)</td><td>It is alternative for ADT 39. It matures in 125 days and having medium slender grain type. The grain yield capacity is 6.4t / ha</td></tr>
<tr><td>Potential yield/income</td><td>6400 kg / ha</td></tr>
<tr><td>Source of Inputs</td><td>TRRI, Aduthurai</td></tr>
<tr><td>TO-2</td><td>DRR Dhan 53</td></tr>
<tr><td>Source and year</td><td>IIRR, 2021</td></tr>
<tr><td>Description (short)</td><td>It is a high yielding bacterial blight resistant variety having duration of 130 to 135 days. It has average yield potential of 5.5 to 6.0 t / ha</td></tr>
<tr><td>Potential yield/income</td><td>6000 kg / ha</td></tr>
<tr><td>Source of Inputs</td><td>IIRR, Hyderabad</td></tr>
<tr><td>Farmers Practice</td><td>ADT 39</td></tr>
<tr><td>Farmers yield</td><td>4500 kg / ha</td></tr>
</table>
</td></tr>
<tr><td>7.</td><td>Critical inputs given</td><td>:</td><td>Seeds</td></tr>
<tr><td>8.</td><td>Results</td><td>:</td><td></td></tr>
<tr><td></td><td colspan="3">Performance of the technology
<table>
<tr><th>Technology Option</th><th>No. of trials</th><th>Days to maturity</th><th>No. of productive tillers / plant,</th><th>Grain yield q/ ha</th><th>B:C ratio</th></tr>
<tr><td>TO-1:ADT 58</td><td rowspan="3">5 (0.5 acre per trial)</td><td>125</td><td>17</td><td>58</td><td>3.14</td></tr>
<tr><td>TO2:DRR Dhan 53</td><td>112</td><td>12</td><td>34</td><td>1.84</td></tr>
<tr><td>FP: ADT 39</td><td>135</td><td>10</td><td>40</td><td>2.86</td></tr>
</table>
</td></tr>
</table>

- Out of two rice varieties tested in Thaladi season, ADT 58 yielded higher than DRR Dhan 53. However, DRR Dhan 53 matured 10 days earlier than ADT 53
- DRR Dhan was shorter than ADT 57 and both were nonlodging at maturity
- Farmers preferred ADT 58 more than DRR Dhan due to its higher yield
- Training and demonstration on ''ICM in Samba and Thaladi rice cultivation'' was conducted to the 36 numbers of Farmers and Form women on 16.07.2023
- Newspaper messages on ''High yielding rice varieties released recently'' in Thinakaran daily on 09.05.2023
- Newspaper messages on ''Rice varieties suitable for Samba and Thaladi season'' in Thinakaran daily on 28.08.2023
- Newspaper messages on ''Seed treatment techniques in rice'' in Thinathanthi daily on 16.06.2023
- Radio programme on ''Rice varieties suitable for Samba season and uses of Green manures to improve soil fertility'' broadcast on 11.07.2023

	TO1	TO2	Farmers practice
Yield (qq/ha)	58	34	40
Gross income (Rs/ha)	133400	78200	92000
Gross cost (Rs/ha)	42500	42500	42500
Net return (Rs/ha)	90900	35700	49500
BCR	3.14	1.84	2.86

9.	Constraints	:	• Lack of awareness on the choice of suitable rice variety for thaladi season
10.	Feedback of the farmers involved	:	• ADT 58 performed well in both thaladi and late thaladi seasons. It did not lodge at maturity.
11.	Feed back to the scientist who developed the technology	:	The scientist may ensure the seed multiplication of newly released varieties to avoid the shortage of seeds.

2. Assessment of organic nutrient management techniques in traditional rice variety - Karuppu Kavuni

1	Thematic area	:	Crop production and Management
2	Title	:	Assessment of organic nutrient management techniques in traditional rice variety - Karuppu Kavuni
3	Scientists involved	:	Dr.V.Karunakaran
4	Details of farming situation	:	Irrigated
5	Problem definition / description:	:	Non adoption of proper organic based nutrient management in traditional rice
6	Technology Assessed: (give full details of technology as well as farmers practice)	:	**TO-1:.** ➢ Apply Azospirillum @ 2.5 kg/ha mixed with 25 kg FYM 30 min before sowing

			➢ Basal application of Vermicompost 1000 kg/ha. ➢ Basal application Neem seed cake @150 kg/ha, Top dressing @ 60 kg/ha on30 DAT; Groundnut cake @ 100 kg/ha, Top dressing @ 25 kg/ha on 30 DAT. ➢ Spray Sanjeevani mixture 1st and 2nd after weeding. ➢ Spray Panchakavya 3 % during tillering and Booting stage. ➢ Soil application of Amirthakaraisal @ 25 lit/ha on 15 DAT. ➢ Three times Vermiwash (10%) sprayings at 15 DAT, 35 DAT and Flowering Stages **TO-2:** ➢ Seedling root dipping in Azospirillum and Phosphorus solubilizing bacteria @ 600 g/ha seedlings. ➢ Soil applicaton of Vermicompost @ 2 t/ha at last ploughing. ➢ Azospirillum and Phosphorus solubilizing bacteria @ 2-3 kg/ha mixted with 25 kg Vermicompost @ 2 t/ha at just before planting. ➢ Apply Azolla @ 1t/ha 7-10 DAP, Blue green algae @ 10 kg/ha 10 DAP incorporate after 3 weeks. ***Farmers Practice:*** Non adoption of proper organic and bio-fertilizers to tap the potential yield
7	Critical inputs given: (along with quantity as well as value)	:	Azospirillum and Phosphorus solubilizing bacteria @ 2-3 kg/ha
8	Results:	:	

Table: Performance of the technology

Technology Option	*No.of trials*	*Yield (q/ha)*	*(Rs./ha)*	*B:C ratio*	*Gross return*	*Gross cost*	*Data on Other performance indicators**
Farmers Practice: Non adoption of proper organic and bio-fertilizers to tap the potential yield	*5*	*1.852*	*108160*	*3.70*	*148160*	*40000*	
***Technology 1*:** ➢ Apply Azospirillum @ 2.5 kg/ha mixed with 25 kg FYM 30 min before sowing ➢ Basal application of Vermicompost 1000 kg/ha. ➢ Basal application Neem seed cake @150 kg/ha, Top dressing @ 60 kg/ha on30 DAT; Groundnut cake @ 100 kg/ha, Top dressing @ 25 kg/ha on 30 DAT. ➢ Spray Sanjeevani mixture 1st and 2nd after weeding. ➢ Spray Panchakavya 3 % during tillering and Booting stage. ➢ Soil application of Amirthakaraisal @ 25 lit/ha on 15 DAT. ➢ Three times Vermiwash (10%) sprayings at 15 DAT, 35 DAT and Flowering Stages		*2.174*	*128320*	*3.64*	*176920*	*48600*	

Technology 2 ➢ Seedling root dipping in Azospirillum and Phosphorus solubilizing bacteria @ 600 g/ha seedlings. ➢ Soil applicaton of Vermicompost @ 2 t/ha at last ploughing. ➢ Azospirillum and Phosphorus solubilizing bacteria @ 2-3 kg/ha mixted with 25 kg Vermicompost @ 2 t/ha at just before planting. ➢ Apply Azolla @ 1t/ha 7-10 DAP, Blue green algae @ 10 kg/ha 10 DAP incorporate after 3 weeks.		*1.957*	*106060*	*3.10*	*156560*	*50500*	

**** Other performance indicators: such as pest intensity, weed population, test weight, duration etc.***

9	Constraints	:	Mobilization of organic based inputs
10	Feedback of the farmers involved	:	Without much of knowledge on the organic inputs for traditional rice cultivation which is the need of hour. Generally traditional rice are less in yielding potential but demand from consumer side is more for organically grown traditional rice. Farmers are very much convinced to utilize the organic inputs *viz*., *azolla; azospirillum; bacillus; sunnhemp* green manuring; for raising the traditional rice to tap the yield advantage.
11	Feed back to the scientist who developed the technology	:	Once in a year that to in samba season farmers raising only one crop (rice). Bio-fertilizers, green manure and Farm Yard Manure (FYM) are the important inputs in improving the rice ecosystem to meet the criteria of organic cultivation.

3. Assessment of Zinc Solubilizing Bacteria for enhancing Zn in rice variety CO 52

1. Thematic area: Nutrient Management
2. Title: Assessment of Zinc Solubilizing Bacteria for enhancing Zn in rice variety CO 52
3. Scientists involved: Dr.C.Prabakaran
4. Details of farming situation
   - ❖ Location of trial

     Mostly delta farmers cultivating the paddy crop in three season, it creates the decline in soil health. The yield of paddy crop was also declined due to deficiency of zinc nutrients in soil. Seventy per centage of soil was deficient in Zinc. Since the critical limit of Zn in terms of DTPA (pH 7.3) extractable Zn was 1.20 mg Zn kg^{-1} soil and the content of DTPA (pH 7.3) extractable Zn was 0.48 – 0.72 mg Zn kg^{-1} in Karuppukilar and Vadakku sethi Villages of Kottur block. Hence, KVK, Thiruvarur conducted On farm trial to assess the efficiency of various Zinc solubilizing bacteria on rice variety CO 52 in Zinc deficient soils of Karuppukilar and Vadakku sethi Villages of Kottur block block during Rabi season of 2023-24
   - ❖ Major crops grown

     Vaduvur and Rayapuram Villages – Rice under irrigated condition, Pulses, Groundnut and Sesame.
   - ❖ Season

     The main cropping systems followed by the farmers are Rice – Rice – Rice fallow pulses, Rice – Rice – Rice - Groundnut, Rice is cultivated both Kharif and Rabi season of every year under irrigated condition. On farm trial sowing has taken up during September month (Thaladi season) with available water source.
   - ❖ Farming situation (Irrigated/Rainfed)

     Paddy was mainly cultivated in irrigated condition in both villages.
   - ❖ Soil type and fertility status

     The soil type is clay loamy with a pH of 7.42 and EC of 0.51 dS m^{-1} with a soil nutrient status of low Nitrogen (298 kg/ ha), medium Phosphorus (20.2 kg / ha) and medium Potassium (278 kg /ha). Since the critical limit of Zn in terms of DTPA (pH 7.3) extractable Zn was 1.20 mg Zn kg^{-1} soil and the content of DTPA (pH 7.3) extractable Zn was 0.48 – 0.72 mg Zn kg^{-1} in Pudukkottai and Rayapuram Villages of Needamangalam block. While, S, Fe, Cu, Mn and B were in sufficient status.
5. Problem definition /description
   - Normally farmers cultivate paddy crops in Kharif, Rabi and Summer season.
   - Zinc deficiency was observed in three seasons and affects the yield of crops
   - No awareness on alternative sources for zinc sulphate
   - Non adoption of zinc solubilising bacteria.

- Poor grain yield and lesser income.
- The main objective of the study was to assess the efficacy of Zinc Solubilizing Bacteria for enhancing Zn in rice variety CO 52.

6. Technology Assessed

Three technologies were assessed in zinc deficient soils during Rabi season.

1. Soil application of ZSB @ 720 ml in 36 kg vermicompost /ha (*Pseudomonas chlororaphis*) + Azophos @ 4 kg/ha + Zinc sulphate @ 25 kg/ha
2. Soil application of 12.5 kg of Zinc solubilizing bacteria/ha (*Bacillus aryabhattai*) + Zinc sulphate @ 25 kg/ha
3. Farmers practice – Non application of ZSB (Application of Zinc sulphate@ 25 kg/ha)

7. Critical inputs given – ZSB was supplied by TNAU at free of cost

Name of the critical inputs	Quantity (kgs)
Seed of Rice variety CO 52	30 kg per farmer
Zinc solubilizing bacteria (*Pseudomonas chlororaphis*)	1.0 litre per farmer
Zinc solubilizing bacteria (*Bacillus aryabhattai*)	5.0 kg per farmer

8. Results

Table : 1. Performance of the technology

Technology Option	*No.of trials*	*Yield (q/ha)*	*Gross cost (Rs/ha)*	*Net returns (Rs./ha)*	*B:C ratio*	*Data on Other performance indicators**
Technology Option 1 Soil application of ZSB-*Pseudomonas chlororaphis*	5	59.26	63850	62778	1.98	-
Technology Option 2 Soil application of ZSB- *Bacillus aryabhattai*		57.10	64440	58611	1.91	-
Technology Option 3 Farmers practice- Non application of ZSB (Application of Zinc sulphate@ 25 kg/ha)		51.82	62580	49092	1.78	-

Description of the results

Parameters	Technology Option 1	Technology Option 2	Farmers practice
Grain yield (q/ha)	58.76	57.10	51.82
Gross cost (Rs. /ha)	63850	64440	62580
Gross return (Rs. /ha)	126628	123051	111672
Net return (Rs. /ha)	62778	58611	49092
B:C ratio	1.98	1.91	1.78
Available N (kg/ha)*	198	186	172
Available P (kg/ha) *	17.32	15.78	14.56
Available K (kg/ha) *	258	244	229
Available Zn (ppm) *	0.90	0.84	0.72

*Post harvest soil samples

Constraints faced:
Availability of the Zinc solubilising bacteria is the major problem faced by the farmers

9. Feed back of the farmers involved: The cost of ZSB is comparatively lesser than the Zinc sulphate. Hence if the availability of the ZSB is of easy access to the farmers, adaption of the institutional ZSB will be improved.

10. Feed back to the scientist who developed the technology - Nil

4. Assessment of suitable potash releasing bacteria for maximizing the yield in rice

1	Thematic area	:	Crop Production and Management
2	Title	:	**Assessment of suitable potash releasing bacteria for maximizing the yield in rice**
3	Scientists involved	:	Dr.C.Prabakaran

4	Details of farming situation	:	Cauvery delta zone, Irrigated, Sandy clay loam soil
5	Problem definition / description: (one paragraph)	:	Low availability and high cost of the chemical potassium fertilizers, and poor K use efficiency by the rice.Out of the pools of K found in the soil, that in soil minerals make up 90 to 98% of the total content but it is unavailable for plant uptake Therefore, the assessment of suitable potash releasing bacteria is essential for increasing of the K use efficiency and higher yield in rice
6	Technology Assessed: (give full details of technology as well as farmers practice)	:	**TO1**: Soil application of Paenibacillus mucilaginous (KRB-9)@ 500ml/ha **TO2**: Soil application of Bio Potash –Frateuria aurantia@250ml/ha **Farmers practice**: Inorganic fertilizer application only
7	Critical inputs given: (along with quantity as well as value)	:	TO1: TNAU-KRB 9 @ 500 ml/ha TO2: Soil application of Bio Potash –Frateuria aurantia@250ml/ha
8	Results:	:	Increase the yield of paddy from 40 to 53.5 quintals/ha due to *Soil application of Bio Potash – Frateuria aurantia@250ml/ha*

Table:Performance of the technology

Technology Option	***No.of trials***	***Yield (q/ha)***	***Gross cost***	***Gross incomee***	***Net Returns (Rs./ha)***	***B:C ratio***	***Data on Other performance indicators****
Farmers Practice: Inorganic fertilizer application only	*3*	*40.0*	*46000*	*80000*	*34000*	1.73	

Technology 1 : *Soil application of Paenibacillus mucilaginous (KRB-9)@ 500ml/ha*		*54.5*	*42575*	*109000*	*66425*	*2.56*	
Technology 2 : :*Soil application of Bio Potash –Frateuria aurantia@250ml/ha*		*53.5*	*42825*	*107000*	*64175*	*2.50*	

**** Other performance indicators: such as pest intensity, weed population, test weight, duration etc.***

9	Constraints	:	Nil
10	Feedback of the farmers involved	:	Nice performance in sodic soil
11	Feed back to the scientist who developed the technology	:	Good

5. Assessment of TNAU Rice Reap for Higher yield in rice

1	Thematic area	:	Crop production and Management
2	Title	:	**Assessment of TNAU Rice Reap for Higher yield in rice**
3	Scientists involved	:	Dr.V.Karunakaran
4	Details of farming situation	:	Irrigated
5	Problem definition / description: (one paragraph)	:	Declining in factor productivity in rice is a major problem in Cauvery Delta Zone. In order to improve the rice productivity crop booster's role is inevitable
6	Technology Assessed: (give full details of technology as well as farmers practice)	:	TO1:TNAU Rice reap TO2: Novel liquid @ 1% in 3 equal splits Farmers Practice: No such foliar sprays
7	Critical inputs given: (along with quantity as well as value)	:	TNAU rice reap @ 6.0 kg/ha Novel liquid @ 1% in 3 equal splits
8	Results:	:	

Table:Performance of the technology

Technology Option	***No.of trials***	***Yield (q/ha)***	***Net***	***B:C ratio***	***Data on Other***

			Returns (Rs./ha)		***performance indicators****
Farmers Practice: No foliar sprays	*5*	*46.81*	*53120*	*2.31*	
*Technology 1(*TNAU Rice reap*)*		*54.52*	*63240*	*2.38*	
*Technology 2(*Novel liquid @ 1% in 3 equal splits*)*		*51.36*	*55320*	*2.17*	

**** Other performance indicators: such as pest intensity, weed population, test weight, duration etc.***

9	Constraints	:	Farmers in CDZ facing abiotic stress and micro nutrient imbalance resulting in poor performance in Rice yield
10	Feedback of the farmers involved	:	Application of TNAU Rice reap enhanced the performance in Rice yield
11	Feed back to the scientist who developed the technology	:	Once in 3 years soil testing based nutrient application for Rice will improve the soil fertility in turn resulting in higher productivity

6.Assessment of the Performance of weed management practices in black gram

1	Thematic area	:	Crop production and Management
2	Title	:	**Assessment of the Performance of weed management practices in black gram**
3	Scientists involved	:	Dr.V.Karunakaran
4	Details of farming situation	:	Irrigated
5	Problem definition / description: (one paragraph)	:	Pulse is being taken up as rice fallow/irrigated crop with poor weed management options
6	Technology Assessed: (give full details of technology as well as farmers practice)	:	TO1:Pendimethalin @ 2.5 lit/ha + Cladinofop + aciflourfen) @ 1 lit/ha TO2:Pendimethalin @ 2.5 lit/ha + Hand Weeding Farmers practice: No hand weeding (or) One hand weeding
7	Critical inputs given: (along with quantity as well as value)	:	Pendimethalin ;Cladinofop + acifluorfen-5 lit Pendimethalin-10 lit
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: No hand weeding (or) One hand weeding	*5*	*5.89*	*30610*	*2.37*	
*Technology 1(*Pendimethalin @ 2.5 lit/ha + Cladinofop + aciflourfen) @ 1 lit/ha*)*		*7.42*	*41730*	*2.67*	
*Technology 2(*Pendimethalin @ 2.5 lit/ha + Hand Weeding*)*		*6.20*	*31300*	*2.28*	

**** Other performance indicators: such as pest intensity, weed population, test weight, duration etc.***

9	Constraints	:	Farmers in Thiruvarur District having poor understanding on weed seed multiplications and dissemination leads to weed infestation in garden land crops
10	Feedback of the farmers involved	:	Application of Pendimethalin @ 2.5 lit/ha + Cladinofop + aciflourfen) @ 1 lit/ha resulted in good weed management and facilitating the improved crop stand, growth and yield attributes and yield
11	Feed back to the scientist who developed the technology	:	This technology can be taken and promoted for large scale demonstration for the farming community

7. Assessment of biological methods for the management of soil borne diseases in chilli- ongoing

8. Assessment of Cowpea varieties in Thiruvarur district

1.	Thematic area	:	Varietal Assessment
2.	Title	:	**Assessment of Cowpea varieties in Thiruvarur district**
3.	Scientists involved	:	Dr. S. Arulselvi, Assoc. Prof. (PBG)

<table>
<tr><td>4.</td><td>Details of farming situation</td><td>:</td><td>Irrigated</td></tr>
<tr><td>5.</td><td>Problem definition / description</td><td>:</td><td>Farmers are unaware of new cowpea varieties. The farmers of three blocks in Thiruvarur district are cultivating pulses and vegetables under irrigated condition. They need knowledge and technology input to improve their livelihood</td></tr>
<tr><td>6.</td><td>Technology Assessed</td><td>:</td><td>
<table>
<tr><td>TO-1</td><td>VBN 4</td></tr>
<tr><td>Source and year</td><td>TNAU variety release, 2023</td></tr>
<tr><td>Description (short)</td><td>It is having the duration of 70 to 75 days and yield potential of 1.4 t /ha</td></tr>
<tr><td>Potential yield/income</td><td>1400 kg / ha</td></tr>
<tr><td>Source of Inputs</td><td>NPRC, Vamban</td></tr>
<tr><td>TO-2</td><td>TC 901</td></tr>
<tr><td>Source and year</td><td>Trombay, 2018</td></tr>
<tr><td>Description (short)</td><td>It is a direct mutant from EC394763. High yielding (1100 – 1350 kg/ha) with 15% increased yield over the national check RC101. It is resistant to cowpea mosaic and root-rot diseases. It is early maturing (70 days) variety</td></tr>
<tr><td>Potential yield/income</td><td>1350 kg / ha</td></tr>
<tr><td>Source of Inputs</td><td>BARC, Mumbai</td></tr>
<tr><td>Farmers Practice</td><td>Local variety</td></tr>
<tr><td>Farmers yield</td><td>500 kg / ha</td></tr>
</table>
</td></tr>
<tr><td>7.</td><td>Critical inputs given</td><td>:</td><td>Seeds</td></tr>
<tr><td>8.</td><td>Results</td><td>:</td><td></td></tr>
</table>

Performance of the technology

Technology Option	*No. of trials*	Days to maturity	No. of pods per plant	Grain yield q/ ha	B:C ratio
VBN 4	*5 (0.5 acre per trial)*	90	5	5.00	4.91
TC 901		70	9	12.50	6.98
Local varieties		87	4	4.50	3.07

- Cowpea variety TC 901 matured earlier (60 to 65 days after sowing) than VBN4.
- TC 901 produced 8 to 9 pods per plant whereas VBN4 recorded 4 to 5 pods per plant and TC 901 recorded more grain yield than VBN 4
- The pest incidence was also recorded to be less in TC 901.
- VBN 4 was found to be susceptible to leaf-eatingcaterpillars and it produced tendrils after flowering.
- Off-campus training on "ICM in cowpea" was conducted for 32 numbers of Farmers and Farm Women on 11.08.2023 at Aathichapuram
- Field day was conducted for OFT on "Assessment of Cowpea varieties in Thiruvarur district" on 09.10.2023 at Thirumakottai village, Mannargudi, and 12 farmers participated

Details	**TO1**	**TO2**	**Farmers practice**
Yield (q/ha)	5.00	12.50	4.50
Gross income (Rs/ha)	58960	83750	36850
Gross cost (Rs/ha)	12000	12000	12000
Net return (Rs/ha)	46960	71750	24850
BCR	4.91	6.98	3.07

9.	Constraints	:	• Lack of awareness on the choice of suitable cowpea variety for marketing
10.	Feedback of the farmers involved	:	• Cowpea variety TC 901 was preferred by the farmers since it yielded more with resistant to most of the pest and diseases. Moreover, TC 901 was shorter in duration when compared to VBN4.
11.	Feed back to the scientist who developed the technology	:	The scientist may ensure the seed multiplication of newly released varieties to avoid the shortage of seeds.

9 Assessment of Bottle gourd varieties in Thiruvarur district

1.	Thematic area	:	Varietal Assessment
2.	Title	:	**Assessment of Bottle gourd varieties in Thiruvarur district**
3.	Scientists involved	:	Dr. S. Arulselvi, Assoc. Prof. (PBG)
4.	Details of farming situation	:	Irrigated
5.	Problem definition / description	:	Farmers are unaware of new bottle gourd varieties
6.	Technology Assessed	:	

TO-1	PLR 1
Source and year	TNAU variety release, 2017
Description (short)	It has 135 days duration and suited for salad making. Moderately resistant to fruitfly, powdery mildew and downy

				mildew. Fruits can be harvested at early stage of maturity for salad and at to full maturity for cooking.
			Potential yield/income	32400 kg / ha
			Source of Inputs	VRS, Palur
			TO-2	Arka Nutan
			Source and year	IIHR, 2022
			Description (short)	Arka Nutan is moderately resistant to gummy stem blight (*Didymellabryoniae*) with a yield potential of 46 t/ha. Fruits are light green medium cylindrical. This variety will be ready to first picking by 56 days
			Potential yield/income	46000 kg / ha
			Source of Inputs	IIHR, Bangalore
			Farmers Practice	Local variety
			Farmers yield	25000 kg / ha
7.	Critical inputs given	:	Seeds	
8.	Results	:		

Performance of the technology

Technology Option	*No. of trials*	No. of fruits per plant	Fruit yield q/ ha	B:C ratio
PLR 1	*5 (0.5 acre per trial)*	10	305.0	2.18
Arka Nutan		14	397.1	2.83
Local variety		10	272.0	1.94

<table>
<tr><td></td><td colspan="3">

Bottle gourd varieties viz., PLR 11 and Arka Nutan recorded 10and 14 number of fruits per plant respectively whereas local variety has ten number of fruits per plant
The fruit weight of Arka Nutan was found to be higher than PLR 1 and local variety.
Economics of the study revealed that technology option two of Arka Nutan had higher net returns (Rs.4,30,539.60 /ha) and benefit cost ratio (2.83) followed by technology option one of PLR 1 (Rs.2,76,180/-) and Farmers practices(Rs.2,20,872/-).

<table>
<tr><td></td><td>TO1</td><td>TO2</td><td>Farmers practice</td></tr>
<tr><td>Yield (q/ha)</td><td>305.0</td><td>397.1</td><td>272.0</td></tr>
<tr><td>Gross income (Rs/ha)</td><td>511180</td><td>665539.6</td><td>455872</td></tr>
<tr><td>Gross cost (Rs/ha)</td><td>235000</td><td>235000</td><td>235000</td></tr>
<tr><td>Net return (Rs/ha)</td><td>276180</td><td>430539.6</td><td>220872</td></tr>
<tr><td>BCR</td><td>2.18</td><td>2.83</td><td>1.94</td></tr>
</table>
</td></tr>
<tr><td>9.</td><td>Constraints</td><td>:</td><td>Lack of awareness on the choice of suitable bottle gourd variety</td></tr>
<tr><td>10.</td><td>Feedback of the farmers involved</td><td>:</td><td>Both varieties were good in consumer point of view</td></tr>
<tr><td>11.</td><td>Feed back to the scientist who developed the technology</td><td>:</td><td>The scientist may ensure the seed multiplication of newly released varieties to avoid the shortage of seeds.</td></tr>
</table>

10 Assessment of INM for yield enhancement in coconut

1	Thematic area	:	INM
2	Title	:	**Assessment of INM for yield enhancement in coconut**
3	Scientists involved	:	Dr.V.Karunakaran
4	Details of farming situation	:	Irrigated
5	Problem definition / description:	:	Non adoption of macro, micro nutrient and bio-fertilizers

	(one paragraph)		
6	Technology Assessed: (give full details of technology as well as farmers practice)	:	TO1: Kalpavardhini +Biofertilizer+Moisture conservation TO2: Coconut tonic + Biofertilizer+Greenmauring + Cococon Farmers Practice: No external nutrition except farm yard manure
7	Critical inputs given: (along with quantity as well as value)	:	Kalpavardhini @ 0.5 kg per tree, Coconut tonic@ 1 lit for 25 trees
8	Results:	:	

Table: Performance of the technology

Technology Option	***No.of trials***	***Yield (nuts/ha/year)***	***Net Returns (Rs./ha)***	***B:C***	***Data on Other performance indicators****
Farmers Practice: No external nutrition except farm yard manure	*5*	*17600*	*191000*	*3.62*	
Technology 1 : Kalpavardhini +Biofertilizer+Moisture conservation		*35200*	*394800*	*3.96*	
Technology 2 : Coconut tonic + Biofertilizer+Greenmauring + Cococon		*37700*	*439800*	*4.50*	

**** Other performance indicators: such as pest intensity, weed population, test weight, duration etc.***

9	Constraints	:	Coconut trees in CDZ not yet fully recovered from the impact of Gaja cyclone pertaining to the yielding ability

10	Feedback of the farmers involved	:	Aftermath of *Gaja* cyclone incidence the performance of coconut in terms of yield was in declining trend. Advocating of Integrated Nutrient Management (INM) in coconut *viz*., inorganic, organic and root feeding of TNAU coconut tonic (Consisting of micronutrients and growth regulators) once in six months interval was very much useful to regain the potential yield of coconut from each harvest.
11	Feed back to the scientist who developed the technology	:	Farmers are not aware of the N: P_2O_5 and K_2O nutrient requirement especially importance of micronutrients like boron (B) role in the following *viz*., reduced button shedding; Increased chlorophyll content and greenness of leaves; Improved photosynthetic efficiency of leaves; Increased number and size of nuts; Increases nut yield up to 20 per cent; Increases longevity and vigour of the palm; Imparts resistance to pests, diseases and Improves the environmental stresses. All the above mentioned attributes improves the performance of coconut in eastern coast of Cauvery Delta Zone.

11.Assessment of Acaricidal Efficiency in small ruminants

1. Thematic area: Animal Nutrition
2. Title**: Assessment of Acaricidal Efficiency in small ruminants**
3. Scientists involved: Dr.M.Sabapathi
4. Details of farming situation: Wetland ecosystem
5. Problem definition / description: (one paragraph): Farmers did not feed mineral mix to animals. Mineral deficiency leads to stunted growth in young; poor in growth parameters and in reproductive efficiency. Farmers never give min mix.

6. Technology Assessed: (give full details of technology as well as farmers practice)

Nano Methicone spray produced by TANUVAS, 2019 and Megatex spray produced by CIRG, Makhtoom were issued and sprayed on body of goats. Weight gain and growth parameters studied .

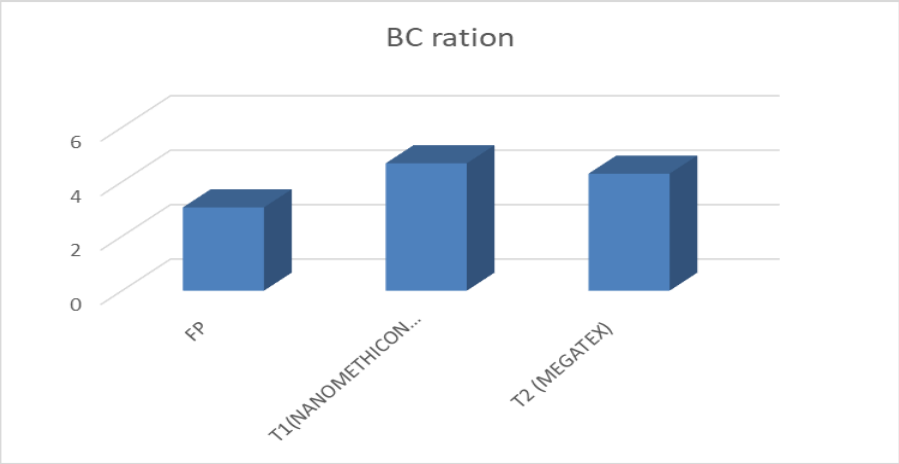
7. Critical inputs given: (along with quantity as well as value)
One spray of NanoMethicone and Megatex for every 4 goats
8. Results:

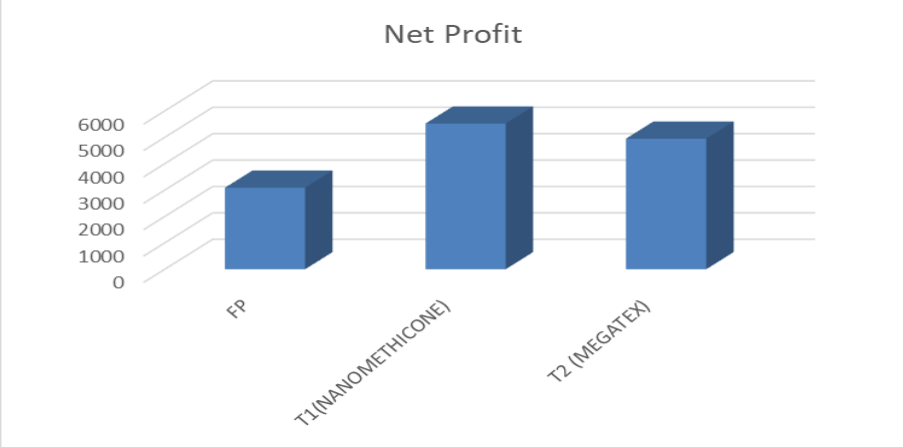
NanoMethicone spray immediately killed ticks while megatex took 10 days to kill all ticks on the body. Both treatment increased Milk yield from 120 ml to 150 ml per time

Both played vital role in growth rate and FCR improved.

	Body weight	Gross income	Total cost	Net Profit	BC ratio
FP	15.3	4590	1500	3090	3.06
T1(NANOMETHICONE)	23.4	7020	1500	5520	4.68
T2 (MEGATEX)	21.5	6450	1500	4950	4.3

Experimented for 6 month period and T1 & T2 played vital role to improve body weight to 24.4kg & 23.7kg against farmers practice and T1 played vital role and reached maximum net profit of 5820. But farmers are attracted with package of Goatmin.





9. Constraints: Local availability

10. Feedback of the farmers involved: TANUVAS Sheep and Goat mineral mix is performing well and cheapest but their poor package discourage the farmers.

11. Feed back to the scientist who developed the technology: Attractive auto sticking package is required.

12. Assessment of Specific mineral mixture on the performance of Small Ruminants

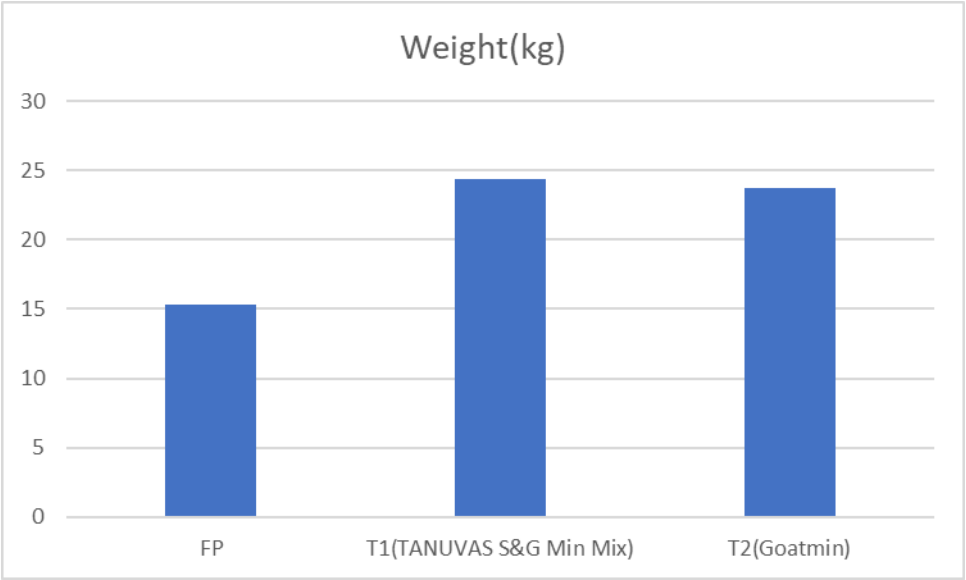
1. Thematic area: Animal Nutrition
2. Title**: Assessment of Specific mineral mixture on the performance of Small Ruminants**
3. Scientists involved: Dr.M.Sabapathi
4. Details of farming situation: Wetland ecosystem
5. Problem definition / description: (one paragraph): Farmers did not feed mineral mix to animals. Mineral deficiency leads to stunted growth in young; poor in growth parameters and in reproductive efficiency. Farmers never give min mix.

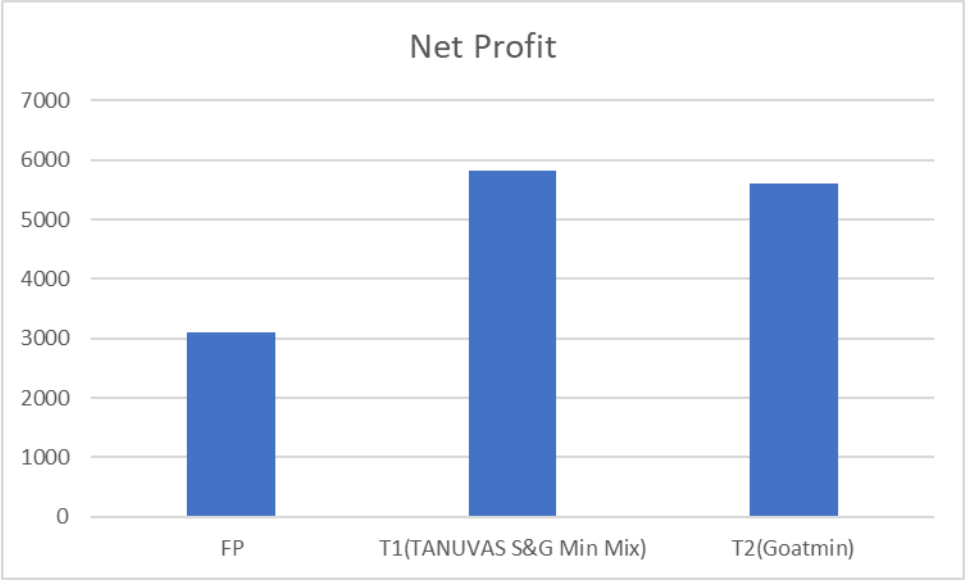
6. Technology Assessed: (give full details of technology as well as farmers practice)
TANUVAS Sheep &Goat Min Mix produced by TANUVAS, 2019 and Goatmin powder produced by CIRG, Makhtoom were issued and fed to growing goats. Weight gain and growth parameters studied
7. Critical inputs given: (along with quantity as well as value)
One pocket Goatmin Mix
And One TANUVAS AFTD Salt lick for every 4 goats
8. Results:
Both played vital role in growth rate and FCR improved .

	Weight (kg)	Gross income	Total cost	Net Profit	BC ratio
FP	15.3	4590	1500	3090	3.06
TANUVAS Sheep &Goat Min Mix(T1)	24.4	7320	1500	5820	4.88
Goatmin (T2)	23.7	7110	1500	5610	4.74

Experimented for 6 month period and T1 & T2 played vital role to improve body weight to 24.4kg & 23.7kg against farmers practice and T1 played vital role and reached maximum net profit of 5820. But farmers are attracted with package of Goatmin. Good growth rate along with mineral mixture increased twining by 25% and mortality reduced to 5% to 2%.
9. Constraints: Local availability
10. Feedback of the farmers involved: TANUVAS Sheep and Goat mineral mix is performing well and cheapest but their poor package discourages the farmers.

11. Feed back to the scientist who developed the technology: Attractive auto sticking package is required.

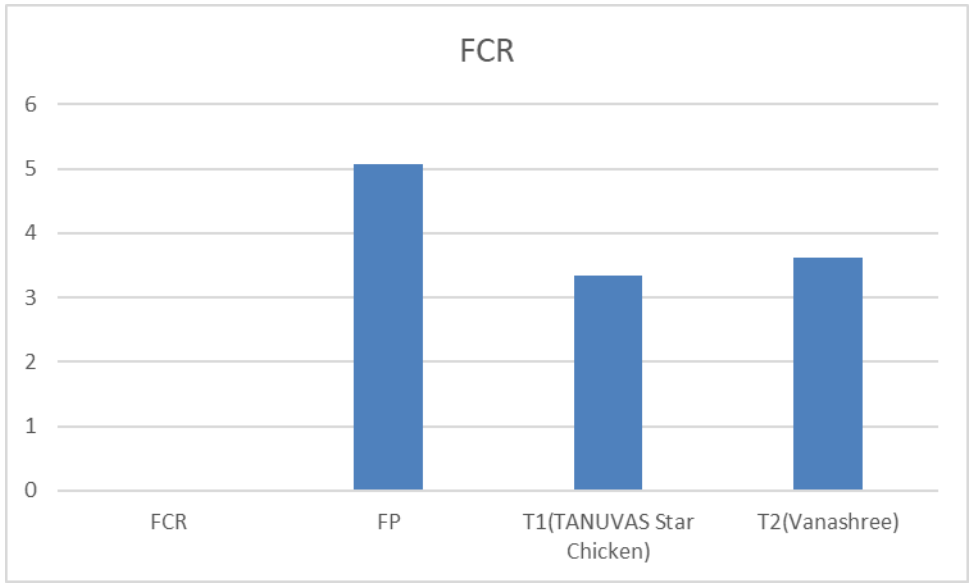

Weight(kg)
30
25
20
15
10
5
0
FP
T1(TANUVAS S&G Min Mix)
T2(Goatmin)


Net Profit
7000
6000
5000
4000
3000
2000
1000
0
FP
T1(TANUVAS S&G Min Mix)
T2(Goatmin)

13. Assessment of suitable backyard poultry

1. Thematic area: Animal Nutrition
2. Title**: Assessment of suitable backyard poultry**
3. Scientists involved: Dr.M.Sabapathi
4. Details of farming situation: Wetland ecosystem
5. Problem definition / description: (one paragraph): Farmers did not feed mineral mix to animals. Mineral deficiency leads to stunted growth in young; poor in growth parameters and in reproductive efficiency. Farmers never give min mix.
6. Technology Assessed: (give full details of technology as well as farmers practice)
TANUVAS star chicks produced by TANUVAS, 2019 and Vanashree chicks DPR, Hyderabad were issued and fed to growing goats. Weight gain and growth parameters studied
7. Critical inputs given: (along with quantity as well as value)
Day old TANUVAS star chicks and Vanashree chicks with concentrate feed
8. Results:
Both played vital role in growth rate and FCR improved .

	3months	6 months	Cost	Gross income	Net profit	BC Ratio
FP	354	787	50	275.45	225.45	5.509
T1(TANUVAS Star Chicken)	727	1350	100	405	305	4.05
T2(Vanashree)	828	1246	100	373.8	273.8	3.738


FCR
6
5
4
3
2
1
0
FCR
FP
T1(TANUVAS Star Chicken)
T2(Vanashree)

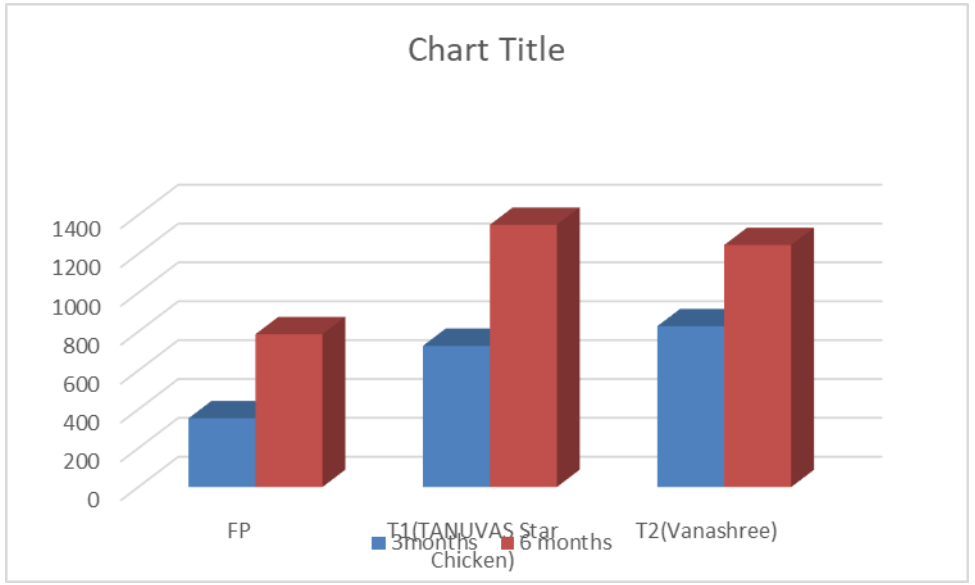


Chart Title
1400
1200
1000
800
600
400
200
0
FP
T1(TANUVAS Star Chicken)
T2(Vanashree)
3months
6 months

Experimented for 6 month period and FP, T1 & T2 recorded body weight of 354 727 &828 g at 3 months and 787, 1350 and 1246 grams at 6 months period. Low mortality and FCR and maximum net profit recorded for T1

9. Constraints: Local availability
10. Feedback of the farmers involved: Excessive intensive fed cock could not be marketed easily.
11. Feed back to the scientist who developed the technology: Original siruvidai appearance give valuable marketing scopes.

14. Assessment of Production Performance of Quail breeds for Thiruvarur district

1. Thematic area: Animal Nutrition
2. Title**: Assessment of Production Performance of Quail breeds for Thiruvarur district**
3. Scientists involved: Dr.M.Sabapathi
4. Details of farming situation: Wetland ecosystem
5. Problem definition / description: (one paragraph): Farmers did not feed mineral mix to animals. Mineral deficiency leads to stunted growth in young; poor in growth parameters and in reproductive efficiency. Farmers never give min mix.
6. Technology Assessed: (give full details of technology as well as farmers practice)

Quail chicks (ND) are purchased and reared. But Namakkal Gold quail(2020) and nandanam quail III produced by TANUVAS (2019) were issued and fed to growing. Weight gain, growth parameters, FCR And economy of production studied

7. Critical inputs given: (along with quantity as well as value)

Day old Namakkal gold quail and Nandanam III quail with concentrate feed

8. Results:

Both played vital role in growth rate and FCR improved .

	6 week weight		FCR	Cost/quail	Profit	Net Profit /quail	BC Ratio
FP	184	588.8	3.2	31.55	33	1.45	1.05
T1(Namkkal Gold)	206	576.8	2.8	31.04	35	3.96	1.13
T2(Nandanam 3)	217	585.9	2.7	31.44	36	4.56	1.15

Experimented for 6 weeks period and FP, T1 & T2 recorded body weight of 354 727 &828184,206 and 217 g .Low mortality and FCR recorded for both T1 and T2 and maximum net profit recorded for T1and T2. Market demand was high for T2.

9. Constraints: Local availability
10. Feedback of the farmers involved: Poor Availability of chicks and feed
11. Feed back to the scientist who developed the technology: Improve production of chicks.

Frontline Demonstrations in Detail

2022-23

Demonstration of wild Boar repellent in Tapioca

Crop	:	Tapioca
Thematic area	:	Plant Protection- Pest Management
Technology demonstrated	:	**Demonstration of wild Boar repellent in Tapioca**
Season and year	:	January/February 2023
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	4
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	1
Actual area (ha)	:	1
Justification for shortfall if any:	:	-
Feedback from farmers	:	Wild Boar repellent in Tapioca would reduces the damage slowly.
Feedback of the Scientist	:	The farmers are satisfied with the technology. But, they are in need of immediate control for Wild Boar
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	Demonstrated the Herboliv+ 10% dilution with 10 days interval (5 applications) as wild Boar repellent in Tapioca was conducted at Karuvakurichi village farmers field

	Check	**Demo**
Yield (Q/ha)	355.00	406.02
Gross cost (Rs/ha)	60350	57875
Gross return (Rs/ha)	80136	88171
Net return(Rs/ha)	19716	29296
BCR	1.33	1.51
Other parameters – Damage (%)	13.50	5.65

2023-24

1. Demonstration of Rice variety (ADT 57) suitable for Kuruvai season in Thiruvarur district

Crop	:	Rice
Thematic area	:	Varietal Demonstration
Technology demonstrated	:	Demonstration of Rice variety (ADT 57) suitable for Kuruvai season in Thiruvarur district
Season and year	:	Kharif,2023-24
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	10
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil

Feedback from farmers	:	• Rice variety ADT 57 was raised during kuruvai season in 10 locations in Thiruvarur district. It matured in 110 to 115 days and recorded 27 to 35 numbers of productive tillers per plant • It recorded a grain yield of 6750 to 7500 kg per ha which is higher than its average yield mentioned in the variety release • Its grain yield potential was found to be higher than ADT 53
Feedback of the Scientist	:	It is a derivative of ADT 45 x ACK 03002. It is a medium slender rice with 115 days. The average yield of the culture is 6500 kg/ha. It has milling of 69% and head rice recovery of 60%. This variety is

		suitable for Sorrnavari / Kar / Kuruvai / Navarai in Tamil Nadu. It is suitable for cooking
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	• Conducted off-campus training on "ICM in Kuruvai rice cultivation" for 43 numbers of Farmers and Farm Women on 02.05.2023 at Poovanur • Field day was conducted on Demonstration of Rice variety (ADT 57) suitable for Kuruvai season in Thiruvarur district at farmers field on 05.10.2023 and 09.10.2023 at Poovanur and VaduvurSathanur villages respectively. • Newspaper messages on "High yielding rice varieties released recently" in Thinakaran daily on 09.05.2023 • Newspaper messages on "Seed treatment techniques in rice" in Thinathanthi daily on 16.06.2023 • Newspaper messages on "Rice varieties suitable for kuruvai season" in Thinakaran daily on 18.07.2023 • A paper news on rice varieties suitable for kuruvai cultivation was broadcast from Karaikal FM (100.3) on 15.06.2023 at 6.35AM • TV programme on rice varieties suitable for kuruvai cultivation was broadcast from Pothigai TV on 29.08.2023

	Check (ADT 43)	Demo (ADT 57)
Yield (Q/ha)	54	72
Gross income (Rs/ha)	124200	165600
Gross cost (Rs/ha)	42500	42500
Net return (Rs/ha)	81700	123100
BCR	2.92	3.90

2. Demonstration of Rice variety (CO 57) suitable for Thaladi season in Thiruvarur district

Crop	:	Rice
Thematic area	:	Varietal Demonstration
Technology demonstrated	:	Demonstration of Rice variety (CO 57) suitable for Thaladi season in Thiruvarur district
Season and year	:	Rabi, 2023
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	10
No. of demonstrations	:	10
No of SC/ST Farmers and women farmers:	:	3
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	• CO57 rice variety matured in 130 to 135 days which is earlier than traditional rice variety, Karuppukavuni • There were no pest and disease incidence recorded • CO 57 variety recorded higher grain yield (31.25q/ha) than karuppukavuni (14.5q/ha)
Feedback of the Scientist	:	The improved Kavuni rice is suitable for cultivation in all seasons. It matures in 130 to 135 days. It has grain yield potential of 4.5 t / ha
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	• Conducted on campus training on ‘‘ICM in traditional rice varieties’’ to the farmers on 19.07.2023 and 58 farmers participated. • Newspaper messages on ‘‘High yielding rice varieties released recently’’ in Thinakaran daily on 09.05.2023 • Newspaper messages on ‘‘Profitable traditional rice cultivation’’ in Thinakaran daily on 05.08.2023 • Newspaper messages on ‘‘Traditional rice varieties and its uses’’ in Thinakaran daily on 04.12.2023

	Check (Karuppukavuni)	Demo (CO57)
Yield (Q/ha)	14.50	31.25
Gross income (Rs/ha)	68150	146875
Gross cost (Rs/ha)	37000	37000
Net return (Rs/ha)	31150	109875
BCR	1.84	3.97

3. Demonstration of CSR-BIO for enhancing productivity of Rice var. TRY 5 in Salt-affected Soils of Thiruvarur district

Crop	:	Rice
Thematic area	:	Integrated Crop Management in Salt affected soils
Technology demonstrated	:	**Demonstration of CSR-BIO for enhancing productivity of Rice var. TRY 5 in Salt-affected Soils of Thiruvarur district**
Season and year	:	Kharif, 2023
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	4
No. of demonstrations (replications/farmers/beneficiaries):	:	5
No of SC/ST Farmers and women farmers:	:	1
Area proposed (ha):	:	2
Actual area (ha)	:	2
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Rice variety TRY 5 performed well under saline soil conditions with the application of CSR BIO
Feedback of the Scientist	:	Rice variety TRY 5 is highly suitable for Thiruvarur district under saline soil as well as non saline soil. The farmers are interested to grow in the forthcoming

		season.
Extension activities on the FLD	:	trainings and field day conducted

	Demo (TRY 5)	Check (TRY 2)
Yield (Q/ha)	54.8	49.25
Gross cost (Rs/ha)	68950	66650
Gross return (Rs/ha)	118094	106134
Net return(Rs/ha)	49144	39484
BCR	1.70	1.39

4. Demonstration of organic farming technologies in improved karuppu kavuni variety CO57

Crop	:	Rice
Thematic area	:	Varietal Demonstration
Technology demonstrated	:	Demonstration of organic farming technologies in improved karuppukavuni variety CO57
Season and year	:	Rabi 2023
Farming situation	:	Cauvery delta zone, Sandy clay loam soil
Source of fund	:	ICAR
No of locations (Villages):	:	4
No. of demonstrations (replications/farmers/beneficiaries):	:	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 farmers	:	Performs well under Thiruvarur District
Feedback of the Scientist	:	Traditional organic rice are low yielder under organic farming. CO 57 can be

		adopted for organic farming of rice with high yield
Extension activities on the FLD	:	Training, Demonsration

	Check	**Demo**
Yield (Q/ha)	28	42
Gross cost (Rs/ha)	56000	57500
Gross return (Rs/ha)	1,12,000	147000
Net return(Rs/ha)	56000	89500
BCR	2	2.56
Other parameters		

5. Demonstration of TNAU Rice Bloom for Higher yield in rice

Crop	:	Rice
Thematic area	:	Crop management
Technology demonstrated	:	Demonstration of TNAU Rice Bloom for Higher yield in rice Foliar spray of TNAU rice bloom@ 8 kg/ac at heading stage and grain filling stage
Season and year	:	Rabi 2024
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	4
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	-
Feedback from farmers	:	Application of Rice bloom at flowering stage improved the test weight and yield.

		It is also noticed that the infilled grains was reduced prominently
Feedback of the Scientist	:	It has been taken for further large scale demonstration in CDZ
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	Field day conducted at Kalachery Radio talk: 05.08.2023- Crop Boosters- AIR, Karaikkal Leaflet on crop boosters was prepared and distributed among the farming community

	Check	**Demo**
Yield (Q/ha)	5.381	6.562
Gross cost (Rs/ha)	40000	44500
Gross return (Rs/ha)	107620	131240
Net return(Rs/ha)	67620	86740
BCR	2.69	2.95
Other parameters		

6. Demonstration of *Methylobacterium* (PPFM) application in rice

Crop	:	Rice
Thematic area	:	Crop Management
Technology demonstrated	:	Demonstration of Methylobacterium (PPFM) application in rice Demonstration PPFM @1 % spray at 10 DAT, active tillering and Panicle initiation stage will improve the growth and yield in rice
Season and year	:	Rabi 2024
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	4
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4

Justification for shortfall if any:	:	-
Feedback from farmers	:	Usage of PPFM spray managed the interim drought in Kuruvai and Thaladi season which safe guards from the crop failure during water stress conditions
Feedback of the Scientist	:	With in a short notice, huge amount of PPFM microbial inoculum has to be mass multiplied and arranged for drought situations
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	Radio talk in AIR Karaikkal FM-Importance of tillage practices and role of PPFM in Agriculture-12.07.2023 (Recording) Training conducted to Extension personal on Role and importance of PPFM in rice on 28.06.2023

	Check	**Demo**
Yield (Q/ha)	5.112	6.238
Gross cost (Rs/ha)	51450	54500
Gross return (Rs/ha)	102240	124760
Net return(Rs/ha)	50790	70260
BCR	1.99	2.29
Other parameters		

7. Demonstration of PUSA decomposer for in-situ rice straw residue decomposing to improve the fertility status of the soil

Crop	:	Rice
Thematic area	:	Soil Health Management
Technology demonstrated	:	Demonstration of PUSA decomposer for in-situ rice straw residue decomposing to improve the fertility status of the soil PUSA Decomposer @ 4 capsules/ha
Season and year	:	Rabi 2024
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	4

No. of demonstrations	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	-
Feedback from farmers	:	PUSA decomposer was the fast decomposing microbial consortia for rice straw and stubbles facilitating the decomposition
Feedback of the Scientist	:	This PUSA decomposer technology may be taken for next year also
Extension activities on the FLD	:	Training and demonstration conducted

Parameters	Farmers Practice- Burning of crop residues	Demo: PUSA Decomposer
C/N ratio of compost after 30 days	-	25
Grain yield (q/ha)	40.30	46.50
Gross cost (Rs. /ha)	40000	41500
Gross return (Rs. /ha)	80600	93000
Net return (Rs. /ha)	40600	53000
B:C ratio	2.02	2.28
Available N (kg/ha)	195	247
Available P (kg/ha)	16.5	20.8
Available K (kg/ha)	225	280

8**. Demonstration of Sunnhemp variety (ADT 1) in Thiruvarur district**

Crop	:	Sunnhemp
Thematic area	:	Varietal Demonstration
Technology demonstrated	:	**Demonstration of Sunnhemp variety (ADT 1) in Thiruvarur district**
Season and year	:	Kharif, 2023
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	10

No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	• The performance of ADT 1 sunnhemp variety was tested in 10 farmers field. • It recorded plant height of 150 cm with 165 leaves per plant. The length and breadth of leaf are 13.5 cm and 3.2 cm respectively. • No. of branches and raceme ranged from 5 to 6 per plant • This variety recorded a higher biomass yield (21.5t/ha) than the local variety
Feedback of the Scientist	:	It has 120 days duration. It can be incorporated in the soil after 40 to 45 days after sowing. It is decomposed with in 10 days of incorporation. Green manure: All seasons; Seed production: Dec. - Jan., March – April; Yield:20.8 t/ha; High biomass; Less infestation by pests and diseases
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	• Conducted on-campus training on ‘‘Importance of greenmanures in improving soil health’’ on 17.05.2023 for 30 numbers of extension personnels • Newspaper messages on ‘‘Improving soil health through greenmanures’’ in Thinakaran daily on 05.08.2023 • Radio talk on ‘‘Rice varieties suitable for Samba season and importance of greenmanures’’ and broadcast on 12.07.2023

	Check (Local variety)	Demo (ADT 1)
Biomass Yield (Q/ha)	180.00	215.00
Plant height (cm)	147	150

No. of branches	5	6
Leaf length (cm)	13.0	13.5
Leaf width (cm)	2.9	3.2

9. Popularisation of Ridgegourd MDU1

Crop	:	Ridge gourd
Thematic area	:	Varietal Demonstration
Technology demonstrated	:	Popularisation of Ridgegourd MDU1
Season and year	:	Rabi, 2023
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	10
No. of demonstrations	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	4
Actual area (ha)	:	4
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	• Ridge gourd variety, MDU 1 flowered in 45 days after sowing and the fruits were harvested after 60th days from the date of sowing • The total age of the variety was 140 days • A single fruit weighed from 400 to 450 g having length from 30 to 45 cm. • The fruit was medium in size with ash coloured outer layer. • The fruit yield was recorded to be 20 t / ha • This variety has more consumer preference due to medium and ash coloured fruit with soft pulp when compared to other private ridge gourd hybrids.
Feedback of the Scientist	:	• Suitable for June – July and December - January under irrigated conditions • Yield:18.75 tons/ha • Medium sized fruits (29-30 cm length) with soft pulp • 10-15 pickings can be made in four months duration.

		• Suitable for preparation of jam, thokku and pickles. • Field tolerant to fruit fly
Extension activities on the FLD	:	• Field day and demonstration were conducted on 07.02.2024 at Vaduvurthenpathi village. A total of ten farmers participated. • Newspaper messages on ‘‘MDU 1 – High yielding ridge gourd variety’’ in Thinakaran daily on 15.02.2024

	Check (Local variety)	Demo (MDU 1)
Yield (Q/ha)	155.2	178.5
Gross income (Rs/ha)	496640	571200
Gross cost (Rs/ha)	235000	235000
Net return (Rs/ha)	261640	336200
BCR	2.11	2.43

10. Demonstration of Non Diary Flavored beverages from Peanut

Crop	:	Groundnut
Thematic area	:	Value addition
Technology demonstrated	:	Demonstration of Non Diary Flavored beverages from Peanut
Season and year	:	All season
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	5
No. of demonstrations	:	5
No of SC/ST Farmers and women farmers:	:	-
Area proposed (ha):	:	-
Actual area (ha)	:	-
Justification for shortfall if any:	:	-
Feedback from farmers	:	Technologies are simpler and easy, for production of value added products with peanut. The farmers request marketing and incubation facility.

Feedback of the Scientist	:	Need more popularization programme linkage with marketing channels. The marketing is a big challenge.
Extension activities on the FLD	:	Exposure visit arranged on 13.12.2023 to ADAC&RI,Trichy

	Check	**Demo**
Yield (Q/ha)	17.56	9.15
Gross cost (Rs/ha)	52050	70150
Gross return (Rs/ha)	70240	112000
Net return(Rs/ha)	35750	67100
BCR	1.69	1.96
Other parameters	-	-

11. Demonstration of Millet Flavoured beverage

Crop	:	Millets
Thematic area	:	Value addition
Technology demonstrated	:	Demonstration of Millet Flavoured beverage
Season and year	:	All season
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	3
No. of demonstrations	:	5
No of SC/ST Farmers and women farmers:	:	-
Area proposed (ha):	:	-

Actual area (ha)	:	-
Justification for shortfall if any:	:	-
Feedback from farmers	:	Technologies are simpler and easy, for production of value added products with millet. The farmers request marketing and incubation facility.
Feedback of the Scientist	:	Need more popularization programme linkage with marketing channels. The marketing is a big challenge.
Extension activities on the FLD	:	Exposure visit arranged on 13.12.2023 to ADAC&RI,Trichy. Media coverage on 1.2.2024

	Check	**Demo**
Yield (Q/ha)	9.50	4.20
Gross cost (Rs/ha)	22150	35700
Gross return (Rs/ha)	22150	30700
Net return(Rs/ha)	38000	63000
BCR	2.72	2.76
Other parameters	-	-

12. Demonstration of Jackfruit concentrate

Crop	:	Jackfruit
Thematic area	:	Value addition
Technology demonstrated	:	Demonstration of Jackfruit concentrate beverage
Season and year	:	April-June
Farming situation	:	-
Source of fund	:	ICAR
No of locations (Villages):	:	3
No. of demonstrations (replications/farmers/beneficiaries):	:	5
No of SC/ST Farmers and women farmers:	:	-
Area proposed (ha):	:	-
Actual area (ha)	:	-
Justification for shortfall if any:	:	-
Feedback from farmers	:	Technologies are simpler and easy, for production of value added products with Jackfruit. The farmers request marketing and incubation facility.
Feedback of the Scientist	:	Need more popularization programme linkage with marketing channels. The marketing is a big challenge.
Extension activities on the FLD	:	Exposure visit arranged on 13.12.2023 to ADAC&RI,Trichy

	Check	**Demo**
Yield (Q/ha)	620.00	48000.00
Gross cost (Rs/ha)	50100	69500
Gross return (Rs/ha)	385000	672000.00
Net return(Rs/ha)	334900	602500
BCR	7.68	9.67

Other parameters		

13. Demonstration of herbal repellant for the management of wild boar : ongoing

14. Demonstration of Rapid Vermicompost production technology

Crop	:	Rice
Thematic area	:	Crop Residue Management
Technology demonstrated	:	**Demonstration of Rapid Vermicompost production technology** Production of vermicompost by silpalin vermibags and enrichment of vermicompost by beneficial microorganisms for enhanced nutrient
Season and year	:	Rabi, 2023-24
Farming situation	:	Crop residues are parts of the plants left in the field after crops have been harvested and threshed. Burning of crop residues would emit 0.05% of the total amount of greenhouse gases. Moreover, burning leads to loss of huge biomass, i.e. organic carbon, plant nutrients, and causing adverse effect on soil properties as well as soil flora and fauna. Through silpaulin vermibag and enrichment methos, nutrient rich organic manures will be produced from the crop residues without environment pollution.
Source of fund	:	ICAR
No of locations (Villages):	:	3
No. of demonstrations	:	5

No of SC/ST Farmers and women farmers:	:	1
Area proposed (ha):	:	10 tonnes
Actual area (ha)	:	10 tonnes
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Enriched vermicompost production from the crop residues and animal manures providing a high income from the waste. Further it provides nutrients rich organic manures with low cost.
Feedback of the Scientist	:	Enriched vermicomposting of crop residues through vermibags and microbial inoculants provides nutrients rich organic manures with low cost. It avoids atmospheric and soil pollution due to improper disposal of wastes. It may offers a new venture as entrepreneurship in agriculture and allied sectors.
Extension activities on the FLD	:	training on Vermicomposting and enrichment of vermicompost and recycling of Wastes are conducted

Details	Check (Natural decomposition as FYM)	Demo (Enriched vermicompost production)
Quantity of Compost generated (q/ton)	4.1	4.1
C/N ratio of compost after 45 days	33	20
Gross cost (Rs./ton of waste)	480	3646
Gross cost (Rs./6 ton ton of waste/ year)	4280	10826
Net Returns (Rs./ton of waste)	0	1154
Net Returns (Rs./6 ton ton of waste/ year)	3720	17974
BCR	-	1.32
BCR (for 6 ton ton of waste/ year)	1.87	2.66

15.Demonstration of Enriched Biocompost preparation with TNAU Biomineralizer

Crop	:	Rice
Thematic area	:	Crop Residue Management
Technology demonstrated	:	**Demonstration of composting of paddy straw with TNAU Biomineraliser** Composting of crop residues by TNAU Biomineraliser
Season and year	:	Rabi, 2023-24
Farming situation	:	Crop residues are parts of the plants left in the field after crops have been harvested and threshed. Burning of crop residues would emit 0.05% of the total amount of greenhouse gases. Moreover, burning leads to loss of huge biomass, i.e. organic carbon, plant nutrients, and causing adverse effect on soil properties as well as soil flora and fauna.
Source of fund	:	ICAR
No of locations (Villages):	:	4
No. of demonstrations	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	10 tonnes
Actual area (ha)	:	10 tonnes
Justification for shortfall if any:	:	Nil
Feedback from farmers	:	Composting of paddy straw through TNAU Biomineralizers provides nutrients rich organic manures with low cost.
Feedback of the Scientist	:	Composting of paddy straw through TNAU Biomineralizers provides nutrients rich organic manures with low cost. It avoids atmospheric and soil pollution due to improper disposal of wastes.
Extension activities on the FLD	:	Two off campus training on Recycling of Wastes by TNAU Biomineralizers were conducted Recycling of farm wastes at Kottur-29.11.2023 Recycling of farm waste-13.10.2023

Details	Check	Demo
Quantity of Compost generated (q/ton)	4.0	4.0
C/N ratio of compost after 60 days	29	20
Gross cost (Rs/ha)	470	1246

Net return(Rs/ha)	0	2754
BCR	-	3.21

16.Demonstration of Cumbu Napier Hybrid grass – CO6

Crop	:	Dairy production
Thematic area	:	Animal Nutrition (Forage production)
Technology demonstrated	:	Demonstration of Cumbu Napier Hybrid grass – CO6
Season and year	:	Through out the year
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	5
No. of demonstrations	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	-
Actual area (ha)	:	-
Justification for shortfall if any:	:	-
Feedback from farmers	:	Easy for practice, very effective but old leaves ripened and fallen
Feedback of the Scientist	:	Narroe leaf, slim stem and ripened purple color leaves
Extension activities on the FLD	:	On campus and off campus trainings on dairy cattle and slatted goat rearing, Least cost feeding technologies and forage production News paper popular articles to create awareness

	Check	**Demo**
Forage yield	80 tonnes	145tonnes
Milk Yield/cow/lactation (Lit)	1750	2,150
Cost/lactation	25,550	25,550
income by milk / cow/lactation (Rs)	52,500	64,500
Fertility rate	3	1.8
Income by selling Calf &dung	4,000	7,000
Gross income	56,500	71,500

Net return cow/lactation (Rs)	30,950	45,950
BCR	2.21	2.8

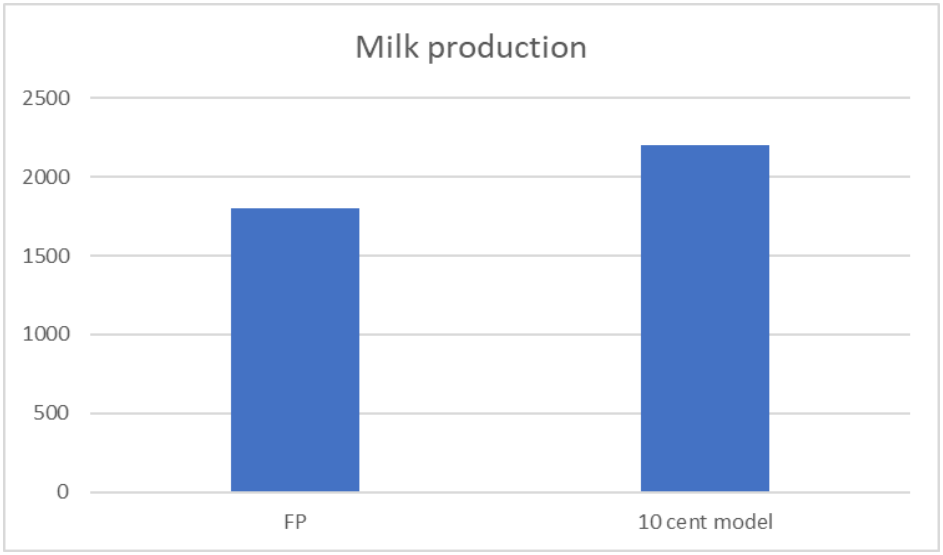
17 : Demonstration of 10 cent multi-crop fodder model on productivity of dairy animals

Crop	:	Dairy production
Thematic area	:	Animal Nutrition
Technology demonstrated	:	Popularization and Demonstration of 10 cent model in Dairy Cattle
Season and year	:	Through out the year
Farming situation	:	Irrigated
Source of fund	:	ICAR
No of locations (Villages):	:	5
No. of demonstrations	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	-
Actual area (ha)	:	-
Justification for shortfall if any:	:	-
Feedback from farmers	:	Easy for practice, local availability of seeds
Feedback of the Scientist	:	Not aware of balanced feeding for cattle
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	On campus and off campus trainings on dairy cattle and Forage production and low cost feeding technologies News paper popular articles to create awareness

	Check	**Demo**
Forage yield	10 tonnes	18 tonnes
Milk Yield/cow/lactation (Lit)	1800	2200
Cost/lactation	25,550	25,550
milk price/litter milk	28	30
income by milk / cow/lactation (Rs)	50400	66,000

Income by selling Calf &dung	6,000	10,000
Gross income	56,400	76,000
Net return cow/lactation (Rs)	30850	50,450
BCR	2.21	2.97

10 cent model improves forage production from 10 tonnes /annum to 18 tonnes/annum. Improved forage varieties with high yield increased fodder availability and increases the lactation milk production from 1800 t0 2200 litters/lactation. Increases milk fat resulted in increased milk price at society from 28/litter to Rs.30/litter.



18. Demonstration of Tick shield to control tick infestation in dairy animals

Crop	:	Dairy production
Thematic area	:	Disease management
Technology demonstrated	:	Demonstration of Tick shield to control tick infestation in dairy animals
Season and year	:	Through out the year
Farming situation	:	Irrigated

Source of fund	:	ICAR
No of locations (Villages):	:	5
No. of demonstrations	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	-
Actual area (ha)	:	-
Justification for shortfall if any:	:	-
Feedback from farmers	:	Easy for practice, very effective
Feedback of the Scientist	:	Good effect but multi dose requires
Extension activities on the FLD	:	On campus and off campus trainings on dairy cattle and Disease preventive measures News paper popular articles to create awareness

	Check	**Demo**
Disease occurrence	5 times	3 times
Milk Yield/cow/lactation (Lit)	1,800	1,925
Cost/lactation	25,550	25,550
income by milk / cow/lactation (Rs)	54,000	57,750
Fertility rate	3	1.8
Income by selling Calf &dung	4,000	8,000
Gross income	58,000	65,750
Net return cow/lactation (Rs)	32,450	40,200
BCR	2.27	2.57

19. Demonstration of Sex Pre Selection in Dairy cattle

Crop	:	Dairy production
Thematic area	:	Animal reproduction
Technology demonstrated	:	Demonstration of Sex Pre Selection in Dairy cattle
Season and year	:	Through out the year
Farming situation	:	Irrigated
Source of fund	:	ICAR

No of locations (Villages):	:	5
No. of demonstrations (replications/farmers/beneficiaries):	:	10
No of SC/ST Farmers and women farmers:	:	2
Area proposed (ha):	:	-
Actual area (ha)	:	-
Justification for shortfall if any:	:	-
Feedback from farmers	:	Costly and fertility low
Feedback of the Scientist	:	Costly, repeatability and applicability is only with heifers or primiparous. Requires practices for pleuriparous cows too
Extension activities on the FLD (Field days, Farmers training, media coverage, training to Extension Functionaries)	:	On campus and off campus trainings on dairy cattle and Reproduction management News paper popular articles to create awareness

	Check	**Demo**
Expected Milk Yield/cow/lactation (Lit)in future	1800	25,00
Cost/lactation	25,550	25,550
income by milk / cow/lactation (Rs)	54,000	75,000
Fertility rate	1.5	3
Expected Gross income	54,000	75,000
Net return cow/lactation (Rs)	28,450	45,450
BCR	2.11	2.78

Only sexed semen is used for heifers or primiparous but can not be used for pleuriparous cows. Sexed Semen straws are Costly (1800) as compared to normal semen straws(10-100 rupees),Infertility and repeatability is high.

Extension Studies

Impact studies, survey, and other extension studies

At the end of each impact study, provide few bullet points on salient findings of the study.
(A separate chapter will be included in the Annual report for extension studies)

Impact of training and demonstration on value addition

The wide range of topography, soil quality and climatic conditions in India favouring in production of wide range food and non food. The possibility of processing some of these products to value added items signifies sizeable potential for the development of the agricultural sector in India. Though India has a strong raw material base, it has been unable to tap the real potential for processing. The processing units based on grains, horticultural products, livestock products and fish have ample opportunities. India being an agrarian economy, development of agro based industries that make use of produces of agriculture becomes imperative for sustained economic development. The growth in agro based industries has a big potential to trigger development through adding value to the produce, generating employment opportunities and increasing farmer's net income. This in turn motivates the farmers for better productivity and opens up possibilities of industrial development .

Agro processing is the conversion of agricultural product to substances which have particular textural, sensory and nutritional properties using commercially feasible techniques. It is necessarily a process of value adding activity to agricultural production and thus makes agriculture a more effective contributor of industrial growth. This process involves transformation of the raw materials into final consumer goods or intermediate goods and thus results is increase in value addition. The value adding processes range from simple preservation to production of high value products. For example, a farmer cultivates paddy on his farm and the paddy plants produce paddy, straw, husk, bran, and rice kernel. Paddy

In recent years the importance of agro processing industry is being recognized both for generation of income and employment. Small farmers are under tremendous pressure to develop innovative business strategy to stay afloat. Farmers can work together with small scale processing enterprises to create new markets for higher value farm products. Value adding is one such strategy that is also a logical extension of many farm businesses. Adding value means consumers are willing to pay more than they would for a raw product occur anytime between harvesting and sales of the final product. Value added products offer a higher return, open new markets, create brand recognition and add variety to a farm operation. Typical value adding steps include washing, cutting, packaging, smoking, drying, freezing, canning or baking etc.,.

Thiruvarur district is located at the Central part of Tamil Nadu. It lies between Latitude: 36-46.817787N: 36-45.993780N: Longitude: 098-40.223375W: 098-40.225590W: Elevation: 1476.6 ft. 1468.8 ft. in the centre part of the Tamil Nadu. Cereals (54944ha), millets (13 ha), Oil Seeds (3800ha), and vegetables (5000 ha) are the major crops cultivated in the district. One of the successful and result oriented programmes undertaken by the KVK, Thiruvarur is Value Addition of agricultural produces. It is imperative for any programme to evaluate its impact on the socio-economic conditions of the project beneficiaries, which in turn facilitated the continuance of the projects on a sustainable basis.

KVK Intervention

ICAR-Krishi Vigyan Kendra, Thiruvarur is established in India during 2004 ICAR- Krishi Vigyan Kendra, Thiruvarur is funding by ICAR, New Delhi and under administration control by TNAU, Coimbatore. ICAR-Krishi Vigyan Kendra, Thiruvarur involved in many programmes for the development of farmers, farm women, rural youth by conducting many on farm trials, front line demonstration, on and off campus training programmes etc. Based on the interest of the farmers, rural youth and SHGs, ICAR-Krishi Vigyan Kendra, Thiruvarur has conducted on value addition in millets, fruits and vegetables (Table 1). Similarly ICAR-Krishi Vigyan Kendra, Thiruvarur has conducted a studied the impact of training on value addition on socio economic status of entrepreneurs. The data were collected by personal interview technique with 20 farmers besides having group discussion and observations methods for each training programme.

On campus training

Sl. No.	Title	To whom offered	No. of participants
1.	Value added products in Banana	SHGs, Entrepreneurs, Farmer, Rural youth and rural adolescent girls	250
2.	Amla value added products	SHGs, Entrepreneurs, women and farmers	125
3.	Value added products in mushroom	SHGs, farmers, rural youth	274
4.	Value added millet based products	SHGs, farmers, rural youth	282

Vocational training

Sl. No.	Title	To whom offered	No. of participants
1.	Fruits and vegetables preservation techniques and mushroom value addition	Rural women, youth and SHGs	155

2.	Fruits and vegetables preservation techniques and value addition	Rural women, youth and SHGs	109

Sponsored Training

Sl. No.	Title	Sponsoring agency	To whom offered	No. of participants
1.	Coconut cultivation and value addition	Indian Overseas Bank, Trichy	SHGs, rural youth and farmers	76
2.	Value added products from millets	IFFCO, Trichy	SHGs women	117

Economic Impact

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in Net Return (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Value addition in Coconut	201	58	-	28,800/month
Value addition in Amla	30	30	-	24,000/month
Value addition in Mushroom	91	35	-	20,000/month
Value addition in Millets	107	30	-	26,000/month
Value addition in fruits and vegetables	95	50	-	28,000/month

Technology Week Celebrations

Types of Activities	No. of Activities	Number of Participants	Related crop/livestock technology
Gosthies	7	572	Rice, Pulses, Groundnut, Cotton, Green manures, Fodder crops, Honey bee, Fish, Animal and poultry components, Vegetables
Lectures organized	19	572	Rice varieties suitable for Kuruvai season, Seed production technologies, TNAU crops boosters, INM in traditional rice cultivation, Technologies suitable for saline and Alkali soil, Integrated Pest and Disease Management in Paddy, Disease prevention measures and effective enrichment of straw for fodder & fertilizer and Doubling the farmer's income through paddy cum fish culture.
Exhibition	1	572	Rice, Pulses, Groundnut, Cotton, Green manures, Fodder crops, Honey bee, Fish, Animal and poultry components, Vegetables
Film show	19	572	Rice varieties suitable for Kuruvai season, Seed production technologies, TNAU crops boosters, INM in traditional rice cultivation, Technologies suitable for saline and Alkali soil, Integrated Pest and Disease Management in Paddy, Disease prevention measures and effective enrichment of straw for fodder & fertilizer and Doubling the farmer's income through paddy cum fish culture.
Fair	-	-	-
Farm Visit	7	572	Witnessed the various Demo units and fields
Diagnostic Practical	4	572	IPDM for Rice, Pulses, Cotton, Coconut
Distribution of Literature (No.)	572	572	Booklet on "Rice varieties suitable for Kuruvai
Distribution of Seed (q)	572	572	Vegetable seeds
Distribution of Planting materials (No.)	1144	572	Tree seedlings, Fodder setts, Vasambu
Bio Product distribution (Kg)	1144	572	Vermicompost and Crop boosters
Bio Fertilizers (q)	572	572	Azolla
Distribution of fingerlings	-	-	-
Distribution of Livestock specimen (No.)	-	-	-

Total number of farmers visited the technology week	7	572	
Others	7	33	Totally 9 public representatives, 24 officials and 572 farmers were participated

Training/workshops/seminars etc. attended by KVK staff.

Trainings attended in the relevant field of specialization (Mention Title, duration, Institution, location etc.)

Name of the staff	Title	Dates	Duration	Institution
Dr.M.Rajesh, SMS (Plant Protection)	Cashew cultivators training	31.03.2023	1 day	KVK, Karur
Dr.C.Prabakaran, SMS (ENS)	climate-smart Agriculture for Livelihood security: Challenges and Opportunities	13- 14.09.2023	2 days	TNAU
Dr.C.Prabakaran, SMS (ENS)	Tree cultivation Technique for higher economic returns	20.9.2023 to 22.09.2023	3 days	MOEF&CC
Dr.M.Rajesh, SMS (Plant Protection)	Advances in Digital Technology for Effective Teaching	19.07. 2023 - 21.07.2023	3 days	Directorate of Planning and Monitoring, TNAU, Coimbatore
Dr.M.Rajesh, SMS (Plant Protection)	Sustainable Management of Fall Armyworm in Maize	03.10.2023 - 04.10.2023	2 days	NIPHM, Hyderabad
Dr.M.Rajesh, SMS (Plant Protection)	Scientific Tamil International Conference on Millets	16.10.2023	1 day	Agricultural College and Research Institute, Madurai
Dr.M.Rajesh, SMS (Plant Protection)	National Workshop on Plant Virus Disease Management - VIROCON 2023	02.12.2023	1 day	NRCB, Trichy
Dr.D.Periyar Ramasamy SMS (Agrl.Extension)	Annual Action Plan Meet	28.03-2023 to 31.03.2023	4 days	ICAR
Dr.D.Periyar Ramasamy SMS (Agrl.Extension)	Advances in digital technologies for effective teaching	21.6.2023 to 23.6.2023	3 days	DPM
Dr.D.Periyar Ramasamy Programme Coordinator	Annual Zonal Workshop- Zone X	15.08.2023- 20.08.2023	6 days	ICAR
Dr.D.Periyar Ramasamy Programme Coordinator	Leadership skill and management techniques	21.8.23- 25.8.23	5 days	DEE, TNAU Collaboration with MANAGE, Hyderbad

Dr.D.Periyar Ramasamy Programme Coordinator	Post harvest Dip for enhancing shelf life of Mango,Nano urea and its field application	11.10.2023	1 day	ATARI
Dr.V.Karunakaran SMS (Agronomy)	Innovative approaches in crop improvement for sustainable agriculture	23.02.2023	1 day	JSA Collge of agriculture, Avatti-606 108
Dr.V.Karunakaran SMS (Agronomy)	Technological influences on phyto-biotic stress management	11.03.2023	1 day	TRIARD Perambalur
Dr.V.Karunakaran SMS (Agronomy)	Traditional paddy conference 2023	18.03.2023 to 19.03.2023	2 days	CU, Thiruvarur
Dr.V.Karunakaran SMS (Agronomy)	IQAC Refresher training-Advances in Digital technologies for effective teaching	19.07.2023 to 21.07.2023	3 days	DPM, TNAU Coimbatore
Dr.V.Radhakrishnan Programme Coordinator	Online training on Vertebrate Pest Management-Wild Boer, Monkey and Birds	06.06.2023 to 08.06.2023	3 days	NIPHM, hydrabad
Dr.V.Karunakaran SMS (Agronomy)	ATMA Interaction meeting on State Extension Work plan	14.06.2023	1 day	Department of Agriculture-Farmers Welfare
Dr.V.Karunakaran SMS (Agronomy)	Automatic Weather Station Handing over and taken over meeting at Collectorate	23.06.2023	1 day	Revenue and Disaster Management Department
Dr,D,Periyar Ramasamy	Operationalisation and usages of Agri-Diksha web educational channel	29.5.23 to 31.5.23	3 days	IASRI
Dr.V. Radhakrishnan	General Discussion Meeting for Research Stations and KVKs	09.05.2023	1 day	TNAU
Dr.M.Selvamurugan	Pre Review of Non crop Scientist meet 2023	11.05.2023	1 day	TNAU
Dr.S.Kamalasundari SMS(FSN)	Annual Action Plan Meet	28.03-23 to 31.03.23	4	DEE office TNAU
Dr.S.Arulselvi SMS (PBG)	Annual Action Plan Meet	28.03-23 to 31.03.23	4	DEE office TNAU
Dr.D.Periyar Ramasamy Programme Coordinator	Annual Action Plan Meet	28.03-23 to 31.03.23	4	DEE office TNAU
Dr.V.Radhakrishnan Programme Coordinator	Annual Action Plan Meet	28.03-23 to 31.03.23	4	DEE office TNAU
Dr.S.Kamalasundari SMS(FSN)	RPAC Meeting	25.04.23	1	CSC&RI

Details of collaborative / externally funded / sponsored projects/programmes implemented by KVK.(2023)

S.No	Title of the programme / project	Sponsoring / collaborating agency	Objectives	Duration	Amount (Rs)
1	Augumenting the Livelihood of Cauvery Delta farmers through Demonstration of Paddy Cum Fish Culture	NABARD, Chennai	• To establish a Paddy cum fish culture model demonstration unit in KVK, Needamangalam to serve as a satellite model for the visiting farmers. • To replicate the model in ten Traditional Organic Paddy Growing Farmers field in Thiruvarur District. • To build the capacity of the farmers in selected villages about the successful paddy cum fish culture model. To facilitate the farmers in marketing their traditional paddy and fish through Farmer Producer Companies. Demo units-13 Nos. including 1 unit @ KVK, Needamangalam	2022-2024	24.75 Lakhs
2	TNIAMP- Phase IV	World bank through TN Government	To enhance productivity and climate resilience of irrigated agriculture, improve water management and increase market opportunities for farmers and agro-entrepreneurs in selected sub-basin areas of Tamil Nadu	2022-2025	238.52 /- lakhs

			• Coverage area 46,774.71 hectares. • 50 training programmes • 10 Exposure visits • 1 Farmers mela- 1200 Farmers		
3	Regional Agricultural Mela	ICAR	To sensitize farmers about the latest and breakthrough technologies in agriculture and allied sectors To facilitate connect between farmers and other stakeholders To motivate and prepare the farmers as market oriented agripreneurs through organized exhibitin of impactfull iniatives	2022-23	1,10,000

Detailed report of each project/programme separately with objectives, nature of collaboration / programme, outcome of the collaboration etc.

Funding Agency	NABARD
State/Central/Over Seas	Central
Title	Augumenting the Livelihood of Cauvery Delta Farmers through Demonstration of Paddy cum Fish Culture
Objectives	• To establish a Paddy cum fish culture model demonstration unit in KVK, Needamangalam to serve as a satellite model for the visiting farmers. • To replicate the model in ten Traditional Organic Paddy Growing Farmers field in Thiruvarur District. • To build the capacity of the farmers in selected villages about the successful paddy cum fish culture model. To facilitate the farmers in marketing their traditional paddy and fish through Farmer Producer Companies.
Study area	**13 Nos.in the farmers field including 1 unit @ KVK, Needamangalam.**
Methodology	1. The establishment of paddy cum fish culture model in KVK, Needamangalam. 2. Replication of the model in ten farmers field spread in all blocks of Thiruvarur District and capacity building of selected farmers about paddy cum fish culture. 3. Facilitation of farmers for marketing through Farmer Producer Companies.
Team Members	**PIs** 1.Dr.D. PERIYAR RAMASAMY Programme Coordinator ICAR- Krishi Vigyan Kendra, Needamangalam 2. Dr. V. RADHAKRISHNAN Associate Professor (Agril. Entomology), IOA, Kumulur 3. Dr. M. RAMASUBRAMANIAN Professor (Agrl.Extn.) Namalzhavar Organic Centre, TNAU, Coimbatore **Co-PIs** 1. Dr.M. RAJESH, Assistant Professor (Plant Pathology) 2. Dr.S. ARULSELVI Associate Professor (Plant Breeding) 3. Dr. DANUSHKODI Associate Professor (SS&AC) 4. Dr. M. SABAPATHI Assistant Professor (Veterinary & Animal Sciences) 5. Dr.C. PRABAKARAN Assistant Professor (Environmental Sciences) 6. Dr.V. KARUNAKARAN Assistant Professor (Agronomy)
Budget	Rs.24.75 lakhs

Funding Agency	TNIAMP
State/Central/Over Seas	Central
Title	TNIAMP (Tamil Nadu Irrigated Agriculture Modernisation Project) Phase – IV (CDZ – Vennar Sub basin).
Objectives	To enhance productivity and climate resilience of irrigated agriculture, improve water management and increase market opportunities for farmers and agro-entrepreneurs in selected sub-basin areas of Tamil Nadu.
Study area	8 out of 10 blocks in Thivarur district, Only village basins irrigated by Vennar river and its tributaries, which were suggested by PWD department. The Covered blocks - (Needamangalam, Mannargudi, Thiruvarur, Thiruthuraipoondi, Kottur, Valangaiman, Koradacherry and Muthupettai) with a Coverage area 46,774.71 hectares.
Methodology	Identification of the farmers for the adoption of Various crop specific interventions and to Create awareness through various trainings.
Team Members	P. Suresh, JRF M.Odoric Naveen, JRF S.DineshKumar, JRF S.Guhan, TA J.Manimaran,TA
Budget	Rs.238.52 /- lakhs
Funding Agency	World Bank
State/Central/Over Seas	State
Title	TNIAMP (Tamil Nadu Irrigated Agriculture Modernization Project) Phase – I (CDZ).
Objectives	To enhance productivity and climate resilience of irrigated agriculture, improve water management and increase market opportunities for farmers and agro-entrepreneurs in selected sub-basin areas of Tamil Nadu.
Study area	4 out of 10 blocks in Thivarur district, Only village basins irrigated by Cauvery and its tributaries, which were suggested by PWD department. The Covered blocks - (Needamangalam, Mannargudi, Nannilam and Muthupettai) with a Coverage area 2,264 hectares.
Methodology	Identification of the farmers for the adoption of Various crop specific interventions and to Create awareness through various trainings.
Team Members	Dr.D. Periyar Ramasamy, Nodal Officer Dr.M.Rajesh, Project Scientist P. Suresh, JRF M.Odoric Naveen, JRF S.DineshKumar, JRF S.Guhan, TA J.Manimaran,TA
Budget	Rs.65.39/- for 2023-24

Regional Agricultural Mela -2023

Tamilnadu Agriculture University, KVK Needamangalam, Water Technology Centre Coimbatore and Agriculture and Farmers welfare department have jointly organised **Regional Agriculture Mela-2023** at the KVK, Needamangalam campus.

In this special occasion Dr V. Geethalakshmi, Vice-chancellor of Tamil Nadu Agriculture University, who delivered her presidential address, listed out the new varieties, latest technologies developed and released by the Tamilnadu Agriculture University and the benefits of the technologies should be thoroughly harvested by the farmers and to improve their socio- economic status.

Earlier, the book **"Angaga Valanmai Anugumuraigal", leaflets, booklets** were released for the Welfare of farming community. The Thiruvarur district collector Mrs.Charushri, Member of Legislative Assembly Mr. Poondi.K. Kalaivanan, Mr, Lakshmikanthan, Joint Director of Agriculture from Agriculture and Farmers Welfare Department, Dr. Palanivezhan, Director, Water Technology Centre, Dr Subramaniam Director of Tamil Nadu Rice Research Institute, Chairman of the Village Panchayat Mr.Senthmilselvan, Mrs.P. T Usha, General Manager, National Bank for Agriculture and Rural Development, Narrated the role of NABARD for the development of farming community. Earlier she reviewed the NABARD sponsored project "Augmenting the Livelihood of Cauvery Delta Farmers through Demonstration of Paddy cum Fish Culture" implemented in the KVK, Needamangalam.

The exhibition of 52 stalls of various private and government organisation exhibited their new innovations and technologies for the welfare of farming community. In the two days Regional Agricultural Mela -2023 there about 4000 farmers, farm labours, College and school students and general publics were participated and benefited from the farmers mela. The Director of Extension Education,Dr. P.P Murugan welcomed the gathering and Dr.V. Radhakrishnan ,Program Coordinator of KVK, thank the gathering.

The second day 12 agricultural and allied sectors technological lectures by the Scientists were delivered from various Research Stations and Institutes. National Institute of Technology Entrepreneurship and Management Director Dr.loganathan, delivered the presidential address, Mr.Chidambaram, District Revenue Officer who visited the stall and given the momentoand certificates to the stalls.

The Farmers from Tiruvannamalai Periyakulam, Ramanathapuram, Cuddalore, Namakkal, Thanjavur and Nagapattinam districts who were participated and benefited from the various Technologies exhibited in the Mega Regional Farmers Mela-2023.

Success stories

1.Introduction of new crops -millet in salt affected soil

Background

The aim of the introduction of alternate crop millet and vegetables was to enhance the production using the latest technologies, to form Associations among the farmers and shift from production led agriculture to market led agriculture.Alternate crop for saline soil, increased yield and quality of the produce forms the success of the project.The funds allocated through protected area development zone was effectively utilized in coastal belt (Vizhakkudi village in Thiruthuraipoonndi block).

Interventions

The area under saline soil in Vizhakkudi village in Thiruthuraipoonndi block was surveyed during 2023-24 and subsequently the water deficit villages of Vizhakkudiwere identified for implementing the Project. The Finger millet and banyard millet and vegetables like bhendi and cluster bean are a vital component under the project and the demo laid out Th. Mani , Progressive farmers field in 1.0 ha of land at Vizhakkudi village in Thiruthuraipoonndi block, Thiruvarur.

As second intervention, our KVK gave all technical support for getting more yield. Th. Th. Mani, the farmer was trained in our KVK in supplying quality vegetables seeds and supplying at free of cost. Technology transfer through farmer to farmer is found to be very effective. The farmer was able to achieve a good yield by the adoption of improved technology.

They were exposed to the latest techniques not only on crop management but also marketing and value additions. They have made tremendous efforts to improve their economic status through the technologies promoted by Protected area development zone project. Still, they are in the way of promoting lots and lots of farmers who wish to adopt precision farming. In the past couple of years, monsoon deficit has disappointed the farmers and because of adoption of precision farming techniques, farmers are able to cultivate effectively with available water.

Results

An impact study taken up in the project areas, clearly indicated that the technology as very promising and has certainly improved the livelihood status of all the farmers who took up new crop in Vizhakkudi village in Thiruthuraipoonndi block, Thiruvarur District.

Famers feed back on precision farming

Criteria	Feed back
Yield increase	30%
Weight gain	25%
Labour saving	30%
Water saving	40%
Fertilizer saving	25%

Crop	Yield (kg/ha)	Net returns /unit area(Rs)	BC ratio
Finger millet	1320	16800	1.80
Banyard millet	950	12450	1.62
Bhendi	15250	44500	1.78
Cluster bean	7460	38000	1.59

During 2024, the KVK facilitated the farmers to share their success through local newspaper and media. The appreciation and requirement of alternate crop technologies from other farmers encouraged the farmers to sustain and expand their alternate crop technologies activities further.

2. High yielding rice variety, ADT 57 suitable for Kuruvai cultivation for increasing the livelihood of Thiruvarur farmers

1. Situation analysis/Problem statement:

Mr. D. Ganesan, son of Duraisamy, is a passionate and seasoned farmer residing in Vaduvur Thenpathi village, located in the Needamangalam block of Thiruvarur district. He frequently seeks guidance from the ICAR - Krishi Vigyan Kendra, Thiruvarur, in search of new rice varieties and agricultural technologies. His extensive cultivation includes the popular ADT 43 and ADT 45 varieties, with his harvests being sold at the Direct Procurement Centre (DPC). Previously, Mr. Ganesan encountered challenges with low yields while cultivating ADT 43 and ADT 45, leading to disappointment in his rice farming endeavors. As a result, he developed a keen interest in exploring new varieties with higher yields and better market value. In pursuit of this goal, he sought advice from the scientists at ICAR-KVK, Thiruvarur, who recommended the adoption of a new rice variety known as ADT 57. Acting upon the suggestion from ICAR - KVK, Thiruvarur, Mr. Ganesan decided to cultivate ADT 57 across a one-acre plot of land.

2. Plan, Implement and Support:

Seeking guidance for cultivating a high-yielding rice variety, Mr. D. Ganesan turned to ICAR - KVK, Thiruvarur. Subsequently, he actively participated in various training programs covering topics such as organic cultivation of rice varieties, eco-friendly pest and disease management techniques, soil health preservation, and seed production technologies. In response to his commitment, ICAR KVK provided Mr. Ganesan with essential resources including high-quality ADT 57 rice seeds, biofertilizers, and other necessary inputs. Additionally, KVK - Thiruvarur organized a Front Line Demonstration focusing on "Demonstration of new rice variety suitable for kuruvai cultivation in Thiruvarur district" on a one-acre parcel of Mr. Ganesan's farm. Throughout this process, continuous technical support was extended to the farmer through frequent field visits. Following the technical advice received, Mr. Ganesan diligently implemented Integrated Crop Management practices such as seed treatment, integrated nutrient and water management, and integrated pest management, ensuring comprehensive care for his crops.

3. Output:

The farmer successfully harvested the ADT 57 rice variety within a span of 110 days. Throughout its growth stages, there were no significant occurrences of pests or diseases observed. The plants exhibited medium height with robust stem girth, ensuring they remained upright even at maturity without lodging. With a grain yield of 3000 kg/ha, surpassing the average yield outlined in the variety release proposal, the farmer achieved remarkable results. Moreover, the produce commanded a premium price in the market. Consequently, the cultivation of ADT 57 rice proved to be more profitable compared to other varieties, highlighting its efficacy and suitability for the farmer's agricultural pursuits.

4. Outcome

Cultivating the rice variety ADT 57 proved to be significantly more profitable for the farmer compared to cultivating ADT 43 rice variety. Within a period of 110 days, the farmer achieved a yield of 75 quintals of rice grain per hectare, resulting in a net return of Rs. 1,30,000/-. This endeavor proved to be more economical and rewarding for Mr. D. Ganesan. The noteworthy profit earned by Mr. Ganesan became known to nearby farmers, sparking considerable interest among them to also cultivate the ADT 57 rice variety. This widespread interest reflects the success and profitability of ADT 57, potentially leading to its increased adoption in the farming community.

Parameters	Check (ADT 43)	Demo (ADT 57)
Yield (Q/ha)	54	75
Gross income (Rs/ha)	124200	172500
Gross cost (Rs/ha)	42500	42500
Net return (Rs/ha)	81700	130000
BCR	2.92	4.06

5. Impact:

Farmers have shown a preference for the rice variety ADT 57 due to its exceptional grain yield, surpassing that of other rice varieties typically used in kuruvai cultivation. Moreover, ADT 57 is highly regarded for its suitability in meal preparation, offering good gel consistency and optimal gelatinization temperature. During the 2023-24 season, only ten farmers cultivated rice ADT 57. However, a significant number of farmers in the Thiruvarur district have expressed keen interest in adopting this variety for the upcoming season. This surge in interest indicates a growing recognition of the benefits and potential profitability associated with cultivating ADT 57. Through this successful trial and the positive feedback from early adopters, it is anticipated that the cultivation area dedicated to rice ADT 57 will expand in the near future, reflecting its increasing popularity and acceptance among farmers in the region.

3. Cultivation of Oyster Mushroom – Farm women and unemployed youths as Entrepreneur in Cauvery Delta Zone

1. Situation Analysis/Problem Statement:

In Tiruvarur district, where 1.27 lakh hectares of paddy are cultivated annually, there exists an opportunity to utilize the straw obtained from paddy cultivation for oyster mushroom cultivation. This presents an opportunity to generate additional income for farm women and create opportunity to unemployed youths in rural area. However, the current scenario might lack infrastructure and knowledge regarding mushroom cultivation, which can hinder the exploitation of this potential income source.

2. Plan, Implement, and Support:

To address this, a plan can be formulated to assist farmers in setting up mushroom production huts using readily available materials such as coconut thatches and paddy straw. These huts, which are relatively low-cost to construct and maintain, can be managed efficiently by farmers. With proper training and guidance, farmers can cultivate oyster mushrooms in these huts, generating a steady income stream.

3. Output and Outcome:

With successful implementation, farm women and unemployed youths can expect to generate a net profit of up to Rs 5,000 per month per hut. This additional income can significantly contribute to the economic stability of farming households, improving their overall financial well-being.

4. Impact:

- Increase in Farm Income: The cultivation of oyster mushrooms provides an additional source of income for farmers, thereby boosting their annual income.
- Per Capita Income Growth: The increase in farm income directly contributes to the growth of per capita income in the community.
- Integrated Farming System (IFS) Practice: By utilizing paddy straw for mushroom cultivation, farmers adopt an integrated approach to farming, promoting sustainable agricultural practices and minimizing waste.

- Recycling of Farm Waste: Mushroom cultivation utilizing paddy straw demonstrates an eco-friendly approach by repurposing agricultural waste, contributing to waste reduction and environmental sustainability.
- Empowerment of Farm Women and Unemployed Youths: Involving farm women and unemployed youths as entrepreneurs in mushroom cultivation not only provides them with a source of income but also empowers them economically and socially. This can lead to the emergence of progressive farmers who serve as role models and mentors for others in the community.
- Overall, the cultivation of oyster mushrooms presents a promising opportunity to enhance farm incomes, promote sustainable agricultural practices, and empower marginalized groups within the community, thereby fostering rural development and economic growth.

4. Enhancing Rice Yield through Innovative Potash Releasing Bacteria

Name: G. Baskar
Location: Karuppu Kilar
Initial Yield: 40 quintals per hectare
Final Yield: 54.5 quintals per hectare

Background

- Karuppu Kilar, situated in an area with sodic soil, faced challenges in optimizing rice yields due to low availability and high cost of chemical potassium fertilizers. The soil condition led to poor potassium (K) use efficiency by rice plants, with most of the K being locked up in unavailable forms within soil minerals.

Objective

- To enhance rice yield by improving potassium availability and utilization through the use of suitable potash-releasing bacteria.

Challenges

- 1. Low availability of potassium in soil.
- 2. High cost of chemical potassium fertilizers.
- 3. Poor potassium use efficiency by rice plants.

Approach

- After thorough research, G. Baskar decided to assess the potential of potash-releasing bacteria in improving potassium availability for rice plants. He identified Paenibacillus mucilaginous strain KRB-9 as a promising candidate for this purpose.

Implementation

- 1. Selection of Potash Releasing Bacteria: G. Baskar chose Paenibacillus mucilaginous (KRB-9) based on its known ability to release potassium from soil minerals.
- 2. Field Application: He applied Paenibacillus mucilaginous (KRB-9) at a rate of 500ml/ha directly to the soil.
- 3. Monitoring and Evaluation: Regular monitoring of the rice crop was conducted to assess the effectiveness of the treatment in improving potassium uptake and overall yield.

Results

- 1. Yield Increase: The application of Paenibacillus mucilaginous (KRB-9) resulted in a significant increase in rice yield. The initial yield of 40 quintals per hectare rose to a remarkable 54.5 quintals per hectare. Percent Yield Increase: The percentage increase in yield was calculated to be approximately 36.25%, showcasing the substantial impact of the intervention on rice production in Karuppu Kilar.
- 2. Grain Weight Increase: Alongside the overall yield increase, there was also a noticeable increase in grain weight, indicating improved plant health and nutrient uptake.

Conclusion

Through the innovative use of potash-releasing bacteria, particularly Paenibacillus mucilaginous (KRB-9), G. Baskar successfully addressed the challenges posed by sodic soil conditions. By enhancing potassium availability and utilization, he not only improved rice yields but also mitigated the reliance on expensive chemical fertilizers. This success story serves as a model for sustainable agriculture practices, demonstrating the potential of microbial interventions in optimizing crop production and ensuring food security in challenging environments.

5. Alternate wetting and drying (AWD) method of irrigation for improving productivity and profitability in rice cultivation by Thiruvarur farmers

1. Situation analysis/Problem statement:

Mr.Gubendiran, is a progressive rice farmer residing in Vaduvur Thenpathi village, located in the Needamangalam block of Thiruvarur district. He frequently seeks guidance from the ICAR - Krishi Vigyan Kendra, Thiruvarur, in search of new rice varieties and agricultural technologies. He adopted the method of alternate wetting and drying method of irrgigation for rice crop to improve the tillering and to facilitate the free air movement into the soil, and reducing the number of irrigation thereby reducing the labour, improving the yield and environmentally safe for reduced methane emission.

2. Plan, Implement and Support:

By learning this AWD technology the free field water tube supplied by the ICAR-KVK, Needamangalam, Mr. Gubendiran installed in his rice field and followed the irrigation based on the irrigation water level in the field water tube. Following the technical advice received, Mr. Gubendran diligently implemented Integrated Crop Management practices such as seed treatment, integrated nutrient and AWD based water management, and integrated pest management, ensuring comprehensive care for his crops.

3. Output:

The farmer successfully harvested the rice crop. Throughout its growth stages, there were no significant occurrences of pests or diseases observed. The plants exhibited medium height with more number of productive tillers, robust stem girth, ensuring they remained upright even at maturity without lodging. With a grain yield of 4850 kg/ha, the farmer achieved remarkable results.

4. Outcome

Cultivating the rice variety by adopting AWD based irrigation method by field water tube proved to be significantly more profitable for the farmer compared to conventional irrigation methods. With this technology, the farmer achieved a yield of 48.50 quintals of rice grain per hectare, resulting in a net return of Rs. 97,000/-. This endeavor proved to be more economical and rewarding for Mr. Gubendran. The noteworthy profit earned by Mr. Gubendran became known to nearby farmers, sparking considerable interest among them to adopt the AWD in their respective

farms. This widespread interest reflects the success story and field day also celebrated involving the department officials and published in the daily newspaper for mass dissemination to the farming community.

Parameters	**Check**	**Demo**
Yield (Q/ha)	41.23	48.50
Gross income (Rs/ha)	82460	97000
Gross cost (Rs/ha)	42500	42500
Net return (Rs/ha)	39960	54500
BCR	1.94	2.28

5. Impact:

Farmers in Cauvery delta zone now giving importance to the AWD method of irrigation to get more productive tillers and yield. Through this intervention it is expected that the farmers of Thiruvarur district will adopt it in a large scale for harvesting the benefits of AWD method of irrigation in rice cultivation.

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

Details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development (in detail with suitable photographs):-

Impact of KVK activities (Not to be restricted for reporting period).

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./ha)	After (Rs./ha)
Adoption of PPFM in rice	25	100	65000	86000
Augmenting the Livelihood of Cauvery Delta Farmers Paddy cum Fish Culture	12	100	-	5270/month
Adoption of K releasing bacteria for rice	30	100	45250	74125
Assessment of Sirukeerai varieties in organic farming in Thiruvarur district	30	100	155000	250000
Impact of training and demonstration on value addition				
Value addition in Coconut	201	58	-	28,800/month
Value addition in Amla	30	30	-	24,000/month
Value addition in Mushroom	91	35	-	20,000/month
Value addition in Millets	107	30	-	26,000/month
Value addition in fruits and vegetables	95	50	-	28,000/month

1. Intervention/ activity: Adoption of Pink Pigmented facultative Methylotrophs in rice cultivation

Parameter	Demo	Check
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	7500	-
Productivity (in q/ha) in demo	43.00	32.50
Additional yield over check (in q/ha)	10.50	-
% increase in yield over check	32.30	-
Gross returns (in Rs/ha)	86000	65000
Net Returns (Rs / ha)	39000	25500
Additional Net Returns in demo (demo –check)	13500	-

B:C ratio	1.82	1.64

Outcome	
Area covered, spread in adopted villages (ha)	50
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	675000
Area spread in district through convergence (ha)	200

2. Intervention/ activity: Augmenting the Livelihood of Cauvery Delta Farmers Paddy cum Fish Culture

Parameter	**Demo**	**Check**
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	10000	-
Productivity (in q/ha) in demo	65.52	-
Additional yield over check (in q/ha)	-	-
% increase in yield over check	17.65	-
Gross returns (in Rs/ha)	130675	102805
Net Returns (Rs / ha)	103600	77250
Additional Net Returns in demo (demo –check)	26350	-
B:C ratio	3.18	2.52

Outcome	
Area covered, spread in adopted villages (ha)	50
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	1317500
Area spread in district through convergence (ha)	100

3 Intervention/ activity: Adoption of K releasing bacteria for rice

Parameter	**Demo**	**Check**
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	3000	-
Productivity (in q/ha) in demo	58.5	45.5
Additional yield over check (in q/ha)	13.00	
% increase in yield over check	28.57	-
Gross returns (in Rs/ha)	123727	96232
Net Returns (Rs / ha)	73727	46232
Additional Net Returns in demo (demo –check)	27495	-

B:C ratio	2.47	1.92

Outcome	
Area covered, spread in adopted villages (ha)	50
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	13,5000
Area spread in district through convergence (ha)	200

4. Intervention/ activity: Sirukeerai varieties in organic farming in Thiruvarur district

Parameter	**Demo (PLR 1)**	**Check (Local variety**
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	-	-
Productivity (in q/ha) in demo	86.3	77.3
Additional yield over check (in q/ha)	9.0	-
% increase in yield over check	11.64	-
Gross returns (in Rs/ha)	250000	155000
Net Returns (Rs / ha)	200000	105000
Additional Net Returns in demo (demo –check)	95,000	-
B:C ratio	3.10	5.00

Outcome	
Area covered, spread in adopted villages (ha)	46
Economic impact of KVK interventions (Rs) (Additional net returns in demo x no. of ha)	4370000
Area spread in district through convergence (ha)	150

5. **Impact of training and demonstration on value addition**

ICAR-Krishi Vigyan Kendra, Thiruvarur is established in India during 2004 ICAR- Krishi Vigyan Kendra, Thiruvarur is funding by ICAR, New Delhi and under administration control by TNAU, Coimbatore. ICAR-Krishi Vigyan Kendra, Thiruvarur involved in many programmes for the development of farmers, farm women, rural youth by conducting many on farm trials, front line demonstration, on and off campus training programmes etc. Based on the interest of the farmers, rural youth and SHGs, ICAR-Krishi Vigyan Kendra, Thiruvarur has conducted on value

addition in millets, fruits and vegetables (Table 1). Similarly ICAR-Krishi Vigyan Kendra, Thiruvarur has conducted a studied the impact of training on value addition on socio economic status of entrepreneurs. The data were collected by personal interview technique with 20 farmers besides having group discussion and observations methods for each training programme.

On campus training

Sl. No.	Title	To whom offered	No. of participants
1.	Value added products in Banana	SHGs, Entrepreneurs, Farmer, Rural youth and rural adolescent girls	250
2.	Amla value added products	SHGs, Entrepreneurs, women and farmers	125
3.	Value added products in mushroom	SHGs, farmers, rural youth	274
4.	Value added millet based products	SHGs, farmers, rural youth	282

Vocational training

Sl. No.	Title	To whom offered	No. of participants
1.	Fruits and vegetables preservation techniques and mushroom value addition	Rural women, youth and SHGs	155
2.	Fruits and vegetables preservation techniques and value addition	Rural women, youth and SHGs	109

Sponsored Training

Sl. No.	Title	Sponsoring agency	To whom offered	No. of participants
1.	Coconut cultivation and value addition	Indian Overseas Bank, Trichy	SHGs, rural youth and farmers	76
2.	Value added products from millets	IFFCO, Trichy	SHGs women	117

Economic Impact

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in Net Return (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Value addition in Coconut	201	58	-	28,800/month
Value addition in Amla	30	30	-	24,000/month

Value addition in Mushroom	91	35	-	20,000/month
Value addition in Millets	107	30	-	26,000/month
Value addition in fruits and vegetables	95	50	-	28,000/month

Box item for APR 2023

Name	:	Th.K.Kalaiselvan
contact details	:	S/o Th.Kalaimani No1. South street, Edakeelaiyur Needamangalam Taluk Ph 8098772206
Farmers statement	:	Struggling to get sustainable yield and income in inorganic method of paddy cultivation. Often severely affected by drought, flooding, soil health, pest and disease incidence. **"An innovative progressive farmer, A mouthpiece of KVK among fellow farmers, Adopting sustainable IFS farming with successful flower and vegetable marketing" Mr.K.Kalaiselvan, an Integrated Farming System trainee of KVK.**

One page report on skilling - outcome of skilling - entrepreneurship development programmes conducted, enterprises established, handholding by KVK - outcome in terms of income, employment generated etc.

Within State Bee-Keeping Training

A "Within State Level Training" sponsored by National Bee Board (NBB), New Delhi was inaugurated on 14.09.2023 at ICAR-TNAU KVK, Needamangalam, twenty five participants from various fields like, entrepreneurs, unemployed women and youths, field workers from Department of Agriculture were registered. During inauguration function, Deputy Director (GOI), Thiruvarur was requested the participants to involve themselves well in the training programme and to utilize the opportunity and another dignitary, Assistant Director of Horticulture, Thiruvarur was highlighted about the uses and possibilities of honey bee rearing in marketing aspect. The chief gusted by The Director of Extension Education, TNAU, Coimbatore spotlighted the unutilized areas of honey bee rearing and their benefits. The chief guest and other dignitaries were welcomed and honoured by the Programme Co-ordinator and the programme were organised and the training salient features were explained by SMS (Plant Protection), finally proposed the formal vote of thanks. After inauguration, the dignitaries and trainees were visited the exhibitions stall and identified the various bee hive products.

Totally seven days of training schedule, which included the lectures with demonstrations in five days and practical outdoor field visits for two days. After inaugural session pre-evaluation for trainees were conducted as per the formalities. Introduction about honey bees and their importance in the ecosystem speech was delivered by the SMS (Plant Protection). The following lectures were coved by the guest lectures and experts, who were invited from various places,

- Identification of honey bee species and different castes of honey bees
- Identify different body parts of honey bees and demonstrate life cycle of honey bees
- Bee colony inspection, Identification and selection of strong colonies

- Harvesting of a honey comb and extraction of honey from honeycomb
- Processing of extracted honey, packaging, storage and quality testing of honey
- Artificial feeding to honey bees and Identification, management of pesticide poisoning in honey bees
- Management of major insect- pest and diseases by preventive and curative methods
- During outdoor visit, the progressive entrepreneur was demonstrated the handling of bees with precautionary measures and identified the queen, worker and drone and distinguish egg, larva, pupae and adult in the bee colonies. Also assembling and dissembling a beehive were demonstrated in crystal clear manner. The participants were individually experienced the practical sessions and cleared their doughts.

In final day the technical session was handled by Agricultural Officer (Agri-Business), Thiruvarur explained make a business plan to start a beekeeping business and make a financial and budget plan to start a beekeeping farm. Trainees and Team KVK with ADH, Thiruvarur interactive session about various aspects about honey bee rearing and value addition. Post training evaluation and feed-back session were handled by SMS (Plant Protection). Valedictory and Certificate with Technical booklet distributed by Assistant Director of Horticulture, Thiruvarur, Agricultural Officer (Agri-Business), Thiruvarur and Project Co-ordinator, ICAR-KVK, Needamangalam, finally SMS (Plant Protection) proposed the vote of thanks to all.

Training inauguration: Chief guest speech

Training booklet release

Outdoor field visits

Demonstration of handling of bee colonies

Trainees and Team KVK interactive session

Certificate with Technical booklet distribution

One case of successful technology application and dissemination: a technology which has passed through OFT, FLD, Trainings, Mainstream Extension (State Department of Agriculture), large scale adoption by farmers (in terms of area, additional income, input savings, saving of natural resources *etc*.)

Impact of Pink Pigmented Facultative Methylotrophs (PPFM) in safeguarding the yield of rice during drought

Introduction

In recent years, the precarious balance between agricultural productivity and environmental sustainability has come under increasing scrutiny, particularly with the looming threats of climate change-induced droughts. Among staple crops, rice holds unparalleled significance, serving as a primary food source for a significant portion of the global population. However, its cultivation is highly vulnerable to water scarcity, with drought events posing significant challenges to yield stability and food security. In this context, innovative approaches to mitigate the adverse effects of drought on rice production are urgently needed. One promising avenue of research involves the utilization of Pink Pigmented Facultative Methylotrophs (PPFM), a group of microorganisms with unique metabolic capabilities and potential applications in agriculture. Rice is one of the most important crop in Thiruvarur district. It is cultivated to an extent of 1,80,000 ha in Thiruvarur district with a total productivity of 3745 kg/ha. It is mostly cultivated in Kharif, Rabi and summer season in all the blocks except Thiruthuraipoondi and Muthupettai blocks where rice is cultivated in rabi season only. In kharif, Co 51 , ADT 53, ADT 55, TPS-5, CO-55 varieties and CR 1009 SUB 1, CR 1009, Swarna sub 1, ADT 49 ADT 51, BPT 5204 varieties in rabi season were mostly cultivated by the farmers.

Problem

There is no rice variety that withstands the drought at any stage of the growth stages. Being the tail end in the Cauvery delta zone and availability of water resource in Mettur dam hardly impacts the rice cultivation in this district. Moisture becomes the limiting input at various stages resulting in crop failure and farmer distress. Some villages is fully dependent on the Mettur water and their bore-well water is of saline in nature not amenable for irrigating the rice crop.

Intervention

To address the above problems, KVK, Thiruvarur has conducted demonstrations to avert the drought situation and safeguarded the drying rice crop and managed to prolong the crop life for a span of 10-15 days. Thereby the crops yielded something rather than nothing in the range of 60-75 % of the routine yield obtained in this district. The same internvention also demonstrated by the ICAR-KVK Needamangalam almost ten years back with the peak drought situation in rice crop in terminal milking stage of the crop.

- Seed treatment @ 0.2 kg / 5 kg seeds & foliar spraying of PPFM @ 1%

Result

The farmers harvested additional yield of 10-30 % in drought as well as drought free situations in rice and increased the productivity of rice (950 kg ha^{-1}) with additional returns of Rs.13500 per hectare.

Output

If PPFM seed treatment and foliar spray application are implemented, regardless of the moisture stress situation, across the total cultivated area under rice (180,000 ha) in Thiruvarur district, we can safeguard the rice crop against moisture stress and ensure yields, akin to insurance for the rice crop

Outcome

The technology is more viable in increasing the yield of rice and hence farmers are being continuously adopted this technology since 2011. The success of this technology being popularized in KVK routine training, regular advisories, farmers group meetings and extension functionaries programme for the benefit of rice farmers.

Parameter	**Demo**	**Check**
Output		
Additional cost (+) of technology / intervention or saving (-) in demo (Rs) over check	7500	-
Productivity (in q/ha) in demo	43.00	32.50
Additional yield over check (in q/ha)	10.50	-
% increase in yield over check	32.30	-
Gross returns (in Rs/ha)	86000	65000
Net Returns (Rs / ha)	39000	25500
Additional Net Returns in demo (demo –check)	13500	-
B:C ratio	1.82	1.64

Linkages

Functional linkage with different organizations

Name of the organization	Nature of linkage
NABARD	Participation in Meeting and conduct of Training on crop production and precision technology of Agricultural and allied sectors. Establishment of paddy cum fish culture demo unit at KVK – Field days and trainings conducted **Outcome:** Wide spread of schemes which are implemented by NABARD
Department of Agriculture	Monthly Zonal Workshop, Field survey, Diagnostic Visit, Joint implementation, Participation in Meeting and conduct of Training on crop production and Protection technologies of mandatory crops of Agricultural crops. **Outcome:** Popularization of new varieties and technology andTimely pest and disease management
Department of Horticulture	Field survey, Diagnostic Visit, Joint implementation, Participation in Meeting and conduct of Training on crop production and Protection technologies of Horticultural crops. **Outcome:** • Popularization of new varieties and technology and related to horticulture. • Timely management of pest and disease.
Department of Agricultural Engineering	Participation in Meeting and conduct of Training on crop production and precision technology of Agricultural and Horticultural crops. **Outcome:** Department of AED officials delivered their scheme details on Agricultural Engineering.
Department of Animal Husbandry	Field survey, Diagnostic Visit, Joint implementation, Participation in Meeting and conduct of Training on crop production and Protection technologies of Cattle, Goat and Poultry. **Outcome:** Department of Animal Husbandry officials delivered their scheme details on trainings
Department of Fishery	Field survey, Diagnostic Visit, Joint implementation, Participation in Meeting and conduct of Training on Fishery technology. **Outcome:** Department of Fishery officials delivered their scheme details on trainings conducted by ICAR - KVK
Department of Forestry	Field survey, Diagnostic Visit, Joint implementation, Participation in Meeting and conduct of Training on trees **Outcome:** Department of Forestry officials delivered their scheme details on trainings and special programmes

Department of Sericulture	Field survey, Diagnostic Visit, Participation in Meeting and conduct of Training on mulberry and silkworm. **Outcome:** Department of Sericulture officials delivered their scheme details on trainings and special programmes
Department of Agricultural Marketing and Agriculture Business	Participation in Meeting and conduct of Training on regulated market committee and storage. **Outcome:** Department of Agricultural Marketing officials delivered their scheme details on trainings and special programmes
District Administration – Thiruvarur	Technological backstopping during Farmers grievance day of every third Thursday of the month. **Outcome:** • Farmer's grievance related KVK were solved. • Season wise lectures were delivered.
IIFPT,Thanjavur	Training to farmers, Rural Youth and data analysis for value addition, post harvest and processing. **Outcome:** Thiruvarur district farmers and farm womens were exposed to the value.

AWARDS and RECOGNITIONS

KVK, KVK Staff, KVK Contact Farmers etc. at district, state, national and international level supported by copies of certificates and photographs (Please do not include Awards and certificates issued by ATARI)

S.No.	Name of the scientist / Institution	Name of the Award	Sponsors/agency/Institution	Year	National / International
1	ICAR - Krishi Vigyan Kendra,Thiruvarur	TNAU Best KVK Award	TNAU, Coimbatore	2022-2023	State
2	Dr.D.Periyar Ramasamy SMS (Agrl.Extension)	Best Extension Worker Award 2023	District Collector of Thiruvarur, Tamil Nadu during Republic Day Celebration	2023	District
3	Th.D.Nakkiran Farm Manager	Best Extension Worker Award 2023	District Collector of Thiruvarur, Tamil Nadu during Republic Day Celebration	2023	District
4	Dr.V.Karunakaran SMS(Agronomy)	Young teaching faculty award	International conference- JSA College of Agriculture and Technology-Tittakudi	2023	International
5	Dr.V.Karunakaran SMS(Agronomy)	Best oral presentation award	International conference- JSA College of Agriculture and Technology-Tittakudi	2023	International
6	Dr.V.Karunakaran SMS(Agronomy)	Dr.Verghese Kurien Best Extension Worker Award	International Conference Pushkaram College of Agricultural Sciences, Pudukkottai	2023	International
7	Dr.V.Karunakaran SMS(Agronomy)	Best paper author award	8th National Conference on Agricultural Scientific Tamil held at Dr.JJFU, Nagapattinam	2023	National
8	Dr.V.Karunakaran SMS(Agronomy)	Eminent Extension Service Award	National seminar on Technological influences on Phyto-Biotic stress management-2023 held at TRIARD, Perambalur	2023	National

9	Dr.V.Karunakaran SMS(Agronomy)	Academic Excellence Award	National seminar on Technological influences on Phyto-Biotic stress management-2023 held at TRIARD, Perambalur	2023	National
10	Dr.D.Periyar Ramasamy SMS (Agrl.Extension)	Best performance for Awareness Creation	Water Technology Centre, TNAU, Coimbatore during World Water Day-2023	2023	State
11	Dr.C.Prabakaran SMS (ENS)	Adarsh Vidya Saraswati Rashtriya Puraskar (National Award of Excellence)	Glacier journal research foundation	2023	National
12	Dr.C.Prabakaran SMS (ENS)	The best Teacher (Environmental Sciences) 2023	Global management, council Glacier journal research foundation	2023	National
13	Dr.C.Prabakaran SMS (ENS)	Best Scientist award	VRR Educational trust	2023	National
14	Dr.C.Prabakaran SMS (ENS)	Most Innovative author of the year-2023	Vigyan Varta	2023	National
15	Dr.V.Radhakrishnan	Best Extension Worker Award	TNAU, Coimbatore	2022-2023	State
16	Dr.M.Selvamurugan SMS (ENS)	Best performance for Awareness Creation	Water Technology Centre, TNAU, Coimbatore during World Water Day-2023	2023	State
17	Dr.M.Selvamurugan SMS (ENS)	Dr.A.P.J. Abdulkalam Best Teacher Award	Mother Teresa Agriculture College, Pudukkottai	31.03.2023	State
18	Dr.V.Karunakaran SMS (AGR)	Dr.APJ Abdul Kalam Best Teacher Award	Mother Terasa College of Agriculture-Pudukottai	31.03.2023	State
19	Dr.S.Arulselvi, SMS (PBG)	Dr. B.P. Pal Award	Malla Reddy University, Hyderabad	2023	National
20	Dr.S.Arulselvi, SMS (PBG)	Innovative Researcher Award	TRIARD, Perambalur	2023	State
21	Dr.S.Arulselvi, SMS (PBG)	Dr. Carl Linnaeus Young Professional Award	Pushkaram College of Agriculture Sciences, Pudukottai	2023	State
22	Dr.S.Arulselvi, SMS (PBG)	Rachel Carson Best Women Scientist Award	Pushkaram College of Agriculture Sciences, Pudukottai	2023	State

Annexture I

12th SAC Proceedings

The 12th Scientific Advisory Committee Meeting of KVK, Needamangalam was held on 16.03.2023 to discuss the action plan for the ensuing year. Dr.V.Radhakrishnan, Programme Coordinator, welcomed the gathering of the meeting and explained the action taken on the recommendations of the 11 th SAC meeting conducted on 23.12.2021. He also presented the overview of ICAR-KVK and its mandatory activities since last SAC. The meeting was inaugurated by Dr. K. Subrahmaniyan, Director, TRRI, Aduthurai who has highlighted the achievements of the KVK and motivated the scientists to work with involvement. The Dean, AC & RI, Kilvelur, Dr.G.Ravi participated as special invitee. During his special address he indicated certain action to be taken up by the KVK scientists for the ensuing year. Th.M.Lakshmigandhan, Joint Director of Agriculture, Thiruvarur highlighted some of the location specific technologies to be disseminated by KVK. The event was attended by all heads of Line departments. Publications of the scientists were released by the dignitaries during the occasion.At the end Dr.S.Kamalasundari, Associate Professor (FSN) proposed vote of thanks.

The following official and non official members of Scientific Advisory Committee participated in the meeting.

S.No	Name	Designation	Address	Affiliation
1	Dr. K. Subrahmaniyan	Director	Tamil Nadu Rice Research Institute, Aduthurai	Member
2	Dr.G.Ravi	Nodal Officer	Agricultural College and Research Institute, Kurukkathi, Keezhvelur	Special invitee
3	Th.M.Lakshmikandhan	Joint Director of Agriculture (i/c)	Agriculture - Farmers Welfare Department, Collectorate Complex, Thiruvarur	Member
4	Tmt. O. Vijayalakshmi	Deputy Director of Agriculture (GOI)	Agriculture - Farmers Welfare Department, Collectorate Complex, Thiruvarur	Member
5	Tmt.R.Saarumathi	Deputy Director of Agriculture	Agricultural Business and Marketing Regulated Market campus, Thiruvarur	Member
6	Th.S. Viswanth Kanna	District Development Manager	NABARD, Tiruvarur	Member
7	Dr. C. Karpagam	Principal Scientist	National Research Centre for Banana Thogamalai Road, Thayanur Post, Tiruchirapalli -2	Member

8	Dr.S. Swaminathan	Deputy Director of Animal Husbandry	Veterinary Hospital Campus, Nethaji road, Thiruvarur	Member
9	Dr. A. Gopalakannan	Programme Co-ordinator	KVK, Sikkal, Nagapattinam	Member
10	Tmt. Hema Hepzibah Nirmala	Assistant Director of Agriculture	Agriculture - Farmers Welfare Department, Collectorate Complex, Thiruvarur	Member
11	Th.V.T.Mohan Kumar	Assistant Director of Fisheries	Room No. 210, Second floor, District Collectorate Office additional building, Opp. to District court, Thiruvarur	Member
12	Th. S. Murugadas	Assistant Executive Engineer	Department of Agricultural Engineering Mannargudi	Member
13	Dr. M. Ramachandran	Professor and Head	VC & RI, Orathanadu	Member
14	Th. K. Selvam	Executive Officer	TNRTP, Thiruvarur	Member
15	Dr.V. Hema	Professor	NIFTEM, Thanjavur	Member
16	Dr. V. Sujatha	Assistant Professor	Farmers Training Centre TANUVAS, Vilamal	Member
17	Th.A. Ashok	Seed Certification Officer	Department of Seed Certification, Thiruvarur	Member
18	Mrs. S. Ananthi	Social Extension Officer	Needamangalam	Member
19	Th. A Venkatesan	Assistant Director	District Industries Centre Thiruvarur	Member
20	Tmt. S. Amalorpava Mary	Block Coordinator	TNRTP, Thiruvarur	Member
21	Th. R. Sankar	Assistant Executive Engineer	WRD, Vennar Basin Thiruthurai poondi	Member
22	Th. A. Santhirasena	Block Coordinator	TNRTP, Thiruvarur	Member
23	Ms.T.Usha	Assistant Inspector of Sericulture	Department of Sericulture, Thiruvarur	Member
24	Th.M.Senthil	Lead District Manager	Indian Overseas Bank, Thiruvarur	Member

25	Th.R.Venkateswaran	Programme Incharge/Head	Programme Division All India Radio (AIR), Karaikkal	Member
26	Th. A. Balasundaram	Assistant Horticulture Officer	Department of Horticulture and Plantation crops, Needamangalam	Member
27	Th.S.Nandakumar	Big Farmer	S/o. Th. P.S.Sivaprakasam 3/22,West Mandi, Alangudi, Valangaiman Taluk, Thiruvarur - 612 801	Member
28	Th.K. Gunaseelan	Small Farmer	S/o. Th. Kalayanasundram 4/7, Perumal Koil Street, Sarabojipuram,Poonthottam, Kudavasal Taluk Thiruvarur District	Member
29	Tmt. S. Manimozhi	Woman Farmer-1	W/o. Th. T. Senthil Kumar 2/245, Therkadi madhagu Ezhilur, Thiruthuraipoondi Taluk Thiruvarur District	Member
30	Tmt.S.Sundari	Woman Farmer-2	W/o Th.E.Sathish Kumar 129, Kudiyana street Melapoovanoor Post Needamangalam Taluk Thiruvarur District	Member
31	K.H. Salimath sowtha	Agri. Entrepreneur	W/o Th.K.M.Hajamaideen 46/81 A East street, Marakkadai, Latchumaangudi Vakranallur Koothanallur Taluk Thiruvarur District	Member
32	Tmt.P.Babykala	SHG – Chariperson	W/o. Th.D.Paneerselvam 15/113, Merkutheru, Pullavarayan kudikadu, Needamangalam Taluk Thiruvarur District	Member
33	Dr.V. Radhakrishnan	Programme Coordinator	ICAR Krishi Vigyan Kendra Needamangalam Taluk Thiruvarur	Member

The following recommendations were made by the SAC members for further follow up action during 2023-2024.

Sl.No	Recommendations	Proposed by
1	Suitable small millet is to be identified and popularized for cultivation in Thiruvarur district	Th.M.Lakshmikandhan Joint Director of Agriculture (i/c) Agriculture - Farmers Welfare Department, Collectorate Complex, Thiruvarur
2	Training programmes on IPM for the control of sucking pests in cotton have to be conducted for the farmers / FPOs and feedback is to be obtained	Th.M.Lakshmikandhan Joint Director of Agriculture (i/c) Agriculture - Farmers Welfare Department, Collectorate Complex, Thiruvarur
3	More number of trainings on Organic vegetable production and Soil health management may be conducted for the farmers	Tmt. Hema Hepzibah Nirmala Assistant Director of Agriculture Agriculture - Farmers Welfare Department, Collectorate Complex, Thiruvarur
4	Demonstrations and Trainings may be organized by KVK for suitable Power weeder for rice crop with enhanced efficiency in Delta Region	Th.M.Lakshmikandhan Joint Director of Agriculture (i/c) Agriculture - Farmers Welfare Department, Collectorate Complex, Thiruvarur
5	Rice varieties CO57, ADT 57, ADT 58 may be popularized among farmers	Dr. K. Subrahmaniyan Director, TRRI, Aduthurai
6	FLD may be conducted for popularizing the sunnhemp variety ADT 1	Dr. K. Subrahmaniyan Director, TRRI, Aduthurai
7	VBN 6 Greengram variety may be popularized through FLDs.	Dr. K. Subrahmaniyan Director, TRRI, Aduthurai
8	Training and demonstration of Value added products in Pulses, Casava and Banana may be organized	Dr. C. Karpagam Principal Scientist National Research Centre for Banana Thayanur Post, Tiruchirapalli -2
9	Awareness on Sericulture and Digital marketing may be created among the farmers/ FPOs	Ms.T.Usha Assistant Inspector of Sericulture Department of Sericulture, Thiruvarur
10	Trainings and demonstration of Silage making, Production of animal feed, Azola production have to be conducted for the farmers / FPOs and feedback is to be obtained	Dr.S. Swaminathan Deputy Director of Animal Husbandry Veterinary Hospital Campus, Nethaji road, Thiruvarur - 610 001
11	More number of Training and demonstration on Cultivation of small millets and preparation of small millets recipes / value addition may be organized by the KVK	K.H. Salimath sowtha Agri. Entrepreneur W/o Th.K.M.Hajamaideen 46/81 A East street, Marakkadai,Latchumaangudi

12	Castor crop may be introduced to Thiruvarur District through FLD	Th.M.Lakshmikandhan Joint Director of Agriculture (i/c) Agriculture - Farmers Welfare Department, Collectorate Complex, Thiruvarur
13	Maize may be popularized as alternate crop for rice among farmers so as to enhance the Maize crop area	
14	Banana Sakthi may be introduced among farmers through FLD and trainings	Dr. C. Karpagam Principal Scientist National Research Centre for Banana Thayanur Post, Tiruchirapalli -2
15	Regular programmeon various technologies may be broadcasted regularly in Karaikal FM	Th.R.Venkateswaran Programme Incharge/Head Programme Division All India Radio (AIR), Karaikkal
16	Exposure visit is to be organized for farmers to visit VC&RI, Orathanadu so as to witness the various Animal and feed units	Dr. M. Ramachandran Professor and Head VC & RI, Orathanadu
17	Collaboration training may be organized along with NIFTEM, Thanjavur and NRCB, Trichy	Dr.V. Hema Professor, NIFTEM, Thanjavur
18	Awareness and training programmes may be organized to promote green manures like Kozhinji (Tephrosia *purpurea*) and Awri (*Indigofera tinctoria*) which are not grassed by the cattle	Th.K. Gunaseelan Small Farmer S/o. Th. Kalayanasundram 4/7, Perumal Koil Street, Sarabojipuram, Poonthottam, Kudavasal Taluk Thiruvarur District PIN 609503
19	NRCB App may be popularized among Thiruvarur District farmers	Dr. C. Karpagam Principal Scientist National Research Centre for Banana Thayanur Post, Tiruchirapalli -2
20	More number of trainings and demonstration may be organized by the KVK on traditional paddy and Mushroom cultivation and Honey bee rearing	Tmt. S. Manimozhi Woman Farmer-1 W/o. Th. T. Senthil Kumar 2/245, Therkadi madhagu Ezhilur, Thiruthuraipoondi Taluk Thiruvarur District PIN 614 715

One photo for Annual Zonal Award

Demonstration of liquid biofertilizers application in System of Rice Intensification (SRI) method-23.08.2023-Vaduvur Sathanur village of Needamangalam block

Sd/xxx

Programme Coordinator