

PROFORMA FOR PREPARATION OF ANNUAL REPORT (April 2018-March 2019)

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	111	2139	671	89
Rural youths	16	528	99	67
Extension functionaries	5	156	10	156
Sponsored Training	2	38	7	45
Vocational Training	3	48	12	60
Total	137	2909	799	417

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	200	80	
Pulses	225	100	
Cereals	20	8	
Vegetables			
Other crops	40	16	
Total			
Livestock & Fisheries			
Other enterprises			
Total			
Grand Total	485	204	

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	9	41	41
Livestock			
Various enterprises	1	5	5
Total			
Technology Refined			
Crops			
Livestock			
Various enterprises			
Total			
Grand Total	10	46	46

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	1001	8209
Other extension activities	253	0
Total	1001	8209

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	Total
Theni	Text only	18	548	4	120	7	364	1452
	Voice only							
	Voice & Text both							
	Total Messages							
	Total farmers Benefitted	18	548	4	120	7	364	1452

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	12.5	45000
Planting material (No.)	76000	47500
Bio-Products (kg)	10100	500300
Livestock Production (No.)		
Fishery production (No.)		

7. Soil, water & plant Analysis

	No. of Beneficiaries	Value Rs.
Soil	733	47700
Water	265	17100
Plant		
Total	998	64800

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	1
2	Conferences	-
3	Meetings	12
4	Trainings for KVK officials	1
5	Visits of KVK officials	15
6	Book published	3
7	Training Manual	8
8	Book chapters	-

9	Research papers	9
10	Lead papers	-
11	Seminar papers	2
12	Extension folder	17
13	Proceedings	-
14	Award & recognition	2
15	On going research projects	-

DETAIL REPORT OF Annual Progress Report 2018-19

1. GENERAL INFORMATION ABOUT THE KVK

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

Address	Telephone		E mail
	Office	FAX	
ICAR KRISHI VIGYAN KENDRA, THENI 89-A/B-3, West Street, Kamatchipuram (S.O),Theni District, Tamilnadu-625 520.	04546-247564	04546-247564	cendectkvk@rediffmail.com cendect@gmail.com

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

Address	Telephone		E mail
	Office	Fax	
Centre for Development and Communication Trust (CENDECT) 89-A/B-3, West Street,Kamatchipuram (S.O),Theni District, Tamilnadu-625 520.	04546-247564	04546-247564	cendectkvk@rediffmail.com cendect@gmail.com

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. S. Thirumurugan Ph.D.,	No,1VaigaiQuarters,Kamatchipuram (S.O),Theni District, Tamilnadu-625 520.	9585142666	haithirus@gmail.com

1.4. Year of sanction: 1994

1.5. Staff Position (as on 31th March, 2019)

Sl. No .	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale (Rs.)	Present basic (Rs.)	Date of joining	Permanent /Temporary	Category (SC/ST/OBC/ Others)
1	Programme Coordinator	Dr.S.Thirumurugan	Senior Scientist and Head	Senior Scientist and Head	37400-67000	9000	25/05/2018	Permanent	OBC
2	Subject Matter	Mr. K.Ragu	SMS	Horticulture	15600-39100	5400	27/01/2017	Permanent	OBC

	Specialist								
3	Subject Matter Specialist	Mr.P.Maheswaran	SMS	Agronomy	15600-39100	5400	27/01/2017	Permanent	OBC
4	Subject Matter Specialist	Ms.V.Sumitha	SMS	Plant Protection	15600-39100	5400	02/07/2018	Permanent	OBC
5	Subject Matter Specialist	Mr. M.Arun Raj	SMS	Soil Science	15600-39100	5400	25/05/2018	Permanent	OBC
6	Subject Matter Specialist	Vacant	SMS	Animal Science	-	-	-	-	-
7	Subject Matter Specialist	Mrs.M.Ramya Siva Selvi	SMS	Home Science	15600-39100	5400	25/01/2017	Permanent	OBC
8	Programme Assistant	Ms.S.Kalaivani	Lab technician	Agriculture	9300-34800	4200	31/05/2018	Permanent	OBC
9	Programme Assistant	Mrs.G.Winmathi	Computer Programmer	Computer Application	9300-34800	4200	09/10/2018	Permanent	OBC
10	Programme Assistant	Mr.N.Raja	Farm Manager	Horticulture	9300-34800	4200	14/09/2000	Permanent	OBC
11	Accountant / Superintendent	Mr.R.Pachaikannan	Accountant / Superintendent	--	9300-34800	4200	01/03/1995	Permanent	OBC
12	Stenographer	Mrs.S.Murugeswari	Stenographer	--	5200-20200	2400	09/01/2008	Permanent	OBC
13	Driver	Mr.M.Patchaikannan	Driver	--	5200-20200	1900	01/01/2010	Permanent	OBC
14	Driver	Mr.A.ArockiyaJohnson	Driver	--	5200-20200	1900	11/1/2017	Permanent	OBC
15	Supporting staff	Mr.S.Murugan	Supporting staff	--	5200-20200	1800	01/02/1997	Permanent	OBC
16	Supporting staff	Mrs.S.Chithra	Supporting staff	--	4400-7440	1300	11/02/2019	Permanent	OBC

1.6. Total land with KVK (in ha) :

S. No.	Item	Area (ha)
1	Under Buildings	0.11 ha
2.	Under Demonstration Units	0.03 ha

3.	Under Crops	9.65 ha
4.	Orchard/Agro-forestry	1.00 ha
5.	Others (specify)	10.79 ha
	Total	21.58 ha

1.7. Infrastructural Development:

A) Buildings

Infrastr cture Type	Infrastr ucture Name	Infrastr ucture status	Sour ce of Fund ing	Sancti oned Amou nt (Rs)	Sancti oned Plinth Area (Sq.mt)	Year of Sancti on	Actual Plinth Area Compl eted (Sq. mt)	Actual expend iture incurre d (Rs)	Date of Compl etion	Unsp ent Bala nce (Rs)
Administ rative Building	Administ rative building	Complete d	ICA R	213580 0	483.5	02/08/ 1995	483.5	275690 2	3/30/19 96	0
Farmers Hostel	Farmers hostel	Complete d	ICA R	174959 6	312.0	03/02/ 1995	312.0	174959 6	12/25/2 002	0
Staff Quarters	Staff quarters	Complete d	ICA R	293057 7	260.0	05/09/ 1995	260.0	293057 7	2/11/19 97	0
Others	Open well	Complete d	ICA R	300000	0	03/30/ 2001	0	481380	3/20/19 99	0
Others	Fencing	Complete d	ICA R	100000	0	06/19/ 1995	0	111500	3/21/19 96	0
Others	Sericultu re unit	Complete d	ICA R	400000	160	02/21/ 2012	160	417000	3/31/20 12	0
Others	Irrigation system	Complete d	ICA R	300000	0	02/21/ 2012	0	308800	3/31/20 12	0
Others	Demonst ration units- Dairy	Complete d	ICA R	100000	0	06/19/ 1995	0	102000	3/30/19 96	0

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Scooter M80	1995	20,727	211000	Need replacement
Honda Activa	2009	50,800	23400	Need replacement
Bolero	2010	6,06,153	273800	Need replacement

C) Equipments & AV aids

Name of the equipment	Cost (Rs.)	Year of purchase	Present status
Over head projector	11160	1/6/1995	Good Condition
Electronic typewriter	21035	1/6/1995	Scrapped
Mixie	2175	1/14/1996	Scrapped
Onida color tv	18600	2/28/1996	Good Condition
English t/w machine	9852	2/29/1996	Scrapped
Tape recorder	3925	10/25/1995	Scrapped
Weighing scale	2643	3/29/1996	Scrapped
Amplifier & mike unit	4600	5/27/1996	Good Condition
Duplicating machine	17500	10/10/1995	Scrapped
Vcr	14990	2/28/1996	Scrapped
Slide projector	12855	2/28/1996	Scrapped
Lcd projector	69750	3/7/2007	Good Condition
Fax machine	15150	3/30/2009	Good Condition
Xerox machine	75400	3/1/2010	Good Condition
Digital camera	25000	6/30/2010	Good Condition
Generator	100000	11/24/2010	Good Condition
Epabx system	50220	3/30/2011	Good Condition
Steel table	1500	11/4/1994	Good Condition
Mica table	800	11/4/1994	Good Condition
Godrej table	13340	1/23/1995	Good Condition
Wooden table	2250	1/23/1995	Good Condition
Steel table	11785	12/15/1995	Good Condition
Mould chair	2896	1/13/1995	Good Condition
Plastic chair	5508	1/22/1995	Good Condition
S type chair	600	11/4/1994	Good Condition
S type chair	1500	3/10/1995	Good Condition
Pvc chair	23240	3/1/1998	Good Condition
File cabinet	7980	10/13/1995	Good Condition
White mark writing board	8875	12/12/1995	Good Condition
Water tanker	25000	2/26/1996	Scrapped
Disc plough	24853	2/26/1996	Good Condition
Tiller	13408	2/26/1996	Good Condition
Mould board plough	16379	2/26/1996	Good Condition
Cupboard	11140	2/28/1995	Good Condition
Executive chair	12290	3/22/1996	Good Condition
Cupboard	11500	3/7/2010	Good Condition
Nilkamal chair	20000	3/7/2010	Good Condition
Revoling chair	6500	3/7/2010	Good Condition
3 x 2 cash table	4400	3/7/2010	Good Condition
4 x 2 cash table	2600	3/7/2010	Good Condition
Computer table	2400	3/7/2010	Good Condition
Wall fan	3800	3/7/2010	Good Condition

Water punel	2000	3/7/2010	Scrapped
Water punel	4000	3/15/2010	Scrapped
Kusan	5000	3/7/2010	Good Condition
Reception chair	4500	3/7/2010	Good Condition
Steel cot	51000	3/8/2010	Good Condition
Speaker	2640	3/8/2010	Good Condition
Filling cabinet	14400	3/9/2010	Good Condition
Premium wall coffer	5300	3/9/2010	Good Condition
Digital camera	25000	6/30/2010	Good Condition
Power tiller	152250	3/30/2011	Good Condition
ICD recorder and DVD player	8280	3/15/2010	Good Condition
USB Modem	2008	3/15/2010	Good Condition
Camera	6990	3/20/2010	Good Condition
Display system	17085	3/24/2010	Good Condition
Hp printer	2400	3/5/2010	Good Condition
Round table	25837	3/31/2010	Good Condition

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

Sl.No.	Date	No of Participants	Salient Recommendations
1.	28.11.2018	39	Weed management in Banana, Post harvest management, Organic input preparation , M-KISSAN, ITC tools, Millets cultivation, Animal husbandry activities, solar pumbs. Modern plant protection activities, Demo fields and crop cafeteria

PROCEEDINGS OF XX SCIENTIFIC ADVISORY COMMITTEE (SAC) MEETING HELD ON 28.11.2018.

The meeting was started with the prayer Tamil Thai Vazhthu.

Dr. S. Thirumurugan , Senior Scientist and Head, ICAR KVK, CENDECT, Theni welcomed the SAC members. Self introduction was given by SAC members and the staff of KVK.

The presidential address was delivered by Dr. P. Patchaimal, Chairman and Director, ICAR KVK, CENDECT, Theni. In his address, he explained various activities carried out in Theni District for the past 24 years and indicated that more than 30,000 farmers were benefited through the KVK. He has also given the assurance that the KVK will cover more number of farmers in future for doubling the farmers income.

Dr. S. Thirumurugan, Senior Scientist and Head, ICAR KVK, CENDECT, Theni presented the action taken on the suggestions given during XIX SAC meeting held on 31. 03. 2018 this was followed by the suggestions given by the SAC members.

Mr. P. Venkadesan, Grape farmer, from Thenpalani, suggested that trainings should be given on post harvest technology, marketing and harvesting without damage to avoid economic loss during rainy season.

Dr. Paulraj, Veterinary Assistant surgeon Veterinary Dispensary, Kamatchipuram. Suggested to utilize the services of veterinary department and invited KVK scientist to participate in animal health camps to be conducted by the Animal husbandry Department. He also explained different schemes available with the department.

Mr. Pon Dhanapalan, Programme executive, All India Radio, Madurai suggested to conduct awareness Programme on usage of Solar power in agriculture viz Light trap solar plump and and to make study on impact of crop Insurance scheme. He also suggested to take steps for the management of animal diseases during this winter season.

He also suggested to train the farmers on panchakavya , Dasa Kavya and Vermicompost production and to give list of successful FLD, OFT farmers to record and broadcast the suggestions through AIR for the benefit of farming community. He also indicated the use of Uzhavan Seyali(App).

Mr. P. Jeyachandran, Progressive farmer, Seepalakottai suggested to appoint veterinary Doctor in the KVK and trainings on farming under drought condition. He also expressed the problems facing with crop insurance schemes.

Mr. P. Sockar Selvam Progressive former, Kamatchipuram suggested developing technologies for siggatoka leaf spot management and weeding management. He also suggested the KVK to make available of new farm implements in the KVK for ending to farmers at minimum hiring charge. He also suggested giving training on Moringa value addition.

Mr. V. Balakrishnan Progressive farmer, Ramakrishnapuram suggested giving trainings on bio plant protection to minimize the cost of production especially for Tomato, Califlower, and Coconut.

Mr. K. Srirambabu, Nehru Yuva Kendra, Theni has suggested to conduct trainings on preservation and marketing for rural youth in collaboration with NYK.

Mr. M. Veerabhathiran, Farmer, Vadugapatti suggested to develop technologies for Betlewine value addition. He also suggested to conduct trainings on Banana fibre extraction.

Mr. S. Pandiyaraj, President, Theni district plantation farmer group, Periyakulam suggested the KVK to supply of bio decomposer and other inputs. He also requested to develop technology for Flower drop management in mango during rainy season.

Mr. M. Pandian , President, Theni district farmer association, Periyakulam suggested to conduct training on marketing storages structures by adopting one village and to develop technologies avoid to increase the production of sugarcane and to take steps to presence the wealth of Western Ghats.

Dr. J. Jayaraj, Professor (Agri. Entomology) GRS, Theni Suggested to conduct trainings with involving Grapes Research Station, Anamalayanpatti.

Dr. N. K. Sudeep kumar DEE, TNVASU, Chennai suggested to make use of FTC(Farmers Training Center) related to IVM trainings and to develop fodder production farm in the KVK. He also suggested to create awareness on from antibiotic resistance and publish article about FLD and OFT at least one or two per year.

Dr. S. Juliet Hepziba , Professor and Head, ARS, Vaigaidam suggested to conduct trainings on use of Green leaf manure and cultivation, seed treatment techniques to minor millets and the production and Green manure crop seed production. She also suggested for value addition in group approach to avoid loss in marketing. She also requested the farmer to go for farm mechanization in all possible way to overcome labor problem

Dr. V. Swaminathan, Dean HC & RI, Periyakulam, suggested to involve HC & RI in KVK programmes and to make use of incubation unit available in HC & RI. How to avoid drought situation in Banana.

Dr. T. Azhagunagendran, Joint Director of Agriculture, Theni, suggested KVK to conduct the farm school of various topics in collaboration with Agricultural Department and conduct the farmers scientist diagnostic visits.

Dr. P. Elangovan, Deputy Director of Agricultural, State Scheme, Theni, suggested KVKto collaborate with Agricultural department and solve the field problem through various extension activities and KVK will have to promote the minor miller cultivation.

Dr. H. Philip, Director of Extension Education, TNAU, Coimbatore suggested to keep the campus with professional look to keep board on list of scientist with mobile number self Explanatory board on central and state schemes, to set up IFS model and crop cafeteria in KVK campus Supply of training input material and to update database. to identify progressive farmer for TNAU awards and success stories for publications. He also suggested to study impact of trainings, and to conduct trainings on roof, kitchen and nutritional garden at free of cost.

Dr. A. Bhaskaran, Principal Scientist, ATARI, Hyderabad requested the farmers to make use of information sources like KVK, Department, University and Research station. He suggested to give importance for value addition in group approach since the production has increased because of new technologies and to place the portal containing the information of crop various details suitable for theni district. He also suggested converting the proven technologies to FLD. He also suggested to rectify the echo problem of Seminar Hall.

Dr. Y. G. Prasad, Director, ATARI, Hyderabad suggested to invite the participation of the Line department officials in SAC meeting, He also suggested to improve the KVK demo units and create and update farmers data base and to link the M-KISAAN messages with farmers data base and to take steps on value addition issues waste decomposer and to focus the activities on farmers needs and to utilize the services of AIR.

Vote of thanks was given by Mr. P. Maheswaran, SMS (Agronomy) ICAR KVK, CENDECT, Theni. The program came to an end with National Anthem.

List of Participants

S.No.	Name and Address
1.	Dr.P.Patchaimal, ICAR KVK,CENDECT, Theni
2.	Dr.Y.G.Prasad, Director, ATARI, Zone X, Hyderabad
3.	Dr.H.Philip, Director of Extension Education, TNAU, Coimbatore
4.	Dr.A.Bhaskaran, Principal Scientist, ATARI, Zone X, Hyderabad
5.	Dr.N.K.Sudeep Kumar, DEE, TANUVAS, Chennai
6.	Dr.S.Murugesan, Professor & Head, FTC, Theni
7.	Dr.J.Jeyaraj, Professor (Agri.Entomology), GRS, Theni
8.	Dr.S.Juliet Hepziba, Professor & Head, ARS, Vagaidam
9.	Dr.V.Swaminathan, Dean, HC&RI, Periyakulam
10.	Dr.T.Alagu Nagendran, Joint Director of Agriculture (i/c), Theni
11.	Dr.B.Elangovan, Deputy Director of Agriculture (State Scheme), Theni
12.	Dr.M.Senthilkumar, Nodal Officer, KVKs, DEE Office
13.	Dr.P.Paulraj, Veterinary Assistant Surgeon, Kamatchipuram
14.	R.Anbalagan, Deputy Horticulture Officer, Kadamalaikundu
15.	M.Rajaram, Joint Director of Agriculture (Rtd.)
16.	Pon Dhanapalan, Programme Executor, All India Radio, Madurai
17.	P.Baskaran, AIR&DD, Theni
18.	M.Pandiyan, President, Theni District Farmers Association Leader
19.	Er.S.Pandiyaraj, President, Theni District Plantation Farmer Group, Periyakulam
20.	P.Pugalenth, Progressive Farmer, Ramakrishnapuram
21.	M.Murugan, Secretary, Grama Seva Sangam, Erasaikkanaykkannur
22.	K.Sriram Babu, Nehru Yuva Kendra, District Youth Coordinator, Theni

23.	S.Alphonse, Progressive Farmer
24.	V.Balakrishnan, Ramakrishnapuram
25.	S.Kamaraj, Progressive Farmer
26.	A.M.Murugan, Progressive Farmer, Royappanpatti
27.	P.Sockar Selvam, Progressive Farmer, Kamatchipuram
28.	R.Bommayasamy, Progressive Farmer, Chinnaovalapuram
29.	P.Jeyachandran, Seepalakottai
30.	Prof.L.Lakshmanan, Sevanilayam Society, Aundipatti
31.	M.Sajay Kumar, Mahendra Agri, Coimbatore
32.	P.Venkadesan, Progressive Farmer, Thenpalani
33.	S.Vinoth, Progressive Farmer, Odaipatti
34.	R.Pushpavalli, Progressive Farm women, Thamaraikulam
35.	A.Sathiya Priya, Progressive Farm Women, Thamaraikulam
36.	N.Thangarasau, Progressive Farmer
37.	M.Veeraputhiran, Progressive Farmer, Vadugapatti
38.	P.Narayanan, Progressive Farmer, Sankarapuram
39.	S.Alagumani, Progressive Farmer, Seepalakottai

2. DETAILS OF DISTRICT (2018-19)

2.0.Operational jurisdiction of KVK :

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

Farming Situation	Farming system/enterprise
The total geographical area of the district is 288923Ha.Forest occupies 35.9%of total area. Net area cultivated occupies 40.7%.	Food crops occupy 38.9% of total gross area cultivated. About 8.4% of area comes under coconut, which is steadily increasing year by year. Horticultural crops occupy 25.1% of area due to favorable agro climatic condition and assured market. Oilseeds, Cotton and Sugarcane occupy 10.7%, 5.9% and 9.8% respectively.

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

Agro-climatic Zone	Characteristics
Southern Zone. Based on the rainfall distribution, irrigation pattern, soil characteristics, cropping pattern and physical, ecological and social characteristics, 90% of Theni district fit into Southern Zone and the area adjoining to Western ghats fit into Western Zone accounting for 10% of area.	Average Annual rainfall 857 mm, Annual potential evapo transpiration -1825

Agro ecological situation	Characteristics
South western portion of VIII Agro ecological Zone of India Tamil Nadu uplands hot semi arid eco region	Eastern Ghats: A north south range of hills part of Western Ghats marks west boundary with Kerala. Palani hills from Northern: Palani hills form northern spur and high wave mountain andipatty and varusanadu forms southern spur. The rest is undulating plain, cumbum valley is noted for thick vegetation. Altitude ranges from

	200 to 400 m in the plains. Altitude ranges as high as 2400 m in the hills.
--	---

2.3 Soil types

S. No.	Soil type	Characteristics	Area in ha
1.	Red calcareous	Yellowish red to dark red, Medium texture, Neutral to mild alkaline, well drained and moderate permeability	13259
2.	Red non calcareous	Moderate deep red to yellowish medium textured ,slightly acidic to neutral well drained with rapid permeability	23670
3.	Red lateritic calcareous	Dark reddish brown to brown heavy textured slightly acidic to neutral, well drained with moderate permeability	24644
4.	Red lateritic non calcareous	Yellowish red to very deep heavy textured neutral to mild alkaline moderate permeability, moderately drained	41667
5.	Black soil	Dark grey to very dark grey fine textured mild to moderate alkaline slow permeability poorly dried	2727
6	Mixed soil	Dark yellowish grey to dark grey fine textured to moderate, neutral to mild alkaline well drained good permeability	23526
7	Sand dunes	Yellowish red, single grain, loose, very friable, well drained with good permeability.	10900
8.	Hilly soils	Dark yellowish gray to very dark gray, heavy textured, acidic, well drained with good permeability.	147471

2.4. Area, Production and Productivity of major crops cultivated in the district for 2018-19

Crop	Area (ha)	Production	Production Unit	Productivity	Productivity Unit
Rice	12259	64970	Metric tons	5300	kg /ha
Sorghum	14200	2200000	Metric tons	1548	kg /ha
Cumbu	5300	800000	Metric tons	1501	kg /ha
Ragi	100	10000	Metric tons	1664	kg /ha
Maize	6200	1240000	Metric tons	2005	kg /ha
Redgram	3000	330000	Metric tons	1095	kg /ha
Blackgram	200	10000	Metric tons	367	kg /ha
Greengram	200	10000	Metric tons	399	kg /ha
Other pulses	5100	90000	Metric tons	173	kg /ha
Groundnut	2600	620000	Metric tons	2389	kg /ha
Sunflower	200	20000	Metric tons	947	kg /ha
Castor	100	183	Metric tons	183	kg /ha
Gingelly	400	10000	Metric tons	346	kg /ha
Coconut	15000	2314.88	lakh nuts	15533	Nuts
Sugarcane	5900	72300	Tons	117	q /ha
Mango	8582	600740	Metric tons	70	q /ha
Banana	3328	2346240	Metric tons	700	q /ha
Grapes	1937	439700	Metric tons	227	kg /ha

Tomato	2394	229820	Metric tons	96	q/ha
Bhendi	137	11650	Metric tons	85	q /ha
Onion	478	46840	Metric tons	98	q /ha
Cashew	5520	27600	Metric tons	5	kg /tree

Month	Rainfall (mm)	Temp(Max)	Temp (Min)	Relative Humidity (%)
April 18	31	33.4	24.3	56.5
May 18	85	33.1	24.1	55.7
June 18	47	38.7	28.7	61.5
July 18	07	35.1	27.6	69.0
August 18	12	33.6	25.6	66.5
September 18	14	35.3	25.1	74.8
October 18	31	34.1	23.9	70.0
November 18	23	36.1	23.9	84.0
December 18	10	34.1	19.8	67.7
January 19	0	35.8	20.8	56.4
February 19	0	32.7	22.1	57.7
March 19	10	37.9	23.4	61.3

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

Category	Population	Population Unit	Production	Production Unit	Productivity	Productivity Unit
Cattle - Crossbred	74277	No	133698600	no	10	lt
Cattle - Indigenous	28663	No	20637360	No	4	lt
Buffalo	39650	No	42822000	No	6	lt
Sheep - Crossbred	33515	Nos	837875	Nos	25	kg
Sheep – Indigenous	18732	Nos	374640	Nos	20	kg
Goats	83454	Nos	2086350	Nos	25	kg
Pig – Crossbred	9050	Nos	452500	Nos	0	0
Pig – Indigenous	12524	Nos	438340	Nos	0	0
Rabbits	1070	Nos	5350	Nos	0	0
Poultry – Hens	244337	Nos	366506	Nos	1.5	kg
Poultry – Desi	44293	Nos	88586	Nos	2	kg
Poultry -Improved	44293	Nos	221618	Nos	1.5	kg
Ducks	974	Nos	2435	Nos	2.5	kg
Turkey and others	992	Nos	7936	Nos	8	kg
Fish – Inland	20	Nos	10795	Nos	540	kg

2.7 Details of Adopted Villages (2018-19)

Sl.N o.	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	Theni	Theni	Veerapandi	2017	Paddy	Farmers getting low yield (5.7 t/ha) due to pest and diseases incidence, Farmers growing Goraknath 509 in longer year its inviting more pest and disease Increasing the cost of production due to need of more chemical spray	ICM
2	Theni	Theni	Uppukottai	2018		Salinity problem - Severe water logging and algal growth. Poor tillering, White leaf blotches, Patchy growth, Leaf scorching, Stunted growth, Leaf browning and drying, Sterility.	Varietal evaluation
3	Theni	Theni	Veerapandi	2016	Paddy	Drudgery during weeding operations, Low workout put	Drudgery reduction
4	Theni	Theni	Upparatti	2017	Green gram	Low yield (3q/ha) due to cultivation of CO 6 green gram variety with improper nutrient management practices	ICM
5	Theni	Theni	Vayalatti	2018	Gingelly	Non availability of improved variety and low yield (4.5 q/ha) in cultivation of local variety	ICM
6	Theni	Theni	Govindhanagaram	2017	Onion	High pest and disease Incidence and low yield (13t/ha) in private varieties	IPDM
7	Theni	Theni	Jangalatti	2017	Vegetables and Flowers	Lack of knowledge about poly house cultivation in Vegetables and Flowers	Protected cultivation
8	Theni	Theni	Veerapandi	2017	Paddy	Lack of Awareness about Traditional Paddy Varieties	ITK
9	Theni	Theni	Dharma puri	2018	Paddy	Spoilage of Paddy due to storage pests(10 %)	Storage management
10	Chinna manur	Chinnamanur	Chinnaovulapuram	2016	Groundnut	Non availability of high yielding variety and lack of knowledge about Integrated Crop Management.	ICM
11	Chinna manur	Chinnamanur	Odaipatti	2016	Coccinia	Low market price, high pest and disease Incidence and yield loss (15 %) in private varieties	Varietal evaluation

12	Chinna manur	Chinn amanur	Thenpal ani	2017	Snake gourd	Low yield (Yield gap : 30.38%), lack of adoption of location specific hybrids	Varietal evaluation
13	Chinna manur	Chinn amanur	Odaipatt i	2016	Grapes	Lack of awareness of wine variety	Varietal evaluation
14	Chinna manur	Chinn amanur	Kamatc hipuram	2015	Cucumb er	Lack of knowledge about poly house cultivation of cucumber	Protected cultivation
15	Chinna manur	Chinn amanur	Sriranga puram	2017	Banana	Yield loss (30 %) due to panama wilt disease in banana	IDM
16	Chinna manur	Chinn amanur	Seepala kottai	2016	Brinjal	Lack of knowledge about grafted Brinjal	Nursery production technologies
17	Chinna manur	Chinn amanur	Kamatc hipuram	2015	Organic farming	Lack of knowledge about organic farming and lack of knowledge about organic input	Bio input production technologies
18	Chinna manur	Chinn amanur	Kamatc hipuram		Banana	Economic loss (20%) due to post harvest losses and lack of knowledge about value addition in Banana	Post harvest management
19	Chinna manur	Chinn amanur	Kamatc hipuram		Milk	Lack of knowledge about value addition in milk	Value addition
20	Cumbu m	Utha mapal ayam	T.Sindh alaicher y	2015	Gingelly	Poor yield 3q/ha due to non availability of high yielding variety, poor nutrient management practices.	ICM
21	Cumbu m	Utha mapal ayam	T.Sindh alaicher y		Samai	Non availability of improved variety and low yield (4q /ha) in cultivation of local variety	ICM
22	Cumbu m	Utha mapal ayam	T.Mettu patti	2017	Gingelly	Low yield (3.5q/ha) due to cultivation of low yield varieties and improper nutrient management	ICM
23	Cumbu m	Utha mapal ayam	K.Sindh alaicher y	2016	Guava	Yield loss (25 %) due to Micro nutrient deficiency, unpruning, uncared orchard, Poor quality fruits, non adoption of ICM practices	ICM
24	Cumbu m	Utha mapal ayam	Anaimal ayanpatt i	2018	Grapes	Lack of knowledge about protected cultivation in grapes 20% of yield loss due to rain and bird incidence	Protected cultivation
25	Cumbu m	Utha mapal ayam	Mela sindalaic heri	2018	Tomato	Non availability of improved hybrid and lack of knowledge about Integrated Crop Management in Tomato	IPDM

26	Cumbu m	Utha mapal ayam	U.Amba samuthir am	2018	Tomato	Post harvest loss (25 %) due to lack of knowledge about Tomato	Post harvest management
27	Periyak ulam	Periy akula m	Vaduga patty	2018	Sugarca ne	Low yield (100 t/ha) due to non availability of drought tolerant and shorter duration variety	Varietal evaluation
28	Periyak ulam	Periy akula m	Lakshmi puram	2018	Mulberr y	Non availability of improved variety, Low yield (14t/ha) due to improper application of Nutrients and Macronutrient deficiency	Varietal evaluation
29	Periyak ulam	Periy akula m	Lakshmi puram	2018	Banana	yield loss (15 %) due to lack of knowledge about different banana variety	Varietal evaluation
30	Periyak ulam	Periy akula m	Vaduga patti	2018	Bhendi	Non availability of improved hybrid and low yield (13t/ha) in cultivation of local hybrid	Varietal evaluation
31	Periyak ulam	Periy akula m	Jeyaman galam	2018	Paddy	Lack of skilled labour, High seed rate, time consuming	Drudgery reduction
32	Periyak ulam	Periy akula m	Jeyaman galam	2018	Drudger y Reducti on	Lack of knowledge about gender friendly equipments	Drudgery reduction
33	Bodi	Bodi	Silamala i	2017	Groundn ut	Non availability of improved varieties of groundnut and lack of knowledge about Integrated Crop Management.	Varietal introduction
34	Bodi	Bodi	Kondaln aickenpa tti	2018	Banana	Lack of awareness on latest cultivation technologies and Yield loss (15 %) due to improper nutrient management and Micronutrient deficiency	INM
35	Bodi	Bodi	Dombuc herry	2018	Sunflow er	Low yield (1200 kg/ha) due to non availability of improved hybrid.	Varietal Introduction
36	Bodi	Bodi	Kondaln ayyakka npatti	2018	Black gram	Cultivation of CO 6 Black gram variety with low yield of 344 kg/ha due to yellow mosaic virus and flower dropping	ICM
37	Bodi	Bodi	Silamala i	2017	Millets	Lack of knowledge about Nutritional and value addition in Millets	Value addition
38	Cumbu m	Cumb um	Karunak kamutha mpatti	2017	Paddy	Low yield (60 q/ha) due to blast, weed incidence, yellow stem borer and leaf folder, Brown Plant Hopper, False smut and incidence	ICM
39	Cumbu m	Cumb um	Karunak kamutha	2017	Filed lab lab	Yield loss (30 %) due to incidence of Yellow Mosaic Virus.	IDPM

			mpatti				
40	Cumbum	Cumbum	Gudalore	2018	Pepper	Lack of knowledge about pepper seedling production	Seedlings production
41	Cumbum	Cumbum	Karunakamuthampatti	2018	Black gram	Low yield (4q/ha) due to yellow mosaic virus incidence and improper nutrient management practices	ICM
42	Cumbum	Cumbum	Paliyankudi	2018	Nutritional security	Lack of Nutrition Knowledge and Nutrition related problems	Value addition
43	Andipatty	Andipatty	Mullayampatti	2017	Maize	Cultivation of Hishell hybrid with yield of 60 q/ha	Varietal introduction
44	Andipatty	Andipatty	Pichampatti	2017	Pulses	Bruchids attack in stored pulses	Storage management
45	Andipatty	Andipatty	T.Bomm-inayakkanpatti	2017	Redgram	Cultivation of old variety Very long duration (270 days), Pod borer complex 27% incidence, terminal drought during pod development stage and non availability of improved shorter duration variety, Yield loss (20 %) Bruchids attack in stored pulses	ICM
46	Andipatty	Andipatty	Theppampatti	2018	Groundnut	Non availability of high yielding variety and lack of knowledge about Integrated Crop Management.	ICM
47	Andipatty	Andipatty	G.Usilampatti	2017	Cumbum	Cultivation of ICMV 221 with yield of 12 q/ha and incidence of drought and other calamities	ICM
48	Andipatty	Andipatty	Pichampatti	2017	Cotton	Low yield (13 q/ha), Incidence of stem weevil, Mealy bug incidence, wilt and root rot disease, Non cultivation of improved varieties, Mg deficiency	IPDM
49	Andipatty	Andipatty	T.Bomm-inayakkanpatti	2017	Sorghum	Low yield (15.62 q/ ha) due to lack of awareness about Integrated Crop management technologies.	Varietal introduction
50	Andipatty	Andipatty	Mullayampatti	2017	Black gram	Low yield (400 kg /ha) due to non availability of high yielding variety and Yellow Mosaic Incidence.	ICM
51	Andipatty	Andipatty	Okkaripatti	2018	Green gram	Low yield (400 kg /ha) due to non availability of high yielding variety and incidence of yellow mosaic virus	ICM
52	Andipatty	Andipatty	Kathirnarasingapuram	2017	Chillies	yield loss (17 %) due to high pest and diseases Incidence in private hybrid	Varietal evaluation
53	Andipatty	Andipatty	Sithayag	2017	Fodder	Low milk yield and lack of	Varietal

	ty	patty	oundenp atti		crops	knowledge about fodder cultivation	introduction
54	Andipat ty	Andi patty	Sithayag oundenp atti		Livestoc k	Mortality upto 10 % in adults and 30% in kids due to infectious diseases like neonatal viral enteritis, Entero toxemia, Anthrax, Blue tongue Pneumonia, foot rot and endo and ectoparasitism. vaccination and deworming : no vaccination and medication No dipping is practiced to control ecto parasites .Improper housing conditions during rainy and winter seasons leading to heavy motality in kids	IDM
55	Andipat ty	Andi patty	Theppa mpatti	2018	Drudger y reductio n	Manual broadcasting of seeds and fertilizers is tedious, laborious, uneven sowing and uneven fertilizing, consumes more time , more seed rate and hand pain	Drudgery reduction
56	Andipat ty	Andi patty	Sithayag oundenp atti	2017	Livestoc k	High somatic cell count, incidence of subclinical mastitis, Poor self life of milk	Drudgery reduction
57	Andipat ty	Andi patty	Sithayag oundenp att	2017	IFS	Non availability of quality fodders and non cultivation of new variety under mixed fodder condition	IFS
58	Kadam alaikun du	Kada malai kund u	Varusan adu	2018	Minor Millets	Non availability of improved variety and low yield (4q /ha) in cultivation of local variety	Varietal introduction
59	Kadam alaikun du	Kada malai kund u	Rajendr a Nagar	2018	Cashew Apple	Wastage (40 %) and lack of knowledge about value added products from cashew	Varietal evaluation
DFI villages							
1	Andipat ty	Andi paty	Mullaya mpatti	2017	Maize, Cotton	Low yield (55q/ha) in maize, Pest incidence in Cotton, non availability of High yielding sorghum hybrid sorghum	ICM in Sorghum, ICM in Maize

2.8 Priority/thrust areas

Crop/Enterprise	Thrust area
Paddy	Varietal evaluation and mechanization
Maize	Integrated pest management
Bhendi	Varietal evaluation

Onion	Integrated crop Management, Integrated pest management
Redgram	Integrated pest management, varietal evaluation
Black gram	Varietal evaluation and Pest management
Grapes	Integrated crop Management
Banana	Resource conservation technology
Banana	Crop geometry evaluation
Tomato	Integrated crop Management
Tamarind	Drudgery reduction
Green gram	Integrated crop Management
Organic farming	Resource utilization technologies
Paddy	Indigenous Technical; Knowledge
Brinjal	Integrated Pest Management
Guava	Integrated crop Management
Gingelly	Integrated crop Management
Samai	Integrated crop Management
Gingelly	Integrated crop Management
Sugarcane	Varietal evaluation
Mulberry	Varietal evaluation
Groundnut	Integrated crop Management
Sunflower	Integrated crop Management
Paddy	Integrated crop Management
Filed lab lab	Integrated pest management
Banana	Integrated crop Management
Black gram	Integrated crop Management
Ragi	Varietal evaluation
Cumbu	Integrated crop Management
Cotton	Integrated crop Management
Sorghum	Integrated crop Management
Black gram	Integrated crop Management
Green gram	Integrated crop Management
Jasmine	Integrated pest management
Marigold	Integrated crop Management
Cumbu	Integrated crop Management
Fodder crops	Integrated crop Management
Livestock	Disease management

2.9 Salient Achievements of (April 2018-March, 2019) (Mandated activities/ Projects)

S.No	Activity	Target	Achievement
1.	Technologies Assessed and refined(No.)	10	10
2.	On-farm trials conducted (No.)	10	10
3.	Frontline demonstrations conducted (No.)	13	13
4.	Farmers trained (in Lakh)	0.2000	0.2829
5.	Extension Personnel trained (No.)	0.0005	0.00049
6.	Participants in extension activities (in Lakh)	0.07500	0.08209

7.	Production of Seed (in Quintal)	10	12.5
8.	Planting material produced (in Lakh)	0 76	0 76
9.	Live-stock strains and finger lings produced (in Lakh)	-	-
10.	Soil, Water, plant, manures samples tested (in Lakh)	800	998
11.	Mobile agro-advisory provided to farmers (in Lakh)	610	722
12.	No.of Soil Health Cards issued by Mini Soil Testing Kits (No.)	200	131
13.	No.of Soil Health Cards issued by Traditional Laboratory (No.)	600	602

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

- Successful Implementation of 100 ha of CFLD Pulses in Theni district
- Horizontal spread of the CO 51 variety during Rabi 2018 in an area of 850 ha among 1650 farmers of Cumbum, Periyakulam and Uthamapalayam Block
- We have organized State Level Innovative Farmers meet to disseminate the latest technologies and innovations for the benefits of farming community with the financial support from National Innovation Foundation-India, Ahmadabad. The programme was presided over by **Mr.R.Parthiban, Member of Parliament, Theni. Dr.Noushad A.S.Parvesh, Senior Innovation Fellow, National Innovation Foundation-India, Ahmadabad** has given the special address.
- Demonstrated Improved Direct Paddy Seeder to reduce seed rate, drudgery reduction.

3. TECHNICAL ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities by KVK during 2018-19

OFT (Technology Assessment)				FLD (crop/enterprise/CFLDs)			
1				2			
Number of technologies		Total no. of Trials		Area in ha		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
8	8	40	40	223	223	526	526

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
3					4			
Number of Courses			Number of Participants		Number of activities		Number of participants	
Clientele	Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Farmers	90	111	2000	2829	950	1001	7500	8209
Rural youth	15	17	500	655				
Extn. Functionaries	3	3	50	49				

Seed Production (Qtl.)			Planting material (Nos.)		
5			6		
Target	Achievement	Distributed to no. of farmers	Target	Achievement	Distributed to no. of farmers
10	12.5	40	0.75	0.75	14

3.b. TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops by KVKs

Thematic areas	Crop	Name of the technology assessed	Source of technology with year	No. of trials	No. of farmers
Integrated Nutrient Management	Cashew	Demonstration on foliar nutrition in cashew VRI-3 with INM	TNAU (2012)	10	10
	Banana	Demonstration of technologies for enhancement of yield in Banana	NRCB (2010)	10	10
Varietal Evaluation	Paddy	Assessment of suitable high yielding Paddy varieties for Theni District	TKM 135 (2015)	5	5
			CO 52 (2018)		
	Sugarcane	Assessment of suitable shorter and drought tolerant sugarcane variety for Theni District	CO 09004(2017)	5	5
			CO C 25 (2018)		
	Castor	Assessment of suitable Castor hybrid for Theni District	YRCH 2(2017)	5	5
			DCH 177 (1999)		
			DCH 529 (2005)		
	Black gram	Assessment of Black gram varieties for Yellow Mosaic Virus disease resistance	VBN 8(2016)	5	5
			TBG 104 (25017)		
			KKM1(2017)		
	Onion	Assessment of new high yielding Onion Hybrids	Co(On)5 (2011)	5	5

			Arka Ujjwal (2015)		
	Coccinia	Assessing the performance of Coccinia varieties in Theni district	Co1 (2012) DRC2 (2012)	5	5
	Chillies	Assessment of new high yielding Chillies Hybrids for Theni district	CO (2010) Arka Harita (2012)	15	5
	Paddy	Assessment of suitable paddy varieties for saline soils of theni district	CSR (2011) TRY (2010)	435 3	5
Integrated Pest Management	Maize	Assessment of Technological modules of the management of Fall Army Worm(<i>Spodoptera frugiperda</i>) FAW in Maize	IPM BIPM	1 1	1 1
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Post Harvest Technology / Value addition	Millet	Assessment of Different Millet Bars for Income Generation	Millet Bar (IIMR,2016) Beta carotene Enriched	5	5

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Disease Management				
Evaluation of Breeds				
Feed and Fodder management				
Nutrition Management				
Production and Management				
Others (Pl. specify)				
Total				

[illegible]

3.c. TECHNOLOGY ASSESSMENT IN DETAIL

OFT:1

1. **Thematic area:** Varietal evaluation

2. **Title:** Assessment of suitable high yielding Paddy varieties for Theni District

3. **Scientists involved:** SMS (Agronomy)

4. **Details of farming situation:**

The assessment was conducted during Rabi 2018-2019 at Karunkattakulam village of Chinnamanur block. The trial area comes under the Cumbum valley within the Mullai periyar river irrigation basin. The soil type is Clay with high nitrogen (256 kg/ha), low phosphorus (9.45kg/ha) and high in potassium (174kg/ha). Cropping scheme of the area is Paddy –Paddy – Pulses. The total area under Paddy cultivation 1450 ha. During summer Green gram was growing as summer as well as Green manure crop for Paddy. The average productivity of paddy 65.4 q/ha during Kharif and 59.61 q/ha during Rabi. The village received 24 rainy days with annual rainfall of 920 mm.

5. **Problem definition / description:**

Farmers getting low yield (5.7 q/ha) due to pest and diseases incidence, Farmers growing Gorakhnath 509 in longer year its inviting more number of pest and disease, increasing the cost of production due to more chemical spray in an area of 850 ha among 100 farmers. Market price of the Paddy is Very low (Rs.13/Kg) due to non availability of Low market price variety.

6. **Technology Assessed:**

TO 1: Farmer Practice :Gorakhnath 509

TO 2: Recommended Practice :

TKM 13:Variety has medium slender fine grain with lesser 1000 grain weight (13.5 g). It matures in 130 days. The average grain yield is 5938 kg/ha. TKM 13 is moderately resistant to leaf folder, stem borer, green leaf hopper, blast, rice tungro disease, and brown spot and sheath rot.

TO 3 :Alternate Practice :

CO 52: Medium slender, Fine grain, Moderately resistant to blast, sheath blight and sheath rot, Duration : 130– 135 days, Yield: 6240 kg/ha

7. **Critical inputs given:**

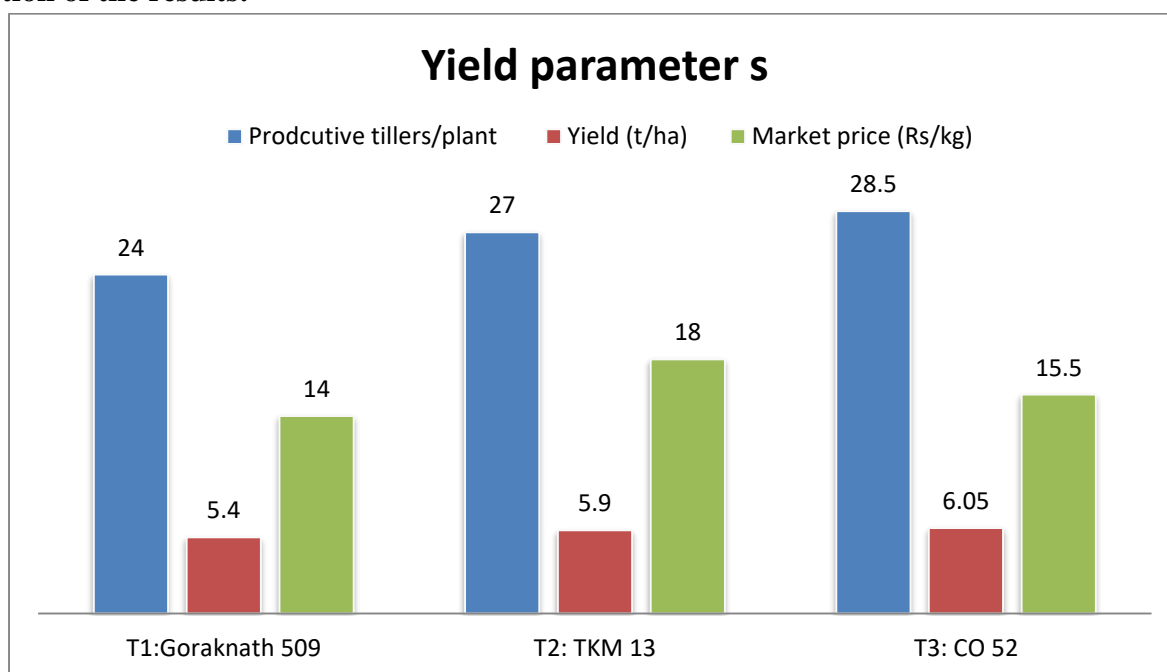
Name of critical input	Qty per trial/ha	Cost per trial (Rs.)
TKM 13 seeds	4 kg / 0.5 ac	400
NDLR 7 Seeds	4 kg/0.5 ac	400
Azospirillum	600g/ ac	40
Phosphobacteria	600g/ac	40
Trochoderma	1 kg / 0.5 ac	100
Pseudomonas	0.5 lit/ ac	100
Field board	1	400

8. Results:

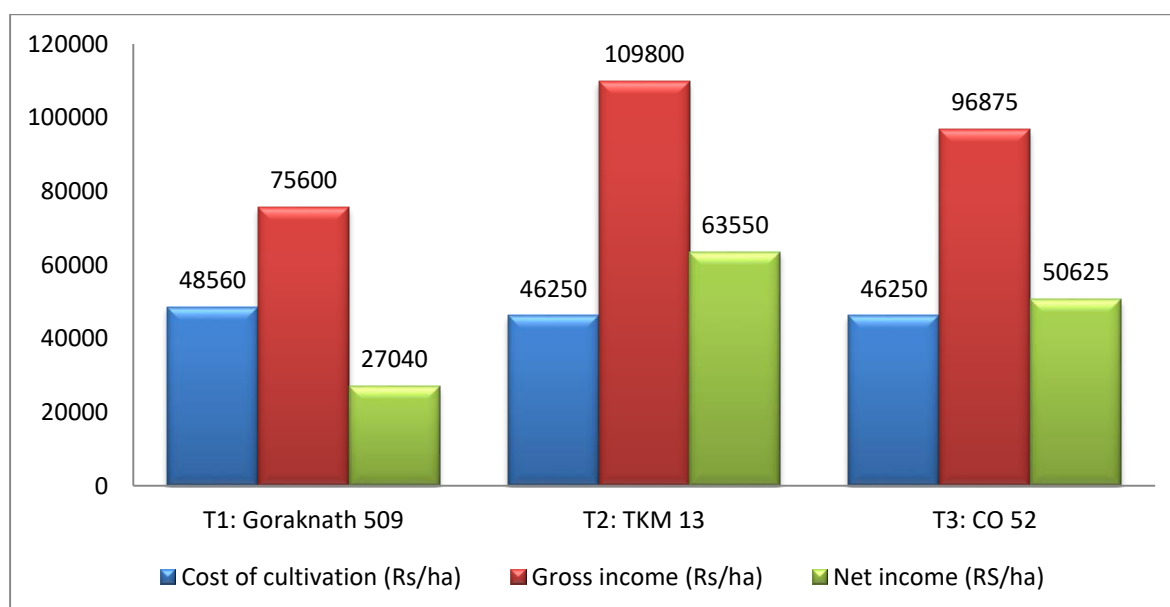
Table :Performance of the technology

<i>Technology Option</i>	<i>No.of trials</i>	<i>Yield (t/ha)</i>	<i>Net Returns (Rs. in ha)</i>	<i>B:C</i>	<i>No.of Productive tillers/Plant</i>	<i>Market price (Rs/kg)</i>
<i>Farmers Practice: Goraknath 509</i>	5	5.40	75600	1.55	24.00	14
<i>Technology 1(TKM 13)</i>		5.9	109800	2.40	27.00	18
<i>Technology 2(Co 52)</i>		6.05	96875	2.10	28.50	16

Description of the results:



The highest yield was obtained by the CO 52 (6.05 t/ha) that is on par with TKM 13 Yield (5.9 t/ha). The Farmers practice (Goraknath 509) was recorded the lowest of 5.40 t/ha yield. The market price of the TKM 13 was Rs 18 per kg due to their slenderness. The number of productive tillers was higher in CO 52 (28.5 tillers/Plant) followed by TKM 13 (27. tiller/plant). The farmers practice recorded 24 tillers/plant



Regarding economic parameters Farmers practice recorded high cost of cultivation (Rs.48560) due high seed cost and indiscriminate application of chemicals. The Highest gross return (Rs.109800) and net return (Rs.63550) recorded by TKM 13 due to highest market preference and highest market price.

Constraints faced:

During nursery stage severe incidence of zinc deficiency and water shortage reduce the growth and incidence of sucking pests during the nursery stage down pull the growth of the crop.

9. Feed back of the farmers involved:

TKM 13 and CO 52 are given the same quantity of yield but market price of the TKM 13 is higher (Rs.18/kg) than CO 52 (Rs.15.50). Rabi crop give 12 percent less yield as compared to Kharif Paddy due to waster shortage during the January – February. During December high amount of dew fall increase the incidence of the diseases particularly sheath blight and leaf spot diseases. Compared to other paddy varieties less (7.5%) incidence of white era incidence recorded.

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

1. Drought management technologies for Paddy to be discovered
2. Incidence of diseases during December month is high. So, disease resistance variety to be discovered in collaboration with farmers seed production programme will engage the farmers to make higher income.

OFT:2

1. **Thematic area:** Varietal evaluation
2. **Title:** Assessment of Black gram varieties for Yellow Mosaic Virus disease resistance
3. **Scientists involved:** SMS (Agronomy)
4. **Details of farming situation:**

The trails were conducted at Kondalnaykkanaptti village of Bodinayakanur block. This village comes under the foot hills of Western Ghats. The annual rainfall is 855 mm with 21 rainy days. Open wells, Mullai periyar river and bore wells are the major irrigation sources of the village. The soil type is red sandu loam with high Nitrogen (284 kg/ha) medium Phosphorous (11.2 kg/ha) and high amount of Potassium (151kg/ha). The major cropping system of the Area is Banana- Pulses –Paddy.

5. Problem definition / description: High incidence of YMV (42%), Lack of awareness on IPDM practices, Poor yield (5 q/ha), Cultivation of old (ADT 3 and CO 4) variety

6. Technology Assessed:

TO1 : Farmers Practice : Cultivation of old varieties (CO 4)

TO2: Recommended Practice :

VBN 8 Black gram Resistant to Yellow Mosaic Virus and leaf crinkle diseases, Duration : 65 - 75 days, Yield : 9 q/ha

TO3: Alternate practice 1:

TBG104: YMV resistant, Duration : 75 – 80 days, Photo insensitive, Yield : 12 q /ha

TO 4: Alternate practice 2:

KKM 1: YMV resistant, Duration : 65 – 70 days, Yield : 11 q /ha

7. Critical inputs given:

Name of critical input	Qty per trial/ha	Cost per trial (Rs.)
VBN Seeds	4 kg/ 0.5 ac	640
TBG 104 Seed	4 kg/ 0.5 ac	640

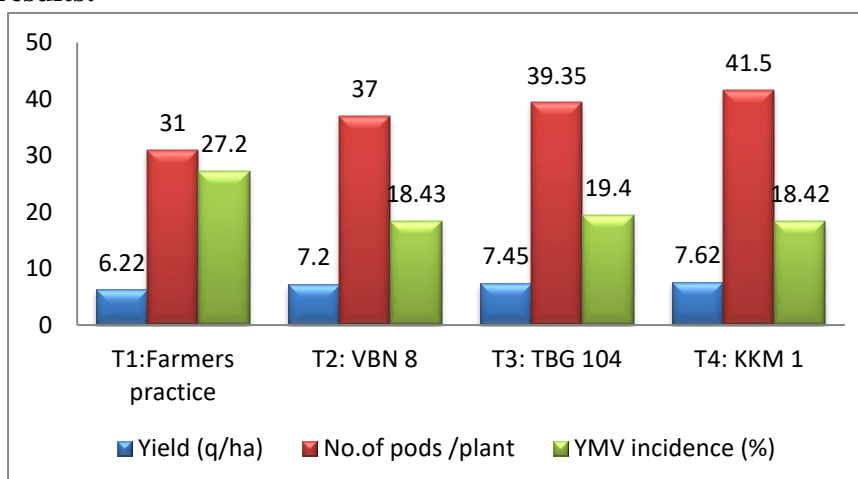
Name of critical input	Qty per trial/ha	Cost per trial (Rs.)
KKM 1 Seeds	4 kg/ 0.5 ac	640
<i>Trichoderma viride</i>	3 kg	300
<i>Pseudomonas</i>	3 kg	450
Pulses wonder	2 kg	250
Field board	1	400

8. Results:

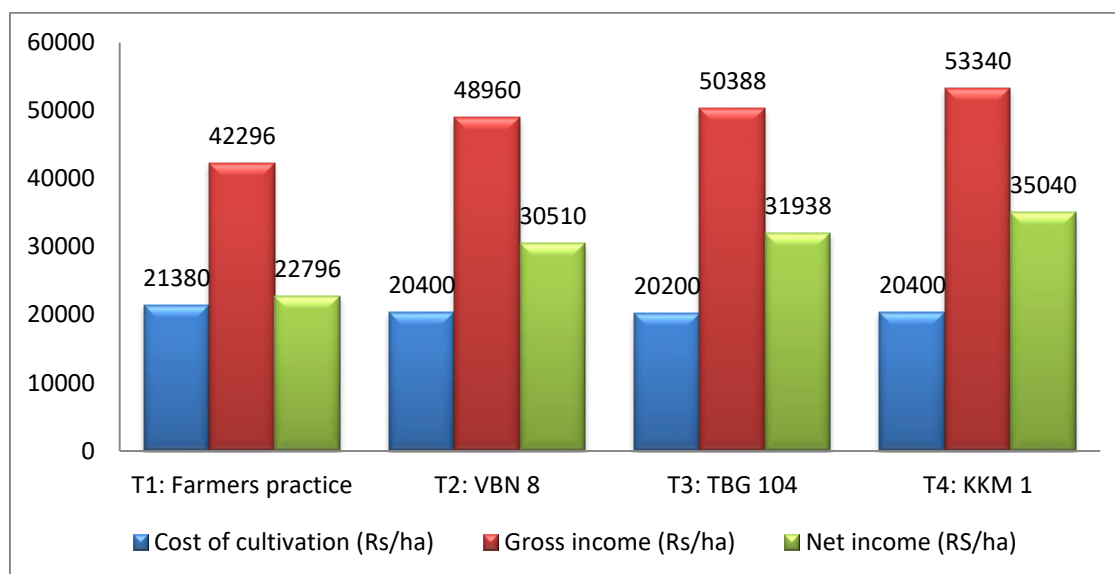
Table : Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net Returns (Rs. in /ha)	B:C	No. of pods/plant	YMV incidence (%)
Farmers Practice:	5	622	22796	2.16	31.00	27.2
Technology 1:		7.20	30510	2.65	37.00	18.43
Technology 2:		7.45	31938	2.73	39.35	19.4
Technology 3:		7.62	35040	2.91	41.50	18.42

Description of the results:



The highest yield was obtained by KKM 1 (7.62 q/ha) followed by TBG104 (7.45 q/ha) and VBN 8 (7.2 q/ha). The farmers practice was recorded low yield (6.22 q/ha). Highest number of pods recorded in KKM 1 (41.5) followed by TBG 104 (39.35). The lowest number of pods per plant recorded in Farmers practice (31). YMV incidence was low in KKM 1 leads to higher number of pods per plant and yield.



Regarding cost of cultivation the highest cost of cultivation recorded in farmers practice due to indiscriminate application of plant protection chemicals. The highest gross (Rs.503340) and net return (Rs.35040) was recorded by KKM 1 due to higher yield and less cost of cultivation. The YMV incidence also low in KKM1 reduces the cost of cultivation.

Constraints faced:

Pulses are growing as fallow crop of Banana and Paddy. Both Crop highly nutrient exhaustive crop. If Black gram grown as Paddy fallow or Banana fallow highly affected by the nutrient deficiency. Due to lack of time for preparation of land for sowing black gram sowing by minimal tillage, germination percentage and incidence of YMV due to the non practice of Seed treatment leads to the poor yield in the Area.

9. Feed back of the farmers involved:

1. KKM 1 and VBN 8 are giving same amount of yield
2. Pulses wonder application increase the number of pods /plant
3. Seed treatment with imodacloprid reduces the YMV incidence

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

Occurrence of Wilt disease incidence during the December month

OFT:3

1. **Thematic area:** Varietal evaluation

2. **Title:** Assessment of suitable shorter and drought tolerant sugarcane variety for Theni District

3. **Scientists involved:** SMS (Agronomy)

4. **Details of farming situation:**

In Theni district sugarcane cultivated area high in Periyakulam block. The trail area comes under the Sothuparai dam irrigation basin. The major soil type is clay with high amount nitrogen (291.0kg/ha), low phosphorous (7.9kg/ha) and high potassium (258.0 kg/ha). Total rainfall of the Block is 890 with 22 rainy days. The major cropping system of the area is Sugarcane – Paddy.

Problem definition / description: Low yield (100 t/ha) due to non availability of drought tolerant and shorter duration variety. Continues cultivation of same variety leads to high amount of pest and disease. Poor tillering capacity (14/plant).

6. Technology Assessed:

TO 1: Farmers practice : Sathanai India 309, Duration:12 months, Yield :100t/ha, Yellowing during water logging, Internodes borer incidence

TO 2: Recommended practice:

CO 09004 :Duration : 10 months Parents : COC 671 x Co.T.8201, Yield : 130 tons/ha Sugar yield: 14.82 t/ha, Good rationing, Non-flowers, resistant to red rot and Suitable for drought and saline soils.

TO 3:Alternate practice:

CO C 25, Parents : CO 85002/HR 83-144,Yield : 140 t/ha, Duration : 10 months ,Sugar yield : 19.54 t/ha and 12.85% Commercial cane sugar, Good ratooning ability, Moderately resistant to red rot

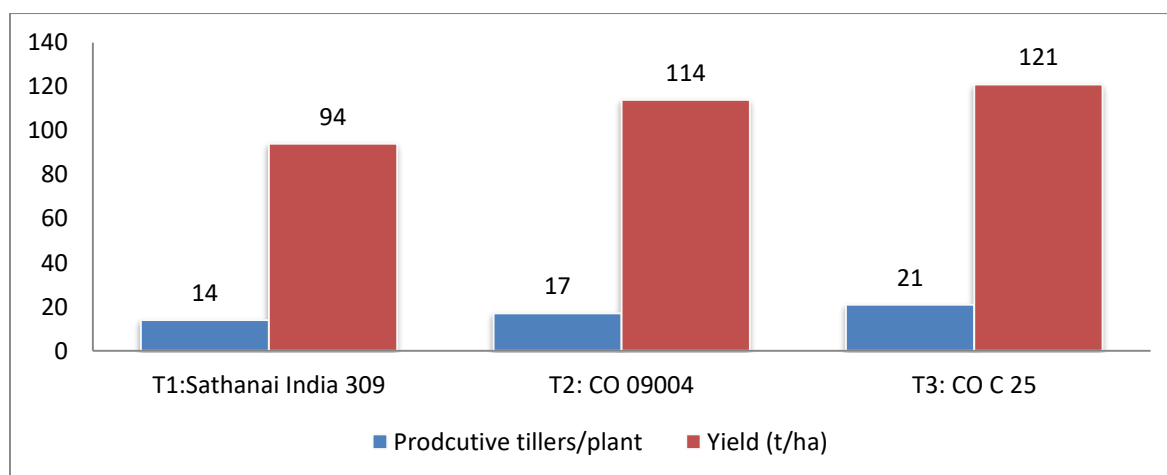
7. Critical inputs given:

Name of critical input	Qty per trial/ha	Cost per trial (Rs.)
CO 09004 (Two budded Setts)	15000 nos (2 buded)/0.5 ac	3000
CO C 25 (Two budded Setts)	15000 nos (2 budded)/ 0.5 ac	3000
PPFM	1000 ml/ac	300
Field board	1	400

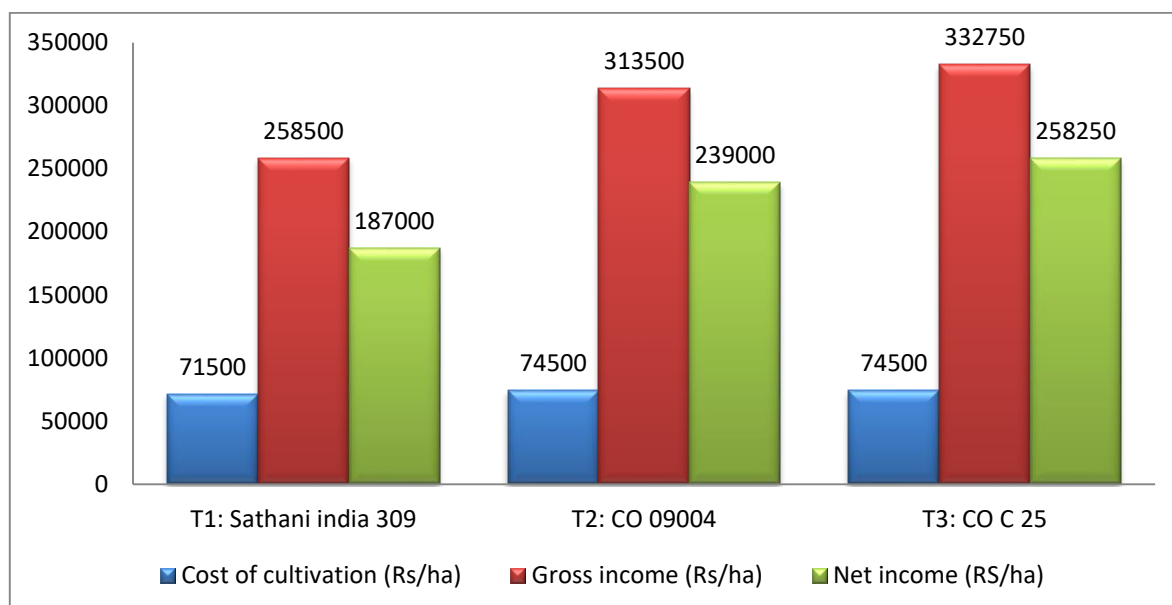
8. Results:

Table : Performance of the technology

<i>Technology Option</i>	<i>No.of trials</i>	<i>Yield (t/ha)</i>	<i>Net Returns (Rs. in ha)</i>	<i>B:C</i>	<i>No.of Productive tillers/Plant</i>
<i>Farmers Practice: Sathyanai india 309</i>	5	94	18700	3.01	14
<i>Technology 1(CO 09004)</i>		114	239000	4.20	17
<i>Technology 2(CO C 25)</i>		121	258250	4.46	21

Description of the results:

The highest yield was recorded by CO C 25 (121 t/ha) followed by CO 09004 (114 t/ha). The cane size of the CO C 25 recorded high then other varieties. The individual cane weight higher in CO C 25. The high number of productive tillers recorded in CO c 25 (21) followed by Co 09004 (17).



Regarding cost of cultivation CO 09004 recorded highest cost of cultivation due sett treatment, application of PPFM and Micronutrient that is on par with Co C 25 due to same kind of inputs applied. The highest gross return recorded by CO C 25 that is (Rs.332750) followed by CO 09004 (313500).

Constraints faced:

During vegetative stage Zinc and Iron deficiency incidence more. At maturity stage mealy bug incidence also notices. Compared other variety cane size thicker. But the number of productive tillers is low

9. Feed back of the farmers involved:

1. Application of PPFM saves the water from the drought during cane maturity stage.
2. CO C 25 cane size was thicker than other varieties.

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

Less no of productivetillers during first crop.

OFT:4

1. **Thematic area:** Varietal evaluation

2. **Title:** Assessment of suitable Castor hybrid for Theni District

3. **Scientists involved:** SMS (Agronomy)

4. **Details of farming situation:** Srirengapuram village is comes under the Theni Block. The major Soil type of the trial area is Clay soil with High amount of Nitrogen (284kg/ha), Medium Amount of Phosphorous (12.7 kg/ha) and High Amount of Potassium (171kg/ha). The major crop of the village is Maize – castor, Maize – Cotton. The total annual rainfall is 890 mm with 24 rainy days

Problem definition / description: Low yield (14 q/ha) due to non adoption of high yielding hybrids, Wilt incidence.

6. Technology Assessed:

TO1: Farmers Practice :Local variety,

TO 2: Recommended practice:YRCH 2, Triple bloom, non lodging and non shattering and wilt resistant, Yield: 2089 kg/ha

TO3: Alternate practice :DCH 177, Resistant to *Fusarium* wilt, yield : 2130 kg/ha, Oil content 49%, Duration: 100 days

TO4: Alternate practice 2: DCH 519: Resistant to *Fusarium* wilt, yield : 2130 kg/ha, Oil content 50%<Duration: 110 day

7. Critical inputs given:

Name of critical input	Qty per trial/ha	Cost per trial (Rs.)
YRCH 2 Seeds	1 kg/0.5 ac	300
DCH177 Seeds	1 kg/0.5 ac	300
DCH 529 seeds	1 kg/0.5 ac	300
MN Mixture	2.5 kg/0.5 ac	450
Field Board	1	400

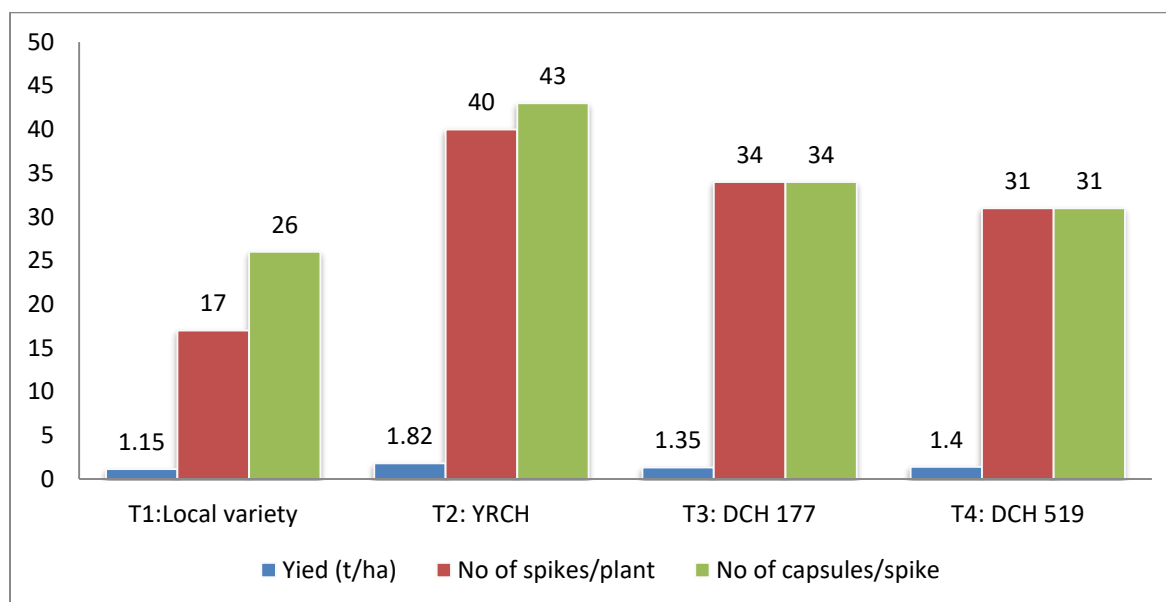
8. Results:

Table : Performance of the technology

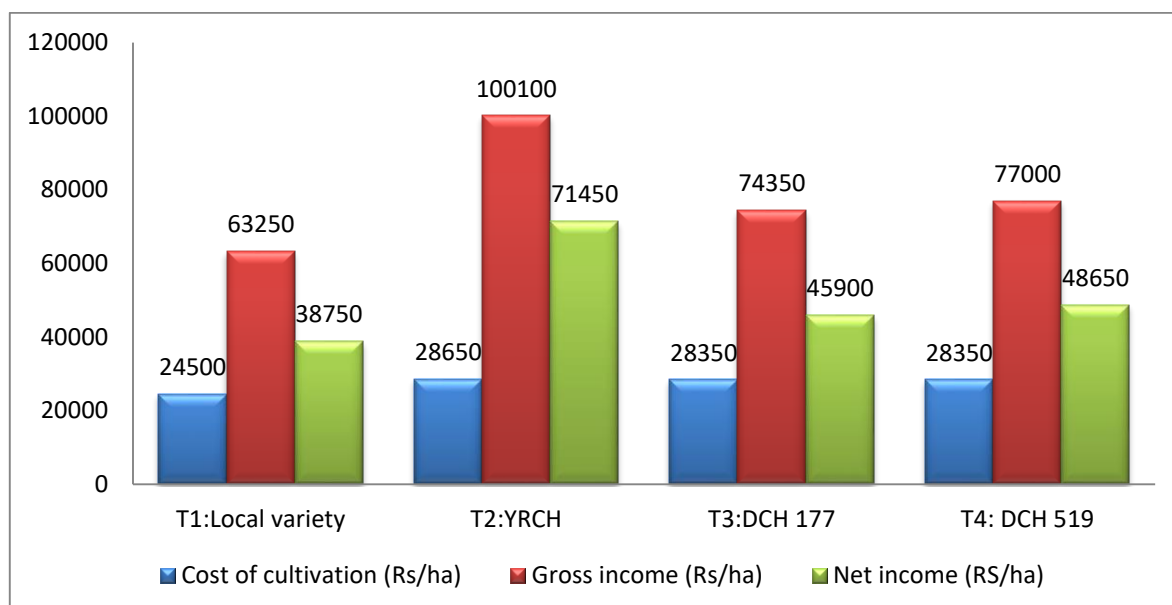
Technology Option	No. of trials	Yield (t/ha)	Net Returns (Rs. in ha)	B:C	No. of Spikes/ plant	No. of capsule/Spik e
Farmers Practice: Local variety	5	1.15	38750	2.58	17	26
Technology 1(YRCH)		1.82	71450	3.49	40	43
Technology 2(DCH 177)		1.35	45900	2.61	34	34
Technology 3(DCH 519)		1.40	48650	2.71	31	31

Description of the results:

Yield parameters



The highest yield was obtained by YRCH 2 (1.82t/ha) followed by DCH 519 (1.4 /ha) that is on par with DCH 177 (1.35 t/ha). Yield was affected by the number of branches and spikes per plant. The wilt incidence reduced the yield in the DCH 177 and DCH 519. The Spike rot also reduced the yield in DCH 177 and DCH 519.



cost of cultivation YRCH2 recorded highest cost of cultivation (Rs.28650) due to seed treatment, application of micronutrient mixture. The highest net income (Rs.71450) was recorded in YRCH 2 due high yield. The lowest t income was recorded in Farmers practice due to Low yield.

Constraints faced:

During vegetative stage yellowing of leaf occurs due to heavy rainfall. Inflorescences rot occurs during heavy dew at December month

10. Feed back of the farmers involved:

1. YRCH Give more yield as compared to other variety.
2. Less no of bbranches and capsulw formation in DCH 177 and DCH 519

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

1. Less number of harvest per year.

OFT: 5

1. **Thematic area:** Integrated Pest Management (IPM) in Maize

2. **Title:**Assessment of Technological modules of the management of Fall Army Worm(*Spodoptera frugiperda*) FAW in Maize

3. **Scientists involved:** SMS (Plant Protection)

4. Details of farming situation:

The assessment was conducted during Rabi 2018-2019 ICAR KVK farm at Kamatchipuram village of Chinnamanur block. Fall Army Worm was heavy incidence of maize in Theni districts. The soil type of trial plots were red loamy with high nutrient capacity (N-256kg/ha, P- 11.7kg/ha and K-165kg/ha). The farming situation was irrigated and the source of irrigation was bore well. Total Annual Rainfall received during the season was is 890 mm with 24 rainy days

5. Problem definition / description:

In Theni district Maize cultivation 25,000 ha under Rainfed situation KVK undertake a diagnostic visit upon Fall Army Worm infestation. The Fall Armyworm (*Spodoptera frugiperda*), is an insect pest of more than 85 plant species, causing damage to economically important cultivated cereals such as Maize, Rice, Sorghum, and also to Vegetable crops and Cotton. It is the larval stage of the insect that causes the damage. FAW reproduces at a rate of several generations per year, and the moth can fly up to 100 km per night. FAW mostly eats the leaves of maize.

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

Selection of Area: Kamatchipuram Village, Theni District

TO 1: Integrated Pest Management-IPM

Pull crop as border 2-4 rows –fodder maize

Push crop inter crop as Desmodium-25 g

Pheromone traps-12 lures + traps/ac

Neem oil-1000 ml for ovi-positional repellent

Entomo Pathogenic Nematode EPN-5 Kg/ac in whorls

Bacillus thuringiensis- 50 g

Beauveria basiana-200 ml

Emamectin benzoate-80 g

TO 2: Biological Integrated Pest Management-BIPM

Pheromone traps-4/ac

Neem oil-1000 ml

Tricogramma pretiosum- 4-5 Release-50000/ac/release

Entomo Pathogenic Nematode EPN-5 Kg/ac in whorls

Bacillus thuringiensis -50 g

Beauveria basiana-200 ml

TO 3: Farmers Practice

Spraying of Spinosad

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

Name of critical input	Qty per trial/ha	Cost per Trial (Rs.)
Fodder Maize	2 kg / 0.5 ac	200
Desmodium-25 g	25 g	100
Pheromone traps	12/ ac (lures + traps)	600
<i>Tricogramma pretiosum</i> - (4-5 Release)	50000/ac/Release	800
Neem oil	1000 ml	500
Entomo Pathogenic Nematode (EPN)	5 Kg/ac	5000
<i>Bacillus thuringiensis</i> (Bt)	50 g	250
<i>Beauveria basiana</i>	200 ml	225
Emamectin benzoate	80g/ ac	800
Field board	1	400
Total		Rs. 8875

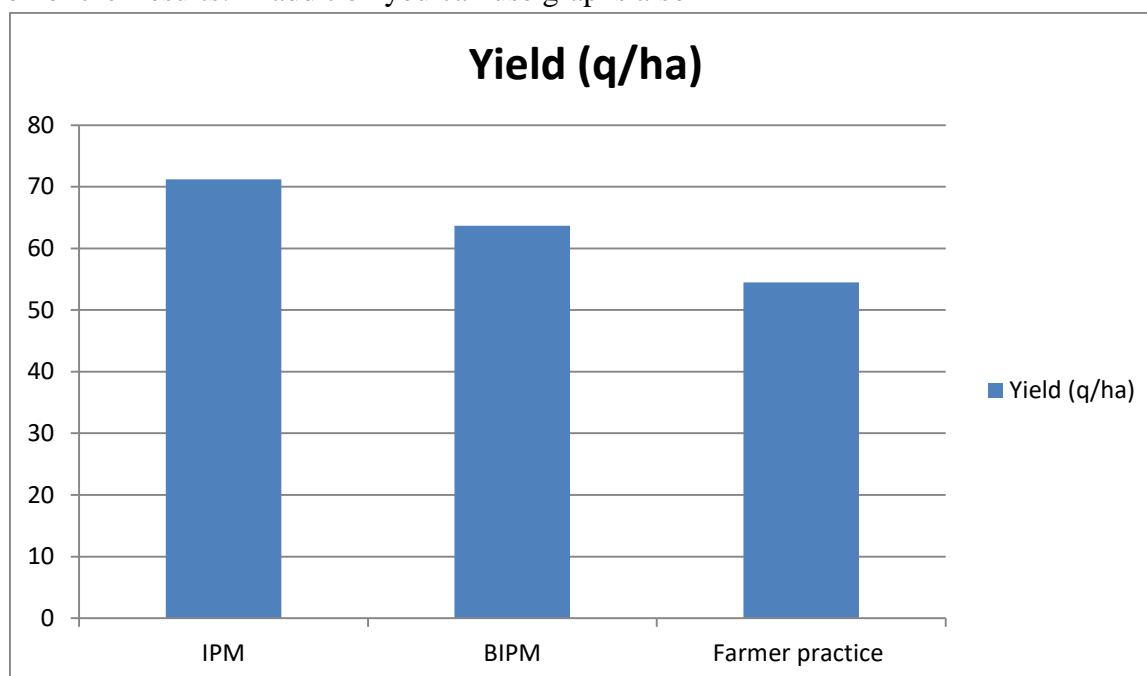
8. Results:

Table: Performance of the Technology

Technology Option	No. of Trial	Yield (q/ha)	Returns lakh./ha)	Ratio	No. of Egg Masses (5 Random plants/ Block)
	1				

<i>Technology 1- (Integrated Pest Management)</i>		<i>71.22</i>	<i>58130</i>	<i>2.68</i>	<i>2.8</i>
<i>Technology 2- (Biological Integrated Pest Management)</i>		<i>63.7</i>	<i>50510</i>	<i>2.56</i>	<i>4.2</i>
<i>Technology 3- Farmers Practice</i>		<i>54.5</i>	<i>33300</i>	<i>1.8</i>	<i>6.8</i>

Description of the Results: in addition you can use graphs also



The highest yield was obtained by the IPM plot (71.2q/ha) that is on par with BIPM plot Yield (63.7q/ha) and Farmer Practices (54.5q/ha). IPM practices control the FAW incidence effectively controlled in IPM plot compared to the BIPM and Farmer Practices. In control block even after spraying number of chemical the FAW was not rectified. Where as in the IPM block the leaf whole application of EPN followed water spray, Pheromone trap installation, traps catches more number of Adult moth collected using *Spodolure* in an effectively trapped IPM and BIPM blocks. Inter cropping with Desmodium and Emamectin benzoate 6 ml/tank reduced FAW incidence.

Block	Plant stand	Height of plant (cm)	Weight of the cob (wet weight)	Weight of the cob (dry weight)	Yield / ha (kg)
IPM	Average	177	113	53.7	71.22
BIPM	Average	150	106	48.9	63.7
Farmers Practice	Average	121	101	41.7	54.5

Constraints faced:

During vegetative stage severe incidence of Fall Army Worm leads to down pull the growth of the crop.

9. Feed back of the farmers Involved:

Fall Army Worm causes severe damage of the Maize leads to heavy yield loss

Pheromone traps catches more number of Adult moths

Beauveria basiana control FAW larvae after application of foliar spray.

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

IPM Technology was very effective in reducing the incidence of FAW. Because of various components involved such as Pheromone traps, Entomo Pathogenic Nematode (EPN), *Bacillus thuringiensis* (Bt) gives mortality of larvae to manage FAW in Maize.

OFT : 6

1. **Thematic area** : Varietal evaluation

2. **Title** : Assessment of suitable Paddy varieties for saline soils of Theni district.

3. **Scientists involved**: SMS (Soil Science & Agronomy)

4. **Details of farming situation**: Paddy cultivated in Uppukottai village. This village comes under mullai periyar river basin irrigation area. The soil type is clay with high nitrogen (492.5 kg/ha), low Phosphorous (9.5 kg/ha) and Potassium (106.5 kg/ha). Salinity problem among 750 famers in an area of 400 ha. Cropping scheme of this village Paddy- paddy -pulses, the main crop cultivation season is Kharif. Total area under paddy is 1000 ha with average production of 602 t/ha. The trail area received 21 rainy days with annual rainfall of 915 mm.

5. **Problem definition / description** : Salinity problem among 750 famers in an area of 400 ha. The farmers are faced salinity problem in rice cultivation which results severe water logging and algal growth, poor tillering, white leaf blotches, patchy growth, leaf scorching, stunted growth, leaf browning and drying, Sterility.

6. **Technology Assessed**:

TO 1: Farmer Practice : Goraknath 509

TO 2: Recommended Practice :

CSR 43 :

Parentage : KDM105/IR4630-22-2-5-1-3/ IR 20925-33-3-1-28, Plant height (cm) : 95, Maturity duration (days) : 110, Grain type : Short Bold, Salinity tolerance (dS m⁻¹) : 7.0, Sodicity tolerance (pH) : 10.0, Grain yield in Normal soils (Q ha⁻¹) : 60, Grain Yield in Salt affected soils (Q ha⁻¹) : 35, Recommended States / Areas : Salt affected soils including sodic soils of UP

TO: 3 Alternate Practice

TRY 3 :

Parentage - ADT 43 / Jeeraga Samba , Duration (days) – 135, Season - Samba / Late Samba / Thaladi, Yield (Kg/ha) - 5833 / ha, Grain type - Medium bold grain , Rice color - white rice

Special features - Resistant to leaf folder, stem borer, brown plant hopper, blast, brown spot, sheath rot and sheath blight

7. Critical inputs given:

Name of critical input	Qty per trial/ha	Cost per trial (Rs.)
Seeds TRY 3	12kg	300
CSR 43	12kg	400
Field boards	1	400

8. Results:

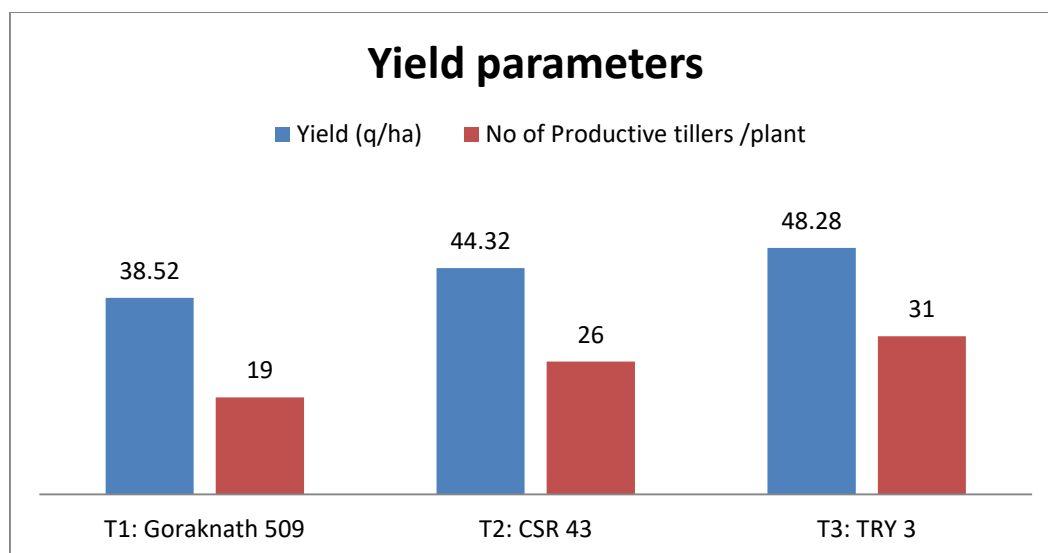
Table : Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net Returns (Rs. in	B:C ratio	No Of Productive Tillers/ Plant
TO 1 (Goraknath 509)	5	38.52	14978	1.38	19
TO 2 (CSR 43)		44.32	27530	1.71	26

TO 3 (TRY 3)		48.28	33470	1.86	31
--------------	--	-------	-------	------	----

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

Description of the results: (one page) in addition you can use graphs also



The results of the assessment of two salt resistant paddy variety in Theni district indicated that out of the local varieties viz., (Goraknath 509), recorded significantly higher grain yield of 48.28 q/ha followed by CSR 43 with 44.32q/ha and the lowest grain yield of 38.52 q/ha was recorded in Goraknath 506. The highest number of productive tillers per plants (31) was recorded in TRY 3 followed by CSR 43 (26). In the case of net returns, TRY 3 was recorded significantly higher net return of Rs. 33470/ha followed by CSR 43 (Rs. 27530/ha) and the least net returns was recorded in Goraknath 509 (Rs. 14978/ha). During all stages of crop growth farmers faced the problems like, poor tillering, white leaf blotches, patchy growth, leaf scorching, stunted growth, leaf browning and drying, Sterility. The TRY 3 salt resistant variety was able to withstand in saline soil and farmers could get good grain yield in saline soil.

Constraints faced:

During past one decade Goraknath 509 gives better yield than other varieties in saline soil. Due to salinity of the soil cultivation of same variety leads poor tillering, white leaf blotches, patchy growth, leaf scorching, stunted growth, leaf browning and drying, sterility. TRY 3 has intermediate tissue tolerance, better K⁺ uptake, and Na⁺ exclusion ability, desirable attributes of a salt-tolerant variety. Cultivation of TRY 3 were recorded high yield than other cultivars in this salt affected area.

9. Feed back of the farmers involved:

1. More number of productive tillers was recorded in saline soil.
2. TRY 3 Rice variety was moderately resistant to salinity problem.
3. Leaf scorching, stunted growth, leaf browning and drying was very low in this variety.

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

1. Seed production programme will engage the farmers to make available to the farmers.
2. Low yield recorded in saline tolerant variety compare to other farming situation.

OFT : 7

1. Thematic area : Varietal evaluation

2. Title : Assessing the performance of Coccinia varieties in Theni District

3. Scientists involved: SMS Horticulture and SS&H

4. Details of farming situation:

Coccinia cultivated in Odaipatti village of Chinnamanur block. The soil type is red loamy with high nitrogen (482.4 kg/ha), low Phosphorous (8.9 kg/ha) and high Potassium (290.5 kg/ha). The local variety of coccinia was recorded low yield, low market price and fruit fly incidence among 120 famers in an area of 50 ha. Cropping scheme of this village Coccinia – Cucurbits – snake gourd, the main crop cultivation season is Kharif. Total area under Coccinia is 250 ha with average production of 17500 t/ha. The village received 18 rainy days with annual rainfall of 890 mm.

5. Problem definition / description : Low yield, low market price and fruit fly incidence among 120 famers in an area of 50 ha.

6. Technology Assessed:

TO 1: Farmer Practice : Local variety

TO 2: Recommended Practice :

Aanaikatti sln/Co1 :

Clonal selection from Aanaikatti type. Fruits are long, green with white stripes, less seeded and sweet (4.5o Brix). Suitable for culinary purpose, Duration – Perennial, Yield - 83.09 (t/year)

Source : TNAU, Coimbatore, 2016

TO: 3 Alternate Practice

DRC2 :

DRC 2, a variety of Coccinia promising 70 tonnes per hectare and that can be stored for over 10 days

Source : UAS, Dharwad, 2015

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

Name of critical input	Qty per trial/ha	Cost per trial (Rs.)
Rooted Cuttings	Each 250 cuttings	5000
Field board	1	400

8. Results:

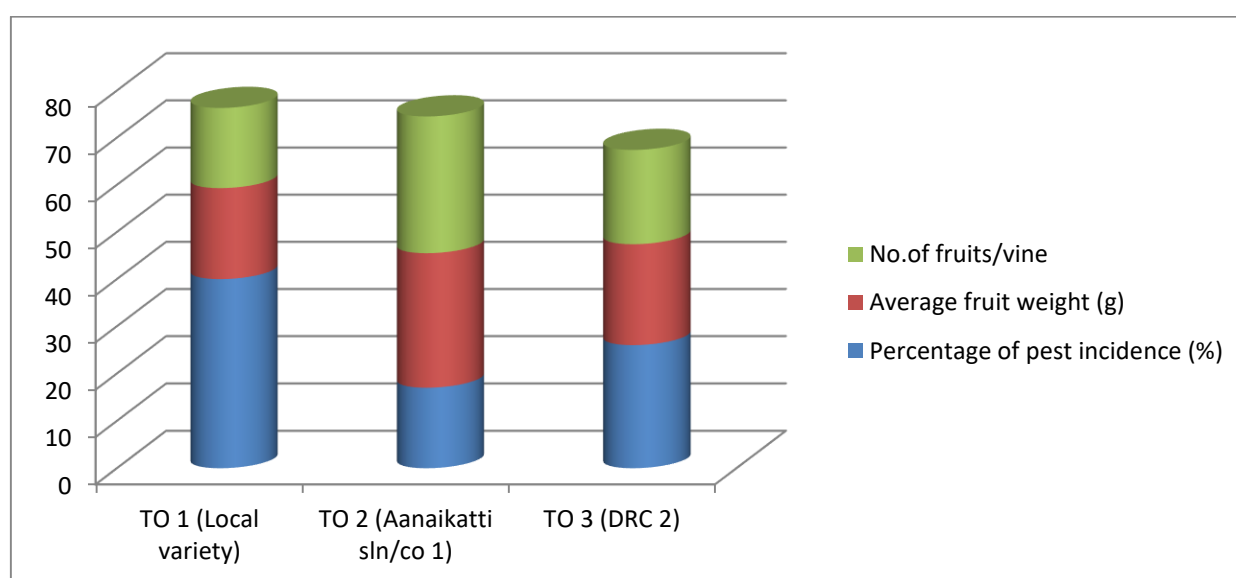
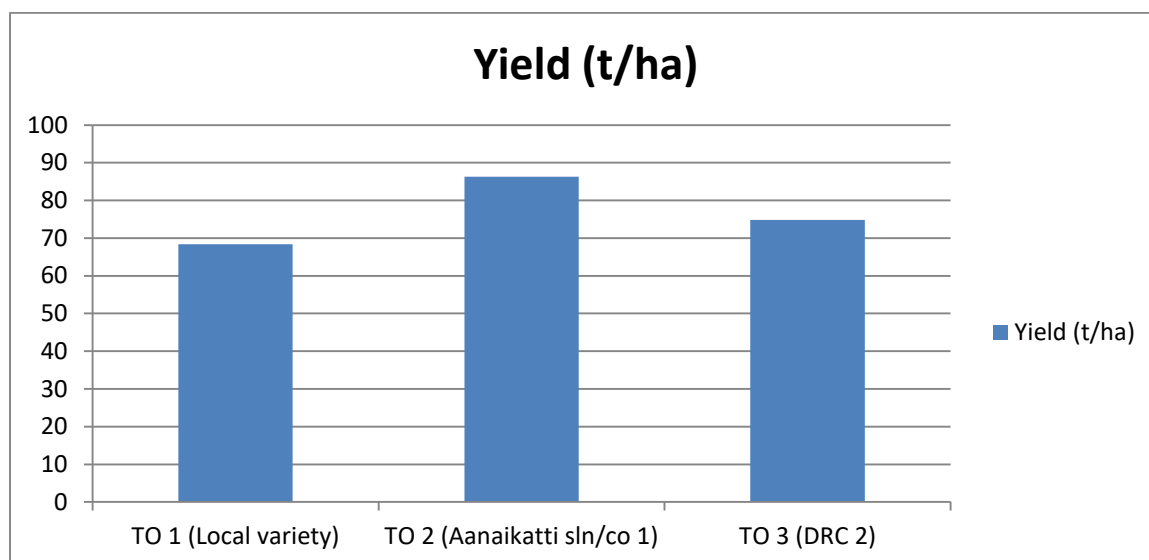
Table : Performance of the technology

Technology Option	No. of trials	Yield (q/ha)	Net Returns (Rs. in lakh./ha)	B:C ratio
TO 1 (Local variety)	5	68.4	499000	3.70
TO 2 (Aanaikatti sln/co 1)		86.3	678000	4.66
TO 3 (DRC 2)		74.8	563000	4.04

Technology Option	Percentage of pest incidence (%)	Fruit length (cm)	Average fruit weight (g)	No. of fruits/vine
TO 1 (Local variety)	40	6.3	19.3	17
TO 2 (Aanaikatti sln/co 1)	17	7.8	28.5	29
TO 3 (DRC 2)	26	7.1	21.4	20

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

Description of the results: (one page) in addition you can use graphs also



The results of the assessment of two new high yielding variety of Coccinia in Theni district indicated that out of the local varieties viz., (Local variety), recorded significantly higher fruit yield of 86.3 t/ha followed by DRC 2 with 74.8 t/ha and the lowest fruit yield of 68.4 t/ha was recorded in local variety. The highest number of fruits per vine (29) was recorded in CO 1 followed by DRC 2 (20). In the case of net returns, CO 1 was recorded significantly higher net return of Rs. 678000/ha followed by DRC 2 (Rs. 563000/ha) and the least net returns was recorded in local variety (Rs. 499000/ha). During flowering and fruiting stages of crop growth farmers faced the viral incidence problem and fruit fly incidence. CO 1 coccinia variety was recorded high fruit yield and farmers could get good quality of fruits in Odaipatti village.

Constraints faced:

Due to viral and fruit fly incidence of same variety leads to low yield and low market price. CO 1 has moderately resistant to viral and fruit fly incidence. Cultivation of CO 1 were recorded high yield than other local varieties in Theni district area.

9. Feed back of the farmers involved:

1. Moderately resistant to viral and fruit fly incidence
2. The yield was high in CO 1 variety when compare to the other local variety

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

Since it is the most economical crop, virus free planting material is needed for cultivation without loss of crop in the initial stage as well as to reap the good harvest at least for two years.

OFT : 8

1. Thematic area : Varietal evaluation

2. Title : **Assessing the performance of Onion varieties in Theni District**

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

4. Details of farming situation:

Onion cultivated in Palarpatti village of Bodinayakanur block. The soil type is red loamy with medium nitrogen (320 kg/ha), low Phosphorous (8.1 kg/ha) and medium Potassium (260.5 kg/ha). The local variety of onion was recorded high pest and disease incidence, low yield among 250 famers in an area of 100 ha. Cropping scheme of this village Onion – cabbage – Beet root – Bhendi. The main crop cultivation season is Rabi. Total area under Onion is 400 ha with average production of 7200 t/ha. The village received 18 rainy days with annual rainfall of 890 mm.

5. Problem definition / description : High pest and disease incidence, low yield problems occurs among 250 famers in an area of 100 ha in theni district.

6. Technology Assessed:

TO 1: Farmer Practice : Local variety.

TO 2: Recommended Practice :

CO- 5 :

Bulbs are deep pink rose in colour. Average weight of cluster 90g. Average numbers of bulblets per cluster 5-6. Mature in 90 days after planting. Recommended for cultivation in Kharif and Rabi in Tamil Nadu. Yield 18 t/ha in 90 days.

TO: 3Alternate Practice

Arka Ujjwal :

It is a multiplier onion variety with uniform bright dark red bulb color, bulb weight 40-45g, dry matter content 14-16% and bulb yield 20-25t/ha in 85 days.

7. Critical inputs given:

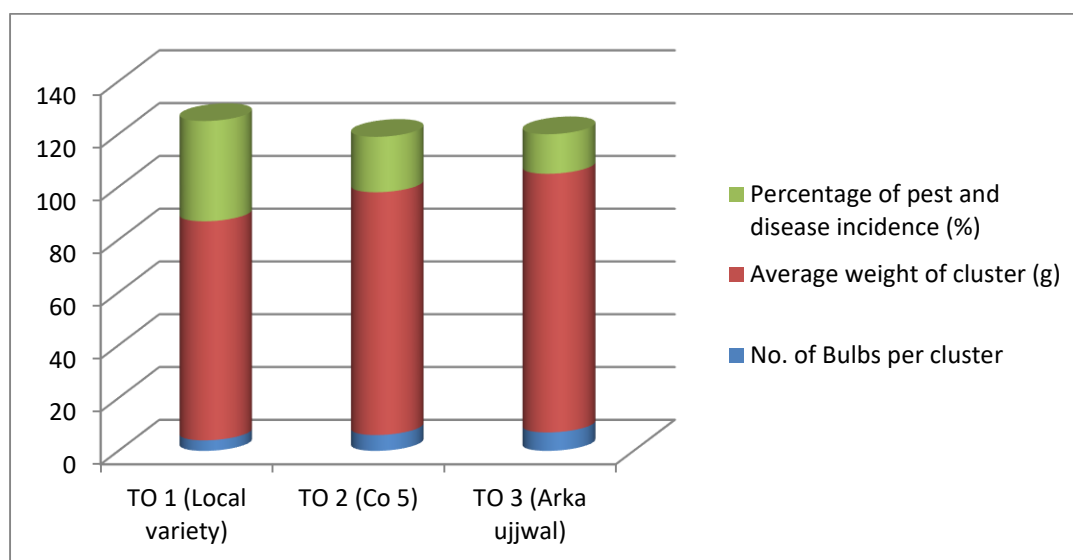
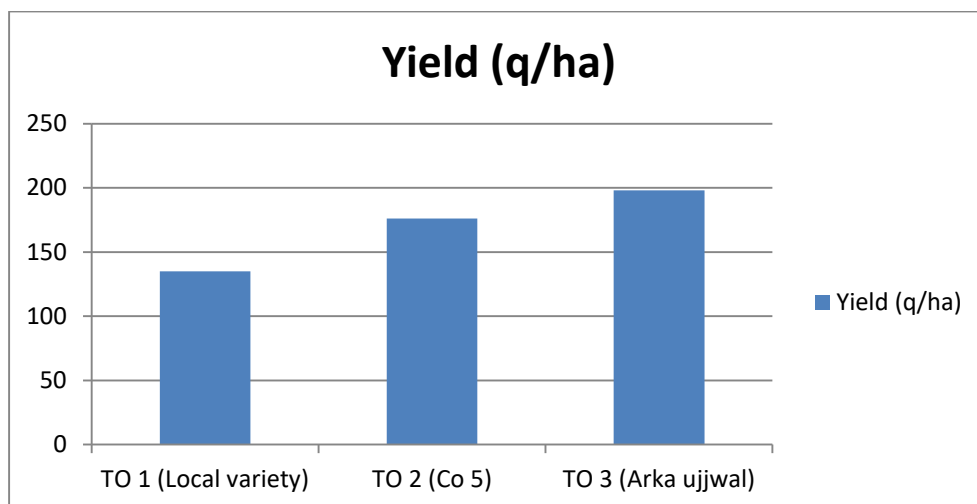
Name of critical input	Qty per trial/ha	Cost per trial (Rs.)
Seed Co (On) 5Seed	1.5 kg / 0.5 ac	3000
Arka Ujjwal	1.5 kg/ 0.5 ac	3000
Azospirillum	1 kg/0.5 ac	100
Phosphobacteria	1 kg/0.5ac	100
Pseudomonas fluoresces	1kg/ 0.5ac	100
Field board	1	400

8. Results:

Table : Performance of the technology

<i>Technology Option</i>	<i>No.of trials</i>	<i>Yield (q/ha)</i>	<i>Net Returns (Rs. in lakh./ha)</i>	<i>B:C ratio</i>
<i>TO 1 (Local variety)</i>	5	135	96000	1.55
<i>TO 2 (Co 5)</i>		176	229200	2.45
<i>TO 3 (Arka ujjwal)</i>		198	297400	2.88

Technology Option	No. of Bulbs per cluster	Average weight of cluster (g)	Percentage of pest and disease incidence (%)
<i>TO 1 (Local variety)</i>	4	83	38
<i>TO 2 (Co 5)</i>	6	92	21
<i>TO 3 (Arka ujjwal)</i>	7	98	15



The results of the assessment of two new high yielding varieties of Onion in Theni district indicated that out of the local varieties viz., (Local variety), recorded significantly higher bulb yield of 198 q/ha followed by Co 5 with 176 q/ha and the lowest bulb yield of 135 q/ha was recorded in local variety. The highest number of bulbs per cluster (7) was recorded in Arka ujjwal followed by Co 5 (6). The lowest number of bulbs per cluster of 4 was recorded in local variety. In the case of net returns, was recorded significantly higher net return of Rs. 297400 /ha followed by Co 5 (Rs. 229200/ha) and the least net returns was recorded in local variety (Rs. 96000/ha). During vegetative stage of crops farmers faced thrips incidence problem. The Arka ujjwal onion variety was recorded higher bulb yield and farmers could get good quality of bulbs.

Constraints faced:

Most of the farmers were cultivated local variety of onion. Due to high pest and disease incidence of local variety leads to low yield and low market price. Arka ujjwal has moderately resistant to thrips incidence. Cultivation of Arka ujjwal were recorded high yield than other local varieties in Theni district area.

9. Feed back of the farmers involved:

Cost of cultivation in local variety was higher due to 3 weeding operations in the initial period. Foliar application of micronutrient helped in deep pink colour bulbs fetching more price.

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

1. Even though Co 5 and Arka ujjwal variety was one month longer than the local variety. In this trial Arka ujjwal variety can be promoted to cultivation because of higher BCR.
2. Linked palarpatti farmers interest group with NHRDF, Coimbatore for supply of seeds for horizontal spread.

OFT :9

1. **Thematic area :** Varietal evaluation

2. **Title :** Assessing the performance of Chilli varieties in Theni District

3. **Scientists involved:** SMS (Horticulture) and SMS (Plant protection)

4. **Details of farming situation:**

Chilli cultivated in Kathirnarasingapuram village of Andipatti block. The soil type is red loamy with medium nitrogen (304 kg/ha), low Phosphorous (7.8 kg/ha) and medium Potassium (276.8 kg/ha). The private hybrid of chilli was recorded high pest and disease incidence, low yield among 200 farmers in an area of 100 ha. Cropping scheme of this village cumbu – Bhendi - Chilli. The main crop cultivation season is Rabi. Total area under chilli is 350 ha with average production of 9800 t/ha of fresh fruit. The village received 17 rainy days with annual rainfall of 820 mm.

5. Problem definition / description :

The private hybrid (Bullet) gives low yield due to high pests such as mites and fruit rot disease. Farmers are unaware of high yielding chilli hybrids that give better yield and also have moderate disease resistance. Farmers are getting low market price for green chillies. So, the farmers prefer to go for high yielding chilli hybrids. The trial area also have low water potential this also results in higher mites incidence.

6. Technology Assessed:

TO 1: Farmer Practice : Private Hybrid (Bullet).

TO 2: Recommended Practice :

CO 1 :

Fruits light green in colour 10.5 – 12.0 cm long, Moderately resistant to fruit rot disease.

Yields 6.74 t/ha dry pod and 28.10 t/ha green Chillies crop duration of 195-205 days.

TO: 3 Alternate Practice

Arka sweta :

High yielding chilli F1 hybrid developed by using MS line, Plants medium tall (95 cm) & spreading (82.5 cm), Fruits long (13.2 cm) with 1.3 cm width, Fresh yield 38.4t/ ha and dry yield of 6 t/ ha in 140-150 days, Fruits are light green, turns red.

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

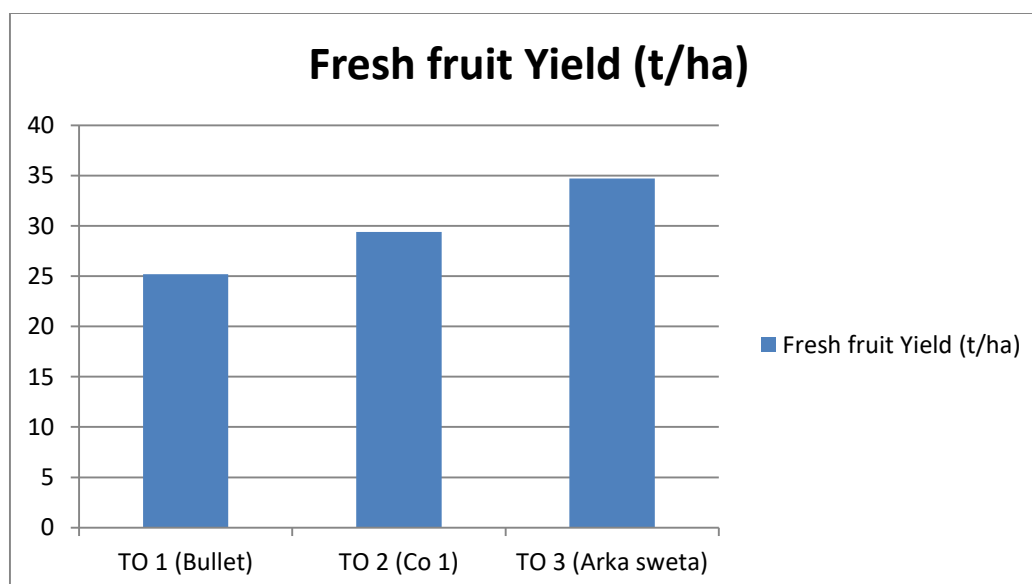
Name of critical input	Qty per trial/ha	Cost per trial (Rs.)
Chillies CO 1 Seeds	40 g/0.5 ac	960
Arka sweta Seeds	40 g/0.5 ac	800
Azospirillum	1 kg/0.5ac	100
Phosphobacteria	1 kg/0.5ac	100
Pseudomonas fluoresces	1 kg/0.5ac	100
Field board	1	400

8. Results:

Table : Performance of the technology

<i>Technology Option</i>	<i>No. of trials</i>	<i>Fresh fruit Yield (t/ha)</i>	<i>Net Returns (Rs./ha)</i>	<i>B:C ratio</i>
<i>TO 1 (Bullet)</i>	5	25.2	104100	2.07
<i>TO 2 (Co 1)</i>		29.4	208900	2.82
<i>TO 3 (Arka sweta)</i>		34.7	232500	3.03

<i>Technology Option</i>	<i>No of fruits yield per plant</i>	<i>Percentage of pest and disease incidence (%)</i>
<i>TO 1 (Bullet)</i>	174	35
<i>TO 2 (Co 1)</i>	216	18
<i>TO 3 (Arka sweta)</i>	239	12



The results of the assessment of two new high yielding hybrids of Chilli in theni district indicated that out of the private hybrid viz., (Bullet), recorded significantly higher fresh fruit yield of 34.7 t/ha followed by Co 1 with 29.4 t/ha and the lowest fresh fruit yield of 25.2 t/ha was recorded in private hybrid. The highest number of fruits per plant of 239 was recorded in Arka sweta followed by Co 1 (216). The lowest number of fresh fruits per plant of 174 was recorded in private hybrid. In the case of net returns, was recorded significantly higher net return of Rs. 232500/ha followed by Co 1 (Rs. 208900/ha) and the least net returns was recorded in local variety (Rs. 104100/ha). During flowering stage of crops farmers faced termites

incidence problem in private hybrids. The Arka sweta chilli hybrid was recorded higher fresh fruit yield and farmers could get good quality of fruits.

Constraints faced:

Most of the farmers were cultivated private hybrid of chilli. Due to high pest and disease incidence of private variety leads to low yield and low market price. Arka sweta has moderately resistant to mites incidence. Cultivation of Arka sweta were recorded higher yield than other private hybrids in Theni district area.

9. Feed back of the farmers involved:

Farmers informed that the new hybrids Arka Sweta and Chilli CO 1 Hybrids had less incidence of pest and diseases. After the assessment farmers wanted to cultivate the same hybrid seeds for every season and requested the KVK to make arrangements to procure the same.

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

Private variety (Bullet) : Cylindrical sized fruits is fetching better price in the market but this variety recorded low yield.

TNAU Hybrid Chillies CO 1: Smaller sized fruits is not fetching better price in the market but this variety recorded high yield when comparing private hybrid.

IIHR-Arka sweta: Smaller sized fruits is not fetching better price in the market but this variety recorded high yield when comparing private hybrid.

OFT :10

- 1 **Thematic area** : Value Addition
- 2 **Title** : Assessment of Different Millet Bars for Income Generation
- 3 **Scientists involved** : SMS (Home Science)
- 4 **Details of farming situation**
- 5 **Problem definition / Description** : Lack of Knowledge about the importance and health benefits of millets. Poor knowledge in millet value added products

6 Technology Assessed

- 7 **Selection of Village:** The area selected for the trail was Mullyampatti (DFI Village), Aundipatti Taluk, Theni District, Tamil Nadu.

Selection of Farm Women: Totally Five women farmers were selected based on the willingness and interest.

Procurement of Raw Materials: Raw Materials such as finger millet, bajra, Puffed sorghum, Roasted Bengal gram, Ground nut, Cholan (puffed), Bajra flakes, Ragi flakes, Mango and Jaggery were procured from super market.

Processing of Raw materials:

TO1 (Farmers Practice): Procedure to Prepare Ground nut chikkies

➤ Jaggery was dissolved in water. ➤ The jaggery solution was boiled till thread stage. ➤ Roasted Groundnut was added into the vessel mixed well with jaggery syrup. ➤ The contents were transferred into a greased tray, pressed with a ladle and cut into a required size

TO2 : Millet Bar (IIMR,2016)

Indian Institute of Millets Research (IIMR) has developed millets value added ready to cook/ready to eat products for wider consumption to meet the consumer requirements (healthy and tasty).

Procedure to Prepare Millet Bar

➤ Whole puffed sorghum, powdered Bajra and partially ground Finger millet grits were taken. ➤ Roasted whole Bengal gram, roasted and coarsely gritted groundnuts were blended with the millet mixture. ➤ Jaggery was dissolved in water. ➤ The jaggery solution was boiled up to 122°C till soft ball stage. ➤ All other ingredients were added into the vessel mixed well with jaggery syrup. ➤ The contents were transferred into a greased tray, pressed with a ladle and cut into a required size.

TO3: Beta carotene Enriched Millet Bar (CSC&RI,2018)

Procedure to prepare Beta carotene Enriched Millet Bar

➤ Whole puffed sorghum, flaked and powdered bajra and finger millet grits were taken ➤ Roasted whole Bengal gram, roasted and coarsely gritted groundnuts were blended with the millet mixture ➤ Jaggery was dissolved in water ➤ The jaggery solution was boiled up to 122°C till soft ball stage. ➤ All other ingredients were added into the vessel mixed well with jaggery syrup and mango bar/ pulp. ➤ The contents were transferred into a greased tray, pressed with a ladle and cut into a required size.

Sensory Evaluation: All the developed products i.e. Groundnut chikkies, Millet Bar and Beta carotene Enriched Millet Bar were evaluated appearance, texture, aroma, taste and overall acceptability by semi trained panel members using 5-point hedonic score card. The maximum score assigned was 5

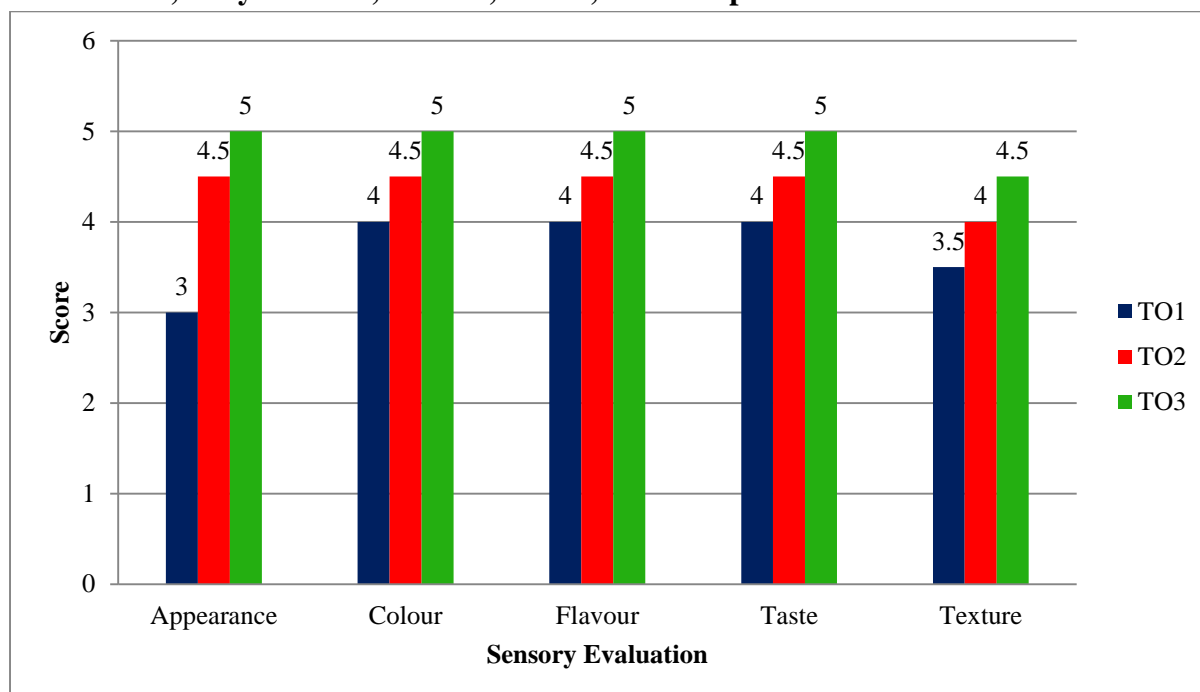
⌘ Critical inputs given:

Technology Options	TO1 (Farmers Practice) Ground nut Chikkies	TO2: Millet Bar (IIMR,2016)	TO3: Beta carotene Enriched Millet Bar (CSC&RI,2018)
Critical Inputs given	Roasted ground nut-3000 g	Roasted finger millet-800 g	Cholam (puffed)-1200 g
	Jaggery-4000 g	Roasted bajra-800 g	Bajra flakes-400 g
		Puffed sorghum-1200 g	Ragi flakes-400 g
		Roasted Bengal gram-800 g	Roasted Ground nut-400 g
		Roasted ground nut-400 g	Roasted Bengal gram-1200 g
		Jaggery-4000 g	Mango pulp-400
			Jaggery-4000

Organoleptic Evaluation of Different Millet Bars

Particulars	Appearance (5)	Colour (5)	Flavour (5)	Taste (5)	Texture (5)	Overall Acceptability (25)
TO1	3	4	4	4	3.5	18.5
TO2	4.5	4.5	4.5	4.5	4	22.0
TO3	5	5	5	5	4.5	24.5

Excellent: 5, Very Good: 4, Good: 3, Fair: 2, Not Accepted: 1



Organoleptic qualities play an important role in evaluating the quality of food products. A total of three recipes namely ground chikkies, millet bar and beta carotene enriched millet bar were prepared. A numerical score card was used to measure the acceptability in terms of appearance, colour, flavour, taste and texture with five scores for each criteria. Semi trained panel members in the age group of 20 -30 years evaluating the recipes. These scores given were excellent (5), very good (4), good (3), fair (2) and poor (1). The acceptability score was 25. For comparison purposes farmer practice recipe was prepared.

The acceptability trials of TO1, TO2 and TO3 obtained a mean score in the range of 3.0-5 out of 5. When compared to the farmers practice and millet bar, the Betacarotene enriched was more acceptable in terms of appearance, colour, flavour and texture. With regard to taste, the betacarotene recipe was highly acceptable and secured higher score.

The results indicated that the overall acceptability of different millet bars obtained a mean score in the range of 18.5 – 24.5 out of 25. The acceptability trials of different millet bar recipes in comparison to the farmers practices, proved that TO3 ranked higher and was more acceptable by the semi trained panel members. The recipes would not only add taste and colour, but also provide important nutrient of Beta carotene to the human body.

From the foregoing trails, it may be concluded that the TO3 possess high nutrient and also more acceptable. It is evident in terms of micronutrient especially rich in Beta Carotene.

9. Feed back of the farmers involved:

Farmwomen were very happy to adopt the technology and also they are preparing the products in their home. One farm women has started to develop Beta carotene Millet bar in small scale level during festival times. They are planning to develop the product in large scale level in the coming years.

Lack of machineries to develop value added products in large scale.

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

Millet bars contains valuable nutrients and has the potential to be considered as a functional foods. It will help to reduce micro nutrient deficient especially for children.

3.d. FRONTLINE DEMONSTRATION

a. Follow-up of FLDs implemented during previous years

S. No	Crop/Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
1	Paddy	ICM	Demonstration of Co 51 with ICM	Field day, farm school and seed production	26	1200	800

* *Thematic areas as given in Table 3.1 (A1 and A2)*

b. Details of FLDs implemented during the current year (Information is to be furnished in the following **three tables** for **each category** i.e. **cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.**)

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Source of funds	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
						Proposed	Actual	SC/ST	Others	Total	
1.	Paddy	Varietal introduction	Demonstration of CO 51 Rice variety	Rabi 2018	ICAR	4	4	2	8	10	
2	Maize	ICM	Demonstration of CO HM 8 Maize Hybrid with ICM	Kharif 2018	ICAR	4	4	0	10	10	
3.	Cumbu	ICM	Demonstration of Co 10 Bajra variety with ICM	Kharif 2018	ICAR	4	4	0	10	10	
4.	Sorghum	ICM	Integrated Crop Management in	Rabi 2018	ICAR	4	4	0	10	10	

			Sorghum with K12 variety								
--	--	--	--------------------------	--	--	--	--	--	--	--	--

Details of farming situation

Crop	Season	Farming situation (RF/Irrigate)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Paddy	Kharif	Irrigated	Clay loam	278	9.25	167	Maize	21.11.2018	23.3.2019	280	7
Maize	Kharif	Irrigated	Red loamy soil	284	11.25	175	Bhendi	12.6.2018	10.10.2018	180	3
Cumbu	Kharif	Rainfed	Red loamy soil	261	12.4	178	Cumbu	15.10.2018	2.5.2019	164	3
Sorghum	Rabi	Rainfed	Red loamy soil	291	9.45	161	Cotton	17.10.2018	13.02.2019	164	3

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1. Paddy	Co 51 variety is shorter duration help to avoid the water shortage period. It is give high yield during Rabi then other varieties which practices by farmers. Seed treatment with <i>trichoderma</i> resist the incidence of diseases. Installation of pheromone trap used for monitoring the Yellow stem borer incidence and its reduces the cost of plant protection chemicals
2. Maize	COHM 6 give higher yield than the farmers practice, incidence of fall army worm reduces the yield both in demonstration and farmers practice. Application of zinc solublizing bacteria reduces the incidence of the zinc deficiency and increase the no of quality seeds per cob.
3. Cumbu	Compare to the farmers practice CO 10 was recorded higher yield due to high number productive tillers and highest panicle length . but the plant height was more (230 cm) in susceptible to lodging during heavy wind
4. Sorghum	K12 Sorghum variety give higher yield of 24.19 q/ha. fodder yield also higher in K12 sorghum variety.

Cotton and commercial crops

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Source of funds	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
						Proposed	Actual	SC/ST	Others	Total	
1	Cotton	ICM	Demonstration of K12 Cotton Hybrid with Mealy Bug and <i>Fusarium</i> wilt management	Rabi 2018	ICAR	4	4	0	10	10	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Cotton	Rabi 2018	Irrigated	Clay soil	29.4	11.6	14.7	Sorghum	24.10.2018	17.2.2019	164	3

Farmers' reactions on specific technologies

S. No	Feed Back
1 Cotton	Incidence of mealy bug is high, no of bolls per plant was higher (52) compared farmers practice (39) Application of micronutrient mixture and foliar application of magnesium sulphate reduce the reddening in Cotton

Horticultural crops

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Source of funds	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
						Proposed	Actual	SC/ST	Others	Total	
1	Cashew	INM	Demonstration on foliar nutrition in cashew VRI-3 with INM	Rabi 2018	ICAR	4	4	0	10	10	
2	Banana	INM	Demonstration of technologies for enhancement of yield in Banana	Rabi 2018	ICAR	4	4	0	10	10	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Cashew	Rabi	Rainfed	Red sandy loam	287	10.5	147	-			164	3
Banana	Kharif	Irrigated	Red sandy loam soil	298	12.7	164	Black gram	4.3.2018	20.2.2019	920	27

Extension and Training activities under FLD

Performance of Frontline demonstrations

[illegible]

Crop	Thematic Area	technology demonstrated	Name of the Variety/Hybrid		No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
			Domestic	Check			Demonstration			Check		Gross Cost	Gross Return	Net Return	B/C Ratio (R/C)	Gross Cost	Gross Return	Net Return	B/C Ratio (R/C)
							High	Low	Average										
Paddy	ICM	Demonstration of CO 51 Rice variety	CO 51	Sowbakra	10	4	66.84	55.47	60.16	51.00	15.22	43257	102272	59015	2.37	45650	76500	30850	1.68
Commercial crops																			
Cotton	Varietal introduction	Demonstration of K12 Cotton variety	K12	Private	10	4	14.53	9.40	12.53	9.65	29.53	22804	62500	39696	2.74	21080	48250	27170	2.28
Millet																			
Cumbu	Varietal introduction	Demonstration of Co 10 Cumbu	Co 10	Local variety	10	4	24.00	19.00	21.50	16.5	30.00	14210	45150	30940	3.18	14437	33000	18563	2.28
Maize	Varietal introduction	Demonstration of COHM 6 Maize hybrid	COHM 6	Hisel 1	10	4	79.00	69.00	75.24	51.4	46.23	35562	97799	62237	2.72	37500	66820	29320	1.78

** BCR= GROSS RETURN/GROSS COST

[illegible]

Sheep																			
Goat																			

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

** BCR= GROSS RETURN/GROSS COST

FLD on Fisheries

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		Economics demonstration (Rs.)			of		Economics check (Rs.)			of	
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)		Gross Cost	Gross Return	Net Return	BCR (R/C)	

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

** BCR= GROSS RETURN/GROSS COST

FLD on Other enterprises

Category	Name of the technology demonstrated	No. of Farmers	No. of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
				Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Mushroom																
Apiculture																
Maize Sheller																
Value Addition																
Vermi Compost																

FLD on Women Empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check

[illegible]

[illegible]

[illegible]

Gingelly																			
Rabi 2018 -2019																			
Green gram																			
Black gram																			
Groundnut																			
Sunflower																			

FLD on Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of Units (Animal/ Poultry/ Birds, etc)	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					De mo	Check		De mo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Cattle																	
Buffalo																	
Dairy																	
Poultry																	
Sheep																	
Goat																	

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

** $BCR = \frac{GROSS\ RETURN}{GROSS\ COST}$

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
 ** BCR= GROSS RETURN/GROSS COST

FLD on Farm Implements and Machinery

[illegible]

4. Training Programmes

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming	1	31	0	0	0	0	0	31	0	31
Micro Irrigation/irrigation	1	28	0	28	0	0	0	28	0	28
Seed production										
Nursery management										
Integrated Crop Management	2	63	0	63	2	0	2	65	0	65
Soil & water conservation										
Integrated nutrient management										
Production of organic inputs	1	31	0	31	4	0	4	35	0	35
Agroforestry	6	12	4	16	3	1	4	15	5	20
Total	11	165	4	138	9	1	10	174	5	179
II Horticulture										
a) Vegetable Crops										
Production of low value and	1	17	7	24	3	1	4	20	8	28

Thematic area	No. of cours es	Participants								
		Others			SC/ST			Grand Total		
		Mal e	Fema le	Tot al	Mal e	Fema le	Tot al	Mal e	Fema le	Tot al
technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology	1	14	6	20	0	0	0	14	6	20
Post harvest technology and value addition										
Others (pl specify)										
Total (g)	1	14	6	20	0	0	0	14	6	20
GT (a-g)	6	90	38	128	8	2	10	98	40	138
III Soil Health and Fertility Management										
Soil fertility management	1	18	7	25	3	1	4	21	8	29
Integrated water management										
Integrated Nutrient Management	2	28	11	39	10	6	16	38	17	55
Production and use of organic inputs	1	15	13	28	0	0	0	15	13	28
Management of Problematic soils	1	16	3	19	2	1	3	18	4	22
Micro nutrient deficiency in	1	18	7	25	0	0	0	18	7	25

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Household food security by kitchen gardening and nutrition gardening										
Design and development of low/minimum cost diet	1	0	16	16	0	9	9	0	25	25
Designing and development for high nutrient efficiency diet	1	3	15	18	0	0	0	3	15	18
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	5	60	35	95	5	1	6	65	36	101
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts	1	0	0	0	0	13	13	0	13	13
Women and child care										
Others (pl specify)										
Total	8	63	66	129	5	23	28	68	89	157

Thematic area	No. of cours es	Participants								
		Others			SC/ST			Grand Total		
		Mal e	Fema le	Tot al	Mal e	Fema le	Tot al	Mal e	Fema le	Tot al
VI Agril. Engineering										
Farm Machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total										
VII Plant Protection										
Integrated Pest Management	1	25	5	30	15	0	15	40	5	45
Integrated Disease Management	1	30	9	39	20	0	12	50	9	59
Bio-control of pests and diseases	1	20	7	27	14	0	14	34	7	41
Production of bio control	1	25	7	32	10	0	10	35	7	42

Farmers' Training including sponsored training programmes (off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	1	21	5	26	0	0	0	21	5	26
Resource Conservation Technologies										
Cropping Systems	1	10	4	14	3	3	6	13	7	20
Crop Diversification										
Integrated Farming	1	15	10	25	0	0	0	15	10	25
Micro Irrigation/irrigation	2	40	0	40	0	0	0	40	0	40
Seed production	2	18	3	81	20	20	40	38	23	61
Nursery management										
Integrated Crop Management	4	50	11	61	20	0	20	70	11	81
Soil & water conservation	2	65	0	65	5	0	5	75	0	75
Integrated nutrient management										
Production of organic inputs										
Others (pl specify)										
Total	13	219	33	312	48	23	71	272	56	328
II Horticulture										
a) Vegetable Crops										
Production of low value and high volume crops	1	18	6	24	0	0	0	18	6	24

[illegible]

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Efficiency										
Balance use of fertilizers										
Soil and Water Testing	1	19	8	27	0	0	0	19	8	27
Others (pl specify)										
Total	7	96	35	131	32	10	42	128	45	173
IV Livestock Production and Management										
Dairy Management										
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management										
Feed & fodder technology										
Production of quality animal products										
Others (pl specify)										
Total										
V Home Science/Women empowerment										
Household food security by	1	0	0	0	2	33	35	2	33	35

Farmers' Training including sponsored training programmes – CONSOLIDATED (On + Off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies	3	60	0	60	0	0	0	60	0	60
Cropping Systems	1	23	0	23	0	0	0	23	0	23
Crop Diversification	1	16	0	16	0	0	0	16	0	16
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservatioin										
Integrated nutrient management										
Production of organic inputs										
Organic farming	1	20	4	24	0	5	5	20	9	29
29Total	6	119	4	123	0	5	5	119	9	128
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume	2	35	13	48	3	1	4	38	14	52

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
crops										
Off-season vegetables										
Nursery raising	2	35	13	48	3	1	4	38	14	52
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)										
Total (a)	4	70	26	96	6	2	8	76	28	104
b) Fruits										
Training and Pruning	2	30	12	42	7	1	8	37	13	50
Layout and Management of Orchards										
Cultivation of Fruit	2	30	15	45	0	0	0	30	15	45
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)	4	60	27	87	7	1	8	67	28	95

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology	1	14	6	20	0	0	0	14	6	20
Post harvest technology and value addition										
Others (pl specify)										
Total (g)	1	14	6	20	0	0	0	14	6	20
GT (a-g)	11	179	70	249	19	4	23	198	74	272
III Soil Health and Fertility Management										
Soil fertility management	2	30	10	40	3	1	4	33	11	44
Integrated water management	0	0	0	0	0	0	0	0	0	0
Integrated Nutrient Management	7	93	35	128	42	16	58	135	51	186
Production and use of organic inputs	1	15	13	28	0	0	0	15	13	28
Management of Problematic soils	1	16	3	19	2	1	3	18	4	22
Micro nutrient deficiency in crops	1	18	7	25	0	0	0	18	7	25

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Engineering										
Farm Machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total										
VII Plant Protection	1	30	8	38	18	0	18	48	8	56
Integrated Pest Management	1	25	6	31	15	0	15	40	6	46
Integrated Disease Management	1	27	5	32	12	0	12	39	5	44
Bio-control of pests and diseases	1	35	10	45	9	0	9	44	10	54
Production of bio control agents and bio	1	25	5	30	6	0	6	31	5	36

[illegible]

Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Organic farming	1	20	4	24	0	5	5	20	9	29
FoCT- Coconut tree climbing device	3	36	7	43	12	5	17	48	12	60
TOTAL	5	78	14	92	15	10	25	93	24	117

Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl.specify)										
TOTAL	1	16	6	22	3	0	3	19	6	25

Training for Rural Youths including sponsored training programmes – CONSOLIDATED (On + Off campus)[illegible]

products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
FAW management	1	57	14	71	32	0	32	89	14	103
Integrated pest and disease management	8	205	55	260	98	0	98	30 3	50	353
FoCT	3	36	7	43	12	5	17	48	12	60
TOTAL	15	350	93	443	159	5	164	50 9	93	602

Training programmes for Extension Personnel including sponsored training programmes (On campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	1	13	4	17	4	3	7	17	4	24
Integrated Pest Management										
Integrated Nutrient management	1	19	6	25	0	0	0	19	6	25
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
TOTAL	2	32	10	42	4	3	7	36	10	49

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management	1	40	0	40	0	0	0	40	0	40
Integrated Nutrient management	1	40	0	40	0	0	0	40	0	40
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs	1	40	0	40	0	0	0	40	0	40
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
TOTAL	3	120	0	120	0	0	0	120	0	120

Training programmes for Extension Personnel including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	1	13	4	17	4	3	7	17	4	24
Integrated Pest Management	1	40	0	40	0	0	0	40	0	40
Integrated Nutrient management	2	59	6	65	0	0	0	59	6	65
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs	1	40	0	40	0	0	0	40	0	40
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
TOTAL	5	152	10	162	4	3	7	156	10	166

fisheries										
Dairy farming										
Composite fish culture										
Sheep and goat rearing										
Piggery										
Poultry farming										
Others (pl. specify)										
Total										
Income generation activities										
Vermicomposting										
Production of bio-agents, bio-pesticides, bio-fertilizers etc.										
Repair and maintenance of farm machinery and implements										
Rural Crafts										
Seed production										
Sericulture										
Mushroom cultivation										
Nursery, grafting etc.										
Tailoring, stitching, embroidery, dying etc.										
Agril. para-workers, para-vet training										
Others (pl. specify)										
Total										
Agricultural Extension										
Capacity building and group dynamics										
Others (pl. specify)										
Total										
Grand Total	3	36	7	43	12	5	17	48	12	60

5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	610	707	15	722
Diagnostic visits	98	406	19	425
Field Day	28	639		639
Group discussions	7	178	31	209
Kisan Ghosthi	1	50	5	55
Film Show	5	480	35	515
Self -help groups	10	200		200
Kisan Mela	5	747	21	768
Exhibition	2	1056	2	1058
Scientists' visit to farmers field	181	210	34	244
Plant/animal health camps	3	187	5	192
Farm Science Club	5	100		100
Ex-trainees Sammelan	1	24	2	26
Farmers' seminar/workshop	1	82	5	87
Method Demonstrations	21	312	0	312
Celebration of important days	5	535	51	586
Special day celebration	2	314	14	328
Exposure visits	11	515	17	532
State level innovator meet	1	82	10	92
Guidance to student	3	35	0	35
Vigilance awareness week	1	1072	12	1084
Total	1001	7931	278	8209

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	3
Extension Literature	56
News paper coverage	32
Popular articles	8
Radio Talks	25
TV Talks	3
Animal health camps (Number of animals treated)	3
Video film	2
Total	132

Voice & Text both														
Total Messages	18	548	4	120	7	210	1	60	7	364	2	60	39	1452
Total farmers Benefitted														

6. DETAILS OF TECHNOLOGY WEEK CELEBRATIONS

Types of Activities	No. of Activities	Number of Participants	Related crop/livestock technology
Gosthies			
Lectures organized	2	84	Paddy and pulses
Exhibition	1	34	Latest agricultural technologies
Film show	2	486	Crop insurance scheme, Millets cultivation , Organic Farming, IFS
Fair	1	82	State level innovators meet
Farm Visit	18	244	Maize, Paddy, Cumbu, Banana, Sugarcane. Cashew, Coconut
Diagnostic Practicals	98	425	Paddy, Banana, Redgram, Coconut, Brinjal, Sugarcane, Tomato, Bhendi, Green gram ,Cashew, cotton, Maize
Distribution of Literature (No.)	2	84	Paddy and pulses
Distribution of Seed (q)	2	40	Cumbu, samai, Sorghum, Green gram
Distribution of Planting materials (No.)	1	5	Onion seedlings
Bio Product distribution (Kg)	4000	7	Vermicompost and panchakaya
Bio Fertilizers (q)	15	7	Azolla
Distribution of			

fingerlings			
Distribution of Livestock specimen (No.)			
Total number of farmers visited the technology week	6	215	Latest t agricultural technologies, Sugarcane production technologies, Pulses and oilseeds production technologies and IFS

[illegible]

8. DETAILS OF SOIL, WATER AND PLANT ANALYSIS

Samples/ SHC	No. of Samples		No. of Farmers	No. of Villages	Amount realized (Rs.)
	Using Mini Soil Testing Lab	Through Traditional Lab			
Soil samples	131	602	731	78	47700
Soil Health Cards (SHC)	131	602	731	78	47700

Samples	No.of Samples	No.of Farmers	No.of Villages	Amount realized (Rs.)
Water	265	265	138	17100
Plant				
Manure				
Others (pl.specify)				
Total	265	265	138	17100

9. SCIENTIFIC ADVISORY COMMITTEE

Date of SAC meeting	Number of members attended
28.11.2018	39

Note: please attach the proceedings of sac meeting along with the list of participants

PROCEEDINGS OF XX SCIENTIFIC ADVISORY COMMITTEE (SAC) MEETING HELD ON 28.11.2018.

The meeting was started with the prayer Tamil Thai Vazhthu.

Dr. S. Thirumurugan , Senior Scientist and Head, ICAR KVK, CENDECT, Theni welcomed the SAC members. Self introduction was given by SAC members and the staff of KVK.

The presidential address was delivered by Dr. P. Patchaimal, Chairman and Director, ICAR KVK, CENDECT, Theni. In his address, he explained various activities carried out in Theni District for the past 24 years and indicated that more than 30,000 farmers were benefited through the KVK. He has also given the assurance that the KVK will cover more number of farmers in future for doubling the farmers income.

Dr. S. Thirumurugan, Senior Scientist and Head, ICAR KVK, CENDECT, Theni presented the action taken on the suggestions given during XIX SAC meeting held on 31. 03. 2018 this was followed by the suggestions given by the SAC members.

Mr. P. Venkadesan, Grape farmer, from Thenpalani, suggested that trainings should be given on post harvest technology, marketing and harvesting without damage to avoid economic loss during rainy season.

Dr. Paulraj, Veterinary Assistant surgeon Veterinary Dispensary, Kamatchipuram. Suggested to utilize the services of veterinary department and invited KVK scientist to participate in animal health camps to be conducted by the Animal husbandry Department. He also explained different schemes available with the department.

Mr. Pon Dhanapalan, Programme executive, All India Radio, Madurai suggested to conduct awareness Programme on usage of Solar power in agriculture viz Light trap solar plump and and to make study on impact of crop Insurance scheme. He also suggested to take steps for the management of animal diseases during this winter season.

He also suggested to train the farmers on panchakavya , Dasa Kavya and Vermicompost production and to give list of successful FLD, OFT farmers to record and broadcast the suggestions through AIR for the benefit of farming community. He also indicated the use of Uzhavan Seyali(App).

Mr. P. Jeyachandran, Progressive farmer, Seepalakottai suggested to appoint veterinary Doctor in the KVK and trainings on farming under drought condition. He also expressed the problems facing with crop insurance schemes.

Mr. P. Sockar Selvam Progressive former, Kamatchipuram suggested developing technologies for siggatoka leaf spot management and weeding management. He also suggested the KVK to make available of new farm implements in the KVK for ending to farmers at minimum hiring charge. He also suggested giving training on Moringa value addition.

Mr. V. Balakrishnan Progressive farmer, Ramakrishnapuram suggested giving trainings on bio plant protection to minimize the cost of production especially for Tomato, Califlower, and Coconut.

Mr. K. Srirambabu, Nehru Yuva Kendra, Theni has suggested to conduct trainings on preservation and marketing for rural youth in collaboration with NYK.

Mr. M. Veerabhathiran, Farmer,Vadugapatti suggested to develop technologies for Betlewine value addition. He also suggested to conduct trainings on Banana fibre extraction.

Mr. S. Pandiyaraj, President, Theni district plantation farmer group, Periyakulam suggested the KVK to supply of bio decomposer and other inputs. He also requested to develop technology for Flower drop management in mango during rainy season.

Mr. M. Pandian , President, Theni district farmer association, Periyakulam suggested to conduct training on marketing storages structures by adopting one village and to develop technologies avoid to increase the production of sugarcane and to take steps to presence the wealth of Western Ghats.

Dr. J. Jayaraj, Professor (Agri. Entomology) GRS, Theni Suggested to conduct trainings with involving Grapes Research Station, Anamalayanpatti.

Dr. N. K. Sudeep kumar DEE, TNVASU, Chennai suggested to make use of FTC(Farmers Training Center) related to IVM trainings and to develop fodder production farm in the KVK. He also suggested to create awareness on from antibiotic resistance and publish article about FLD and OFT at least one or two per year.

Dr. S. Juliet Hepziba , Professor and Head, ARS, Vaigaidam suggested to conduct trainings on use of Green leaf manure and cultivation, seed treatment techniques to minor millets and the production and Green manure crop seed production. She also suggested for value addition in group approach to avoid loss in marketing. She also requested the farmer to go for farm mechanization in all possible way to overcome labor problem

Dr. V. Swaminathan, Dean HC & RI, Periyakulam, suggested to involve HC & RI in KVK programmes and to make use of incubation unit available in HC & RI. How to avoid drought situation in Banana.

Dr. T. Azhagunagendran, Joint Director of Agriculture, Theni, suggested KVK to conduct the farm school of various topics in collaboration with Agricultural Department and conduct the farmers scientist diagnostic visits.

Dr. P. Elangovan, Deputy Director of Agricultural, State Scheme, Theni, suggested KVK to collaborate with Agricultural department and solve the field problem through various extension activities and KVK will have to promote the minor miller cultivation.

Dr. H. Philip, Director of Extension Education, TNAU, Coimbatore suggested to keep the campus with professional look to keep board on list of scientist with mobile number self Explanatory board on central and state schemes, to set up IFS model and crop cafeteria in KVK campus Supply of training input material and to update database. to identify progressive farmer for TNAU awards and success stories for publications. He also suggested to study impact of trainings, and to conduct trainings on roof, kitchen and nutritional garden at free of cost.

Dr. A. Bhaskaran, Principal Scientist, ATARI, Hyderabad requested the farmers to make use of information sources like KVK, Department, University and Research station. He suggested to give importance for value addition in group approach since the production has increased because of new technologies and to place the portal containing the information of crop various details suitable for theni district. He also suggested converting the proven technologies to FLD. He also suggested to rectify the echo problem of Seminar Hall.

Dr. Y. G. Prasad, Director, ATARI, Hyderabad suggested to invite the participation of the Line department officials in SAC meeting, He also suggested to improve the KVK demo units and create and update farmers data base and to link the M-KISAAN messages with farmers data base and to take steps on value addition issues waste decomposer and to focus the activities on farmers needs and to utilize the services of AIR. Vote of thanks was given by Mr. P. Maheswaran, SMS (Agronomy) ICAR KVK, CENDECT, Theni. The program came to an end with National Anthem.

List of Participants

S.No.	Name and Address
1.	Dr.P.Patchaimal, ICAR KVK,CENDECT, Theni
2.	Dr.Y.G.Prasad, Director, ATARI, Zone X, Hyderabad
3.	Dr.H.Philip, Director of Extension Education, TNAU, Coimbatore
4.	Dr.A.Bhaskaran, Principal Scientist, ATARI, Zone X, Hyderabad
5.	Dr.N.K.Sudeep Kumar, DEE, TANUVAS, Chennai
6.	Dr.S.Murugesan, Professor & Head, FTC, Theni
7.	Dr.J.Jeyaraj, Professor (Agri.Entomology), GRS, Theni
8.	Dr.S.Juliet Hepziba, Professor & Head, ARS, Vagaidam
9.	Dr.V.Swaminathan, Dean, HC&RI, Periyakulam
10.	Dr.T.Alagu Nagendran, Joint Director of Agriculture (i/c), Theni
11.	Dr.B.Elangovan, Deputy Director of Agriculture (State Scheme), Theni
12.	Dr.M.Senthilkumar, Nodal Officer, KVKs, DEE Office
13.	Dr.P.Paulraj, Veterinary Assistant Surgeon, Kamatchipuram
14.	R.Anbalagan, Deputy Horticulture Officer, Kadamalaikundu
15.	M.Rajaram, Joint Director of Agriculture (Rtd.)
16.	Pon Dhanapalan, Programme Executor, All India Radio, Madurai
17.	P.Baskaran, AIR&DD, Theni
18.	M.Pandiyan, President, Theni District Farmers Association Leader

19.	Er.S.Pandiyaraj, President, Theni District Plantation Farmer Group, Periyakulam
20.	P.Pugalthi, Progressive Farmer, Ramakrishnapuram
21.	M.Murugan, Secretary, Grama Seva Sangam, Erasaikkanaykannur
22.	K.Sriram Babu, Nehru Yuva Kendra, District Youth Coordinator, Theni
23.	S.Alphonse, Progressive Farmer
24.	V.Balakrishnan, Ramakrishnapuram
25.	S.Kamaraj, Progressive Farmer
26.	A.M.Murugan, Progressive Farmer, Royappanpatti
27.	P.Sockar Selvam, Progressive Farmer, Kamatchipuram
28.	R.Bommayasamy, Progressive Farmer, Chinnaovalapuram
29.	P.Jeyachandran, Seepalakottai
30.	Prof.L.Lakshmanan, Sevanilayam Society, Aundipatti
31.	M.Sajay Kumar, Mahendra Agri, Coimbatore
32.	P.Venkadesan, Progressive Farmer, Thenpalani
33.	S.Vinoth, Progressive Farmer, Odaipatti
34.	R.Pushpavalli, Progressive Farm women, Thamaraiikulam
35.	A.Sathiya Priya, Progressive Farm Women, Thamaraiikulam
36.	N.Thangarasau, Progressive Farmer
37.	M.Veeraputhiran, Progressive Farmer, Vadugapatti
38.	P.Narayanan, Progressive Farmer, Sankarapuram
39.	S.Alagumani, Progressive Farmer, Seepalakottai

10. PUBLICATIONS

Publications in journals

S. No	Authors	Year	Title	Journal
1	P.Maheswaran	2018	Black gram Production technologies	Pasumai nayagan, April 2018
2	P.Maheswaran	2018	Minor millets cultivation technologies	Pachai bhoomi, September ,2018
3	P.Maheswaran	2018	Assessment of high yielding and high marketable paddy varieties for Theni	Fourth national conference on Agricultural Science in Tamil, TNJFU, Chennai
4	P.Maheswaran	2018	Assessment of Drought tolerant Sugarcane variety for Theni District	Fourth national conference on Agricultural Science in Tamil , TNJFU, Chennai
5	P.Maheswaran	2018	Nutrient management in Sunflower with Onion Intercropping System	Fourth national conference on Agricultural Science in Tamil , TNJFU, Chennai
6	P.Maheswaran	2018	Performance of CO 4 Samai variety in Theni District	Third State conference on Agricultural in Science Tamil,

				KRISAT, Madurai
7	P.Maheswaran	2018	Co 10 Cumbu : Demonstration assessment	Third State conference on Agricultural in Science Tamil, KRISAT, Madurai
8	P.Maheswaran	2018	CO 10 Cumbu Production technologies	Vivasayee Ulagam March , 2019
9	P.Maheswaran	2018	Minor millets cultivation technologies	Pasumai Nayagan, March 2019
10	M.Arun Raj	2018	Effect of Sulphuron growth and yield of green gram	International journal of science , environment and technologies Vol 7: Issue 5 , 2018
11	M.Arun Raj	2018	Effect of foliar nutrition for maximizing the productivity of Black gram	International journal of science , environment and technologies Vol 7: Issue 6 , 2018
12	M.Ramya siva Selvi	2018	Mini nutritional assessment and screening of depression among selected geriatrics in Coimbatore	A Journal of Science and technologies Vol 6, no 1 ISSN No.2349 5456

Other publications

S.No	Item	Year	Authors	Title	Publisher
1	Books	2018	P.Patchaimal, K.Ragu, P.Maheswaran and M.Ramya Siva Selvi	Farm innovators	KVK, Theni
		2018	P.Patchaimal, K.Ragu, P.Maheswaran	Grapes cultivation technologies	KVK, Theni
		2018	P.Patchaimal, S.Thirumurugan P.Maheswaran K.Ragu,	Sugarcane production technologies	KVK, Theni
2	Book chapters / manuals	2018	M.Ramya Siva Selvi	Nutraceuticals potentials of carotino oil	APAC, Vellore
3	Training manuals	8	P.Patchaimal, S.Thirumurugan P.Maheswaran K.Ragu M.Arun raj V.Sumitha	Cumbu Production technologies Sugarcane production technologies Paddy production technologies Grapes production technologies and safe storage methods for grains and pulses	

4	Conference, proceeding papers, popular articles, Bulletins, Short communications				
5	Technical bulletin/ Folders	25	P.Patchaimal, S.Thirumurugan P.Maheswaran K.Ragu M.Arun raj V.Sumitha	Cumbu Production technologies Sugarcane production technologies Paddy production technologies Grapes production technologies and safe storage methods for grains and pulses	
6	Reports	1	P.Patchaimal, K.Ragu, P.Maheswaran and M.Ramya Siva Selvi	State level innovators meet	
7	others				

Newsletter/Magazine

Name of News letter/Magazine	Frequency	No. of Copies printed for distribution
Farm science news letter	Quarterly	1000

3. Training/workshops/seminars etc details 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	Organized by
P.Maheswaran SMS (Agronomy)	Outside tree cultivation	16 th – 19 th Octo bar 2018	3 days	IFGTB, Coimbatore
P.Maheswaran SMS (Agronomy)	Post harvest processing and Storage of Millets and pulses	7-11/1/2019 7 th – 11 th January 2019	5 days	National Institute of Plant Health Management (NIPHM), Rajendra Nagar, Hyderabad – 500 030.

K. Ragu SMS (Horticulture)	State extension work plan for SSEPERS – ATMA 2019-20	3 rd – 4 th January 2019	2 days	Department of Agriculture, Tamil nadu
Ramya Siva Selvi M SMS (Home Science)	Value Addition in Coconut	22 nd -26 th April 2018	5 Days	CPCRI, Kasaragod, Kerala
Ramya Siva Selvi M SMS (Home Science)	Post Harvest Management and Storage Techniques	25 th -29 th June 2018	5 Days	National Institute of Plant Health Management (NIPHM), Rajendra Nagar, Hyderabad – 500 030.
Dr.S.Thirumurugan, Senior Scientist and Head	Pesticide Application Techniques and Safety measures	16.7.2018- 20.7. 2018)	5 days	National Institute of Plant Health Management (NIPHM), Rajendra Nagar, Hyderabad – 500 030.
Ms.S.Kalaivani Programme Assistant (Lab Technician)	Pesticide Application Techniques and Safety measures	16.7.2018- 20.7. 2018)	5 days	National Institute of Plant Health Management (NIPHM), Rajendra Nagar, Hyderabad – 500 030.

11. DETAILS ON RAIN WATER HARVESTING STRUCTURE AND MICRO-IRRIGATION SYSTEM

Activities conducted				
No. of Training programmes	No. of Demonstration s	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)
1	1		170	14

12. INTERVENTIONS ON DISASTER MANAGEMENT/UNSEASONAL RAINFALL/HAILSTORM/COLD WAVES ETC

Introduction of alternate crops/varieties

Crops/cultivars	Area (ha)	Extent of damage	Recovery of damage through KVK initiatives if any
Total			

Major area coverage under alternate crops/varieties

Crops	Area (ha)	Number of beneficiaries
Oilseeds		
Pulses		
Cereals		
Vegetable crops		
Tuber crops		
Total		

Farmers-scientists interaction on livestock management

Livestock components	Number of interactions	No.of participants
Total		

Animal health camps organised

Number of camps	No.of animals	No.of farmers
Total		

Seed distribution in drought hit states

Crops	Quantity (qtl)	Coverage of area (ha)	Number of farmers
Total			

Large scale adoption of resource conservation technologies

Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers
Double pruning and single harvest in seeds less grapes	100	100
Coconut tree climbing device		127
Total	100	227

s

Awareness campaign

	Meetings		Gosthies		Field days		Farmers fair		Exhibition		Film show	
	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers	No.	No.of farmers
	7	248	1	55	28	639	1	284	2	1058	5	480
Total	7	248	1	55	28	639	1	284	2	1058	5	480

13. Awards/rewards by KVK and staff

Recognitions & Awards/Special attainments and Achievements of Practical Importance				
Recognitions & Awards (Team Award/individual				
Item of Recognition		Year	Awarding Organization National / International / Professional; Society	Individual/ collaborative
Dr S.Thirumurugan, INNOVATIVE RICE TECHNOLOGY		2018	IRRI,Philippines,International	Individual
Dr S.Thirumurugan, YOUNG SCIENTIST		2018	INDUS FOUNDATIONNew Delhi International	Individual
Special Attainments & Achievements of Practical Importance(patents, technologies, varieties, products, concepts, methodologies etc.)				
Category	Title	Year	Individual/ Collaborative	Additional Details/Information
Concept	Rice Establishment Methods	2018	individual	

14. Details of sponsored projects/programmes implemented by KVK

S.No	Title of the programme / project	Sponsoring agency	Objectives	Duration	Amount (Rs)
1.	NABARD-FSPF – Double pruning and Single Grapes through good agricultural practices	NABARD	To promote the double pruning and single harvest in Seedless grapes	1 year	65000
2.	NABARD-FSPF – Drought mitigation in Sugarcane through good agricultural practices	NABARD	To promote the drought mitigation and good agricultural practices in sugarcane	1 year	804000
3	Bee Keepers Meet	KVIC, Madurai	To update the knowledge on bee keeping techniques	One Day	18,000
4	Nutrition Assessment Campaign	IOC, Madurai	To assess the nutritional status of School going children	One Day	12,000
5	Agro forestry for sustainable agricultural practices	NABARD	To promote the Agro forestry	Three days	44500
6	FoCT- training	CDB, Chennai	Coconut tree climbing machine	6days	180000
7	STAMIN ATMA	ATMA	Organic Farming Post harvest processing	6 days	84000

NABARD-FSPF – Drought mitigation in Sugarcane through good agricultural practices

FSPF- Sugarcane NABARD, Chennai has sanctioned a project entitled capacity Building programme on drought mitigation in Sugarcane through Good Agricultural Practices. The project implemented on drought mitigation in Sugarcane in Vadugapatty, Jeyamankalm and Melmankalam villages of Periyakulam Block, Theni District. Duration of the project is April 2018 to March 2019. We have conducted the four project monitoring committee meetings, 5 awareness camps, 6 training programmes on various technologies of drought mitigation and Good agricultural practices in Sugarcane. We have organized the exposure visit to Sugarcane Breeding Institute, Coimbatore with participation of 60 farmers from Periyakulam block. We have conducted 6 demonstrations on various sugarcane production technologies with participation of 150 farmers and farm women's.

2. AGROFORESTRY FOR SUSTAINABLE AGRICULTURAL PRODUCTION FOR THENI DISTRICT

The capacity building training programme on “Agro forestry for sustainable agricultural production for Theni district” was conducted during 11, 12 and 13 March, 2019 at ICAR KVK, CENDECT, Kamatchipuram and Department of Plantation, Tamil Nadu Paper Limited, Kaakithapuram, Karur district. Banana growers, Coconut growers and Rainfed cultivating farmers from Andipatty block were invited from the various parts of Theni District. Experts were invited to deal with specific topics on Agro forestry and related topics. Literature on Agro forestry was issued. Exposure visit cum training was arranged at TNPL, Karur. Their fares were visited the well maintained forest Nursery in open yard, poly house Nursery production and mist chamber nursery production technologies were visited and also visited various Agro forestry fields at Velayuthamplayam Village of Karur district. Experts from department of plantation, TNPL, Karur were to deal with the prominent technologies to farmers. The programme was started by 10.00 AM and ended by 5.00 PM every day. Working lunch, Tea and snacks were provided to the 20 farmers.

15. Success stories

1.CO 51 Paddy variety: Profitable Rice Production in Theni

Water scarcity was a major problem, its availability being dictated by the monsoon in Theni district. Lack of adoption of good agricultural practices reduces the productivity of paddy. There was an urgent need to reduce water consumption and implement the good agricultural practices for rice cultivation while enhancing productivity. CO 51 Paddy variety was shorter duration with 110 days duration with white medium slender grains. High milling capacity (69%) and Head rice recovery (63%) with intermediate amylase content (22%). CO 51 paddy has Average yield of 6623 kg/ha it is 11 % increase over ADT 43 with yield potential of 11377 in Tamil Nadu. This variety is suitable for cultivation as Transplanted rice throughout Tamil Nadu except Nilgiris District.

Plan, Implement and Support

Integrated Crop Management Practices for higher Productivity

Split application of Urea

Application of excessive Nitrogenous fertilizers Particularly Urea leads to Plants are dark green in colour, Abundant foliage, Restricted root system, Flowering and seed setting may be retarded and attract the sucking pests. Application of Urea and other Nitrogenous fertilizers at three split doses. Application of 50 % of N at the time of Transplanting. Remaining first 25 % at time of active tillering stage and second 25 % at the time

of Panicle emergence stage. This method helps increased the Nitrogen use efficiency and reduces the cost of fertilizers. (Source:P. Pardha-Saradhi)

In other hands, Productivity of Paddy is reduced when leaf Nitrogen content $< 2\%$ at the time of tillering stage. Foliar application of Urea at 1 % at active tillering stage increase the No. of tillers per hills resulted from high tillering ability.

Pheromone traps for controlling Yellow Stem Borer.

Rice yellow stem borer is the major problem identified in paddy growers in Tamil Nadu. Appearance of Symptoms mostly at panicle emergence stage. In this stage unable to implement the control measures with 16 % yield losses. Pheromone traps installation at the rate of 5 No.s / Acre for monitoring the Yellow stem borer incidence in paddy from transplanting onwards. This method helps to farmers for manage the Yellow Stem borer from early Stages onwards.

Integrated Disease Management: In Tamil Nadu paddy growing areas yield loss due to incidence of Blast and Sheath Blight are the main diseases during Kharif and Rabi Season. Rice crops grown under irrigated conditions were inoculated with *Pyricularia oryzae* during early growth stages to study the effect of leaf blast on yield formation. The inoculations led to severe epidemics of leaf blast around maximum tillering, characterized by the presence of typical blast lesions and an accelerated senescence of heavily infested leaf tissue. Leaf blast led to a prolonged tillering and a delay in flowering and maturity. Crop growth rate and leaf area formation declined sharply during establishment of the disease and continued to be reduced till maturity. This resulted in a marked reduction of total dry matter production and grain yield. (Source: L. Bastiaans) IDM Practices which comprising seed treatment with Trichiderma at 10g/kg of seeds and Foliar application of Pseudomonas 5g/ litre of water at 15 Days After Transplanting and 15 days after first spray. It is control the Blast and Sheath blight in Paddy and reduces the indiscriminate application of fungicide.

PPFM (Methylobacteria) for Drought Mitigation

Theni district farmers are mainly depends on Mullai periyar River. After transplanting of paddy sometimes water deficit during 7-15 days. When water deficit occurs tillering stage leads to poor yield due low tillering capacity. For overcome this water demand ICAR KVK, Theni foliar application of PPFM at the ratio of 1000 mL/acre to reduce the evapotranspiration rate. It is not permanent measure against drought. It works 7- 15 days water deficit only. It is also works as a plant growth regulator to increase the growth of Paddy.

Group approach for horizontal spread of the variety

The CO 51 variety was first introduced at Veerapandi village of Theni district. After successful yield gain from co 51, district scientific advisory committee recommended the CO 51 variety for kharif and Rabi season. In collaboration with ATMA, KVK conducted the farm school in paddy with Co 51. Seed material also produce at seed farm in Theni district. Totally 800 ha among 1200 farmers were growing CO 51 with integrated crop management practices

Results and outcome

Yield obtained from CO-51 Paddy field is 78q/ha over he got net return of 87710 with 2.96 BC ratio. This is more profit than farmers practice. The paddy variety CO 51 with Integrated Crop Management Practices helps higher production when water deficit during maturity stage. Practice of Split application of urea reduces the nitrogen losses and increases the Nitrogen use efficiency lead to high tillering capacity. Growing Azolla in paddy field fix the atmospheric Nitrogen. Pest management strategies with Pheromone traps reduces the pesticides cost. Foliar application of PPFM reduces the rate of evapotranspiration and increase the Shoot growth. This will be a step forward in doubling the Paddy growers' income as target for our country.

2. Drudgery reduction through Improved direct paddy seeder in Paddy cultivation

Situation analysis/Problem statement

Paddy is the major staple food crop in Theni District of Tamil Nadu. Paddy is more suited to high rainfall regions because the crop requires abundant moisture level either through rainfall or irrigation to keep the soil under saturation throughout its life period. Water is the most critical input in order to assure the production of good quality and yield. However the recent practices of System of Rice Intensification (SRI), direct sowing method with drip irrigation system on paddy drastically reduced the amount of water required for its cultivation.

Plan, Implement and Support

Training and awareness programme were conducted with the purpose of providing new technology on machineries used in paddy cultivation by the KVK as well as the State Department of Agriculture. Mechanization in Paddy cultivation can be possible at all the stages of the crop i.e from land leveling to harvesting. The various implements were used to cultivate the paddy are laser leveler, Puddlers, Paddy Drum Seeder, Conoweeder, paddy thresher cum harvester, etc. In Theni District the paddy growers are intensively using the above said implements with the subsidies from agriculture and allied departments for the past five years.

Based on the farmers need and problems, KVK introduced an 8-row of 20 cm row to row improved direct paddy seeder. This is a manually pulled implement developed and certified by Tamil Nadu Agriculture University, Coimbatore, India and purchased from KSNM Marketing, Coimbatore. KVK Demonstrated improved direct paddy seeder at Sindhuvampatti village, Periyakulam block, Theni District during Rabi season 2018-19. The farmers had shown greater interest in adopting direct paddy seeding technology due to shortage of labours during peak season. He soaked 10 kg of *paddy* seeds in water for 24 hours and prepared the sprouted seeds for sowing through drum *seeder*.

Special Features of Demonstrated Technology

Light in weight – Easy to transport and handle – Uniformity in sprouted seed sowing – Seed saving is achieved with the equipment as compared to traditional method – Line sowing is done with the equipment that promotes use of mechanical weeders thereby reducing drudgery and cost during weeding operation. – Easy management of labour shortage in present situation because labour is costliest among all agricultural inputs. – Save time and money in nursery rearing as compared to transplanted paddy.

Details of Technology Demonstrated

1. Seed rate : 10 kg/acre
2. Time required for direct seeding-120 minutes (2 hours)
3. Labour required: 2 Persons (one for pulling the drum seeder, one to help the puller to lift the machine at the end of the field)
4. Sprouted Paddy seeds are filled to $\frac{3}{4}$ level in each of 4 drums and once the seeder is pulled, the seeds fall in 8 rows @ 20 cm width between the rows.
5. Weeding: First weeding was done after 10 days of sowing, second weeding was done after 20 days of sowing and third weeding was done 30 days of sowing with modified conoweeder for minimizing the labour cost in order to compare the cost of cultivation.

Output

Results of Demonstration conducted during Rabi 2018-19 (per acre)

Particulars	Demo	Check
Seed Rate (per acre)	10 kg	25 kg
Labour required	2	20

Weed Management	Modified ConoWeeder	Manual Weeding
Yield Covered	5760 kg/acre	2625 kg/acre
Total Cost of Cultivation (Rs)	35100	42800
Gross Returns (Rs)	86406	77100
Net returns per acre (Rs)	51306	34300
Benefit Cost Ratio	2.46	1.80

Outcome:

- Labour cost is reduced drastically.
- Uniformity in seed sowing
- Continuous drilling of seeds is eliminated
- Reduction in seed rate
- Crop matures 7-10 days earlier than transplanted paddy
- Field coverage 1 hectare per day

Impact

Among the opinions from farmers stated that the sowing with Paddy Drum Seeder showed the huge amount of labour savings been achieved in raising the nursery, transplanting, etc., the labour required for transplant paddy seedlings is 2 against 20 Numbers in traditional method of cultivation.

The farmers who adopted this technology be a role model for others in the use of drum *seeder* technology

and the rest of the farmers who closely observed it are very much impressed about this technology, especially in terms of seed rate, time saving, tiller development, yield potential and benefit-cost ratio. At present, the direct sowing of paddy technology has spread in Theni District.

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

15. C. Give 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)

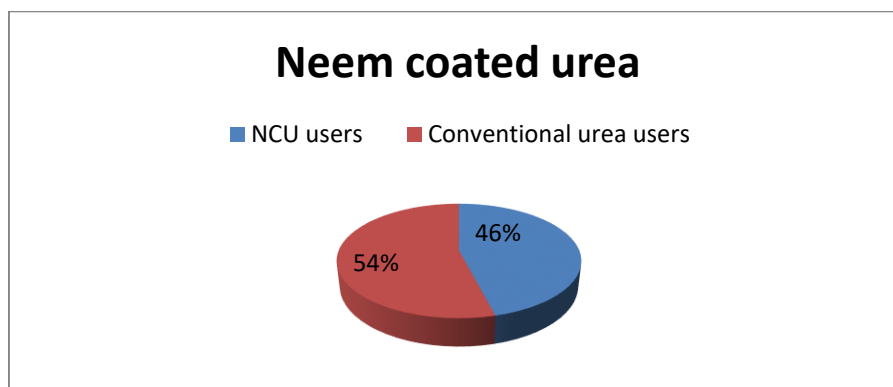
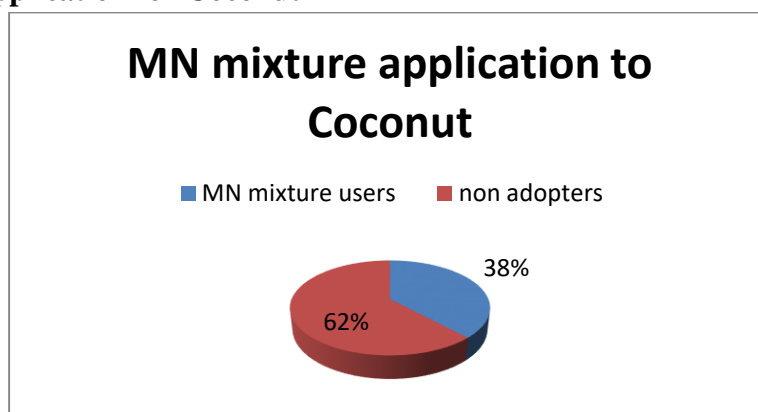
S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK

16. IMPACT

16.A. 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./Unit)	After (Rs./Unit)
Neem coated urea	1000	46	97540	105576
Application of MN mixture to Coconut	500	38	225/tree	350/tree

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

16.B. Cases of large scale adoption**Neem coated urea****MN Mixture Application for Coconut****16.C. Details of impact analysis of KVK activities carried out during the reporting period****17. LINKAGES****17. LINKAGES****17.A. Functional linkage with different organizations**

Name of organization	Nature of linkage
Dept. of Agriculture	Conducting Training programmes and Demonstration. Received assistance for getting seeds/critical inputs for FLD Programme. Participation in department training programme as resource person.
Dept. of Horticulture	Received Guidance and Assistance for Conducting Training Programmes. Received and supply of Quality Seedlings to Farmers
Dept. of Animal Husbandry	Creating awareness about mixed fodder cultivation
Horticultural College and Research Institute, Periyakulam	Received Guidance and Assistance for Conducting Training Programmes. Guidance to students for their Rural Agricultural Work Experience programme
Agricultural College and Research	Guidance to students for their Rural Agricultural

Institute, Madurai	Work Experience programme
Nehru Yuva Kendra, Theni	Creating awareness among farmers about scientific farming through field level NYK volunteers
NGO Network	Creating awareness about Drought Mitigation and Sustainable Agriculture
All India Radio, Madurai	Broadcasting of Feedback/Interviews of KVK beneficiary Farmers for Adopting New Technologies
News Papers	Coverage of KVK activities
Tamil Nadu Agricultural University	Received Latest Technologies for Conducting Training Programmes. Getting Seeds/Critical Inputs for Conducting FLD/OFT Programmes
NRCB	Received Latest Technologies for Popularization of farmers. Getting Quality Improved Critical Inputs for Conducting OFT Programme
Cotton Corporation of India	Jointly Organised Trainings and Demonstration
NABARD	Conducting Capacity Building training to Grapes Growers
FTC, TANUVAS, Theni	Received Critical Inputs for conducting FLD Programme
Joint Action for Sustainable Livelihood (JASuL)	Training extension workers on Climate Change Mitigation Strategies
Vazhnthu Kattuvom Thittam,Theni	Organizing Training Programmes
ATMA	Conducting Farmers Field School Programmes, Capacity Building Training for ATMA Functionaries
Coconut Development Board, Chennai	Conducted Friends of Coconut Tree Trainings and Demonstration
Coffee Board	Conducting training to SHG members

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

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

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)

-----XXXXXXX-----