5. TAMIL NADU AGRICULTURAL UNIVERSITY

KALINGALAR SUB BASIN - TNAU COMPONENT

5.1. About the centre

Agricultural Research Station, Kovilpatti is implementing centre. Total of 56 varieties have been developed so for from this station in dryland crops like, cotton, millets (sorghum, pearl millet, maize, ragi, and minor millets), pulses (black gram and green gram) oil seeds (sunflower, gingelly and safflower) and chillies.

5.2. About sub basin

The Kalingalar sub basin starts from Koonikeraikal, Vasudevanallur block and extends up to Panaiyur Periyakulam tank, Sankarankoil block. The sub basin has total ayacut area of 2256.66 ha under 11 tanks (2009.76 ha) and 6 direct channels (246.90 ha) in six villages comes under Sivagiri and Sankarankoil taluks.

Details of the tank Ayacuts:

Sl.No.	Name of the village	Name of the tank	Ayacut (Ha.)
1.	Chinthamani	Manaltherikulam	70.80
2.	Vasudevanallur	Periyakulam	348.36
3.	Naranapuram	Pudukulam	104.86
		Rappaikulam	78.65
		Naranaperikulam	47.54
		Periyaperaikulam	42.56
		Ilankulam	147.55
4.	Thirumalapuram	Kulasekaraperikulam	328.35
5.	Goodalur	Periyakulam	260.13
6.	Panaiyur	Periyakulam	452.53
		Vayalimittakulam	128.43
		Total	**2009.76**

Direct Ayacuts:

S.No.	Name of the village	Name of the direct channel	Ayacut (Ha.)
1.	Vasudevanallur	Koonikorai channel	9.42
		Pottakulam channel	62.63
		Pudumadai channel	27.59
2.	Naranapuram	Sankiliankal channel	43.80
		Ilankulam channel	66.89
		Kalingalar channel	36.57
		Total	**246.90**

Total area under Ayacut: 2009.76+246.90 = 2256.66 ha.

Cropping Pattern

Sl. No	Season	Name of the crop	Without project				With Project			
			F.I	P.I	Gap	Total	F.I	P.I	Gap	Total
1a.	Perennial	Coconut	70			70	70			70
		Sapota					10			10
		Amla								
		Guava								
		Mango								
		Lime					10			10
		Fodder					20			20
		Prosopis			32	32			32	32
		Sub Total	**70**	**-**	**32**	**102**	**110**		**32**	**142**
	Annuals	Sugarcane	301	114		415	415			415
		Banana	20	5		25	190			190
		Sub Total	**321**	**119**		**440**	**605**			**605**
2.	I Crop (Sep-Jan)	Paddy	1002	336		1338	1000			1000
		Cotton		24		24				
		Vegetables					30			30
		Chillies								
		Maize		4		4	200			200
		Sunflower					150			150
		pulses					130			130
		Fallow			349	349				
		Total	**1002**	**364**	**349**	**1715**	**1480**			**1510**
		Grand Total	**1393**	**483**	**381**	**2257**	**2225**		**32**	**2257**
3.	II Crop (Feb-May)	Paddy	41	68		109	60			60
		Cotton	28	150		178	200			200
		Vegetables					207			207
		Sunflower					200			200
		Pulses	34	26		60	200			200
		Maize					200			200
		Chillies					40			40
		Total	**103**	**244**		**347**	**1107**			**1107**
4.	III Crop (June - Sep)	Pulses	26	85		111	120			120
		Marigold								
		Maize								
		Sunflower								
		Vegetables								
		Total	**26**	**85**		**111**	**120**			**120**
		Grand Total	**1522**	**812**	**381**	**2715**	**3452**		**32**	**3474**

Abstract of the cropping pattern

Total Registered Ayacut	:	2257
Fully irrigated	:	1393
Partially irrigated	:	483
GAP	:	3815

5.3. Soil types of sub basin

- Clay soil
- Clay loam
- Red loam

Rainfall Pattern

Month	Average Rainfall (mm)
January	21.04
February	30.34
March	25.37
April	62.34
May	51.47
June	10.75

Month	Average Rainfall (mm)
July	20.15
August	21.63
September	50.00
October	150.75
November	141.61
December	55.68
Total	**641.1**

5.4. Constraints

- Conventional crop husbandry.
- Non availability of quality seed material.
- Use of conventional low yielding crop varieties.
- Lesser adoption/ non adoption of improved management technologies.
- Labour scarcity and high cost of labour during cropping season.
- Poor soil health due to continuous cropping.
- Low productivity of crops.

5.5. Special issues

- Non adoption of water saving technologies (SRI) in rice, micro irrigation in sugarcane and citrus
- Scope for increasing the productivity of crops by improved production technologies
- Lack of crop diversification with less water requiring commercial value crops.
- Low productivity and quality maintenance in commercial crops.

5.6. Counter measures proposed

- System of Rice Intensification (SRI)
- Drip fertigation and improved production technology for sugarcane.
- Crop diversification through maize cultivation.
- Improved production technologies for sunflower.
- Organic farming in vegetable crops.
- Productivity and quality enhancement in cotton

5.7. Objectives

- To promote water saving technologies (SRI/ Drip) in agriculture and horticultural crops for large scale adoption.
- To enhance crop and water productivity.
- To increase the crop productivity and area by diversification and intensification.
- To coverage with WRO and other line departments in over all improvement in total farm income.

5.8 DETAILS OF ACTIVITIES

5.8.1. Field activities - Project Mode Activities

5.8.1.1. Mechanized production technologies in maize.

Under Kalingalar sub basin nearly 200 ha can be brought under maize cultivation in the post project period. TNAU included its transfer of technology in maize, which helps in the large scale adoption. The technologies are seed drill sowing of high yielding hybrids, weeding by mechanical weeder, balanced nutrition and scientific water management. Under this the cost of critical inputs like seed cum fertilizer drill, seeds, mechanical weeder, nutrients and sheller are included. The cost on field days and publications showing the success of the technology are included.

S. No.	Technology	Total Area (ha)	Unit Cost (Rs./ha)	Total cost (in lakhs)
1.	Mechanized production technology in Maize	20	4000	0.80

Justification for the unit cost

Sl.No.	Particulars	Amount in (Rs.)
1.	Hybrid Seed cost (15 kg/ha) @ Rs. 160 / kg	2400.00
2.	Cost of fertilizers	0
	Urea – 300 kg @ Rs. 5/kg	1500.00
	Bio fertilizers	100.00
	Total cost	**4000.00**

5.8.1.2. Mechanized production technologies in Sunflower

Sunflower is an alternate crop for the areas in which the water scarcity is a common problem. Since the farmers cultivating normal varieties with higher cost of cultivation, there is a need to introduce hybrid Sunflower in this sub basin. By demonstration, the success of the sunflower helps to increase the income of farmers besides it conserves the total irrigation water. TNAU is included its transfer of technology in sunflower, which helps in the large scale of adoption. The technologies are seed drill sowing of high yielding hybrids, weeding by mechanical weeder, balanced nutrition, scientific management for seed setting and threshing by mechanical thresher. Under this the cost of critical input like seeds and nutrients are included

Justification

Sunflower is introduced in Kalingalar under diversification. To popularize and familiarize the technologies TNAU introduces demonstration in 35ha.

S. No	Technology	Area (Ha)	Unit cost (Rs.)	Budget (lakhs)
1	Mechanized production technologies in sunflower	35	4000	1.40

Justification for the unit cost

Sl.No	*Particulars*	Amount in (Rs.)
1	Hybrid Seed cost (5kg/ha) @ Rs.275/kg	1375.00
2	Cost of fertilizers (60:30:30 kg NPK / ha)	0
	Urea - 130 kg @ Rs. 5 / kg	650.00
	SSP 187.5kg @ Rs.4/kg	750.00

	Muriate of Potash - 50 @ Rs.5/ kg	250.00
	Pseudomonas 2.5kg/ha @ Rs.100/kg	250.00
	Cost of Bio fertilizer - Azozpirillum	60.00
	Pesticides	665.00
	Total	**4000.00**

5.8.1.3. Improving the production technology and quality of cotton

This project has been proposed to increase the productivity and quality of cotton in kalingalar sub basin, for which assured market linkages are available in this basin. The technologies identified for mission mode for cotton

- Introduction of Hybrid cotton with superior quality
- IPM module
- Improved production technology
  The area for implementation under Kalingalar sub-basin is 25 ha
- IPM modules will be supplied with 100% assistance

Why this project

In Kalingalar sub basin majority of the farmers focused the problem of low price for their produce due to medium stable length of available cotton varieties. More over the productivity is also less due to the conventional farming with varieties, non adoption of improved cultivation technologies and higher pest incidence in cotton. Hence introduction of hybrids will be the better solution for getting better price with superior quality produce. Under this concept the activity is proposed by TNAU under project mode concept in 25 ha in Aug-Sep sowing.

S. No.	Technology	Total Area (ha)	Unit cost (Rs.)	Budget (lakh)
1.	Increasing the productivity and quality of cotton	25	6750	1.69

Justification for the unit cost

Sl.No.	Particulars	Amount in (Rs.)
1	Hybrid seed cost @ 1.125 kg @ Rs 950/ 450 g	2375.00
2	Cost of fertilizers (120:60:60 kg NPK / ha)	0
	Urea – 260 kg @ Rs. 5 / kg	1300.00
	Super phosphate – 375 kg @ Rs. 4 /kg	1500.00
	Muriate of potash – 100 kg @ Rs.5 / kg	500.00
	Cost of bio fertilizer	0
	Azospirillum and Phospho bacteria @ 10 pockets each	120.00
	Bio pesticides	955.00
	Total	**6750.00**

5.8.1.4. Productivity enhancement in Pulses

The technologies to be popularized in pulses are

- Variety ADT 3/5 black gram or ADT 3 green gram
- Seed pelletting with 40g DAP and 250g of gypsum per kg of seed was found to improve the early vigour and crop stand in red lateritic soil
- Application of 2% DAP foliar spray at pre-flowering, flowering and pod filling stages significantly influenced the grain yield of Green gram and Black gram.

Sl No.	Technology	Total Area (ha)	Unit cost (Rs/ha)	Total Cost (in lakhs)
1	Pulse production technology	10	2500	0.25

Justification for the unit cost

S.No	Particulars	Amount (Rs.)
1	Seed cost 20kg/ha @ Rs.50/kg	1000.00
2	DAP 20 kg / ha @ Rs.10kg	200.00
	Super phosphate 310 kg @ Rs. 4/kg	1240.00
	Rhizobium 10 pkts	60.00
		2500.00

5.8.2. Mission Mode Activities

5.8.2.1. System of Rice Intensification

SRI is one of the management techniques to improve crop and water productivity. The main features are as follows.

- Young and robust seedling (14-15 days)
- One seedling per hill
- Square planting under wider spacing (20 x 20 cm)
- Rotary weeding up to 40 days at 7-10 days interval.
- Irrigation after the disappearance of ponded water
- "N" management through Leaf Colour Chart

SRI technique has the following advantages

- Saving of seed material 50-65 kg /ha.
- Saving of 10 laborers in planting
- Saving of 300-400 mm of irrigation water
- Saving of 12-16 women laborers in weeding
- Saving of 15- 45 kg N/ha. by following LCC method of N management

S.No.	Technology	Total area (ha)	Unit cost (Rs.)	Budget (lakh)
1.	SRI	60	6000	3.60

Justification for the unit cost

S. No	Particulars	Amount(Rs.)
1	Seed cost 8kg/ha @ Rs. 25 /kg	200.00
	Cost of nursery raising	500.00
	Cost of fertilizers (150:50:50 kg NPK / ha)	0
	Urea - 330 kg @ Rs. 5 / kg	1650.00
	Super Phosphate - 315 kg @ Rs. 4 /kg	1260.00
	Muriate of Potash – 80kg @ Rs.5/ kg	400.00
	$ZnSO_4$ 25 kg @ Rs. 35 / kg	875.00
	Cost of Bio fertilizer (Azospirillum and Phospho bacteria @ 10 pockets each)	120.00
	Pseudomononas 2.5 kg / ha @ Rs. 100 /kg	250.00
	Bio pesticides	745.00
	Total	6000.00

5.8.2.2. Rice Fallow Pulse Production Technology

Pulse crop will be raised in sequence after the harvest of I season rice (Sep-Oct). All SRI demo area will be covered under this programme. Pulses seeds will be broadcasted in to standing rice crop (10 days prior to harvest). Bio fertilizers inoculation may be followed for enhanced production. Introduction of pulses in rice field offers following advantages.

-Increases cropping intensity
-Maintain soil fertility
-Additional Income to the farmer
-Reduce pest / disease load

The area under pulses is expected to increase both under SRI and Non SRI areas also.

S.No.	Technology	Area (Ha)	Unit cost (Rs/ha.)	Amount (In lakhs)
1	Rice Fallow Pulses production technology	60	1500	0.90

Justification for unit cost

S.No	Particulars	Amount(Rs)
1	Seed cost 25kg/ha @ Rs. 50/kg	1250.00
2	DAP 20 kg / ha @ Rs.10/kg	200.00
	Bio fertilizer	50.00
	Total	**1500.00**

5.8.3. Model village and organic farming activity

Increased cropping intensity without crop rotation and organic coupled with imbalanced use of inorganic fertilizers and plant protection chemicals detoriated the soil health and environment. To show cause the farmers on the merits of maintaining the soil health for better crop bio-environment, organic farming activity in model village will help to create awareness among the farming community.

Technology	Area (ha)	Unit cost / ha	Total cost in lakhs
Organic farming in vegetables	20	5000	1.00

5.8.4. Seed production and Seed village concept

The non monitory input of quality seeds place a major role in maintaining plant population in turn reflecting on the yield. By technical know-how and do-how through demonstration for the production and sale of quality seeds can help the farmers to use the recommended quantity of seeds and also source points for seed availability increase.

Quality seed production	Area (ha)	Unit cost per ha	Total cost in lakhs
Green gram	10	1000	0.10

Justification per unit cost

Sl.No.	Particulars		Amount in (Rs.)
1	Seed cost with seed treating chemicals (20 kg/ha) @ Rs.50/kg	:	1000
	Total	**:**	**1000**

5.9. IEC measures
5.9. 1. Field days

1	Field days	20	Rs. 60000/-

5.9. 2. Awareness creation activities

- Organizing informal meeting in sub basin village
- IAMWARM days
- Printing pamphlets about the scheme.
- Tea shop / bus stop boards
- Message in AIR / local cable TV

5.9. 3. On farm demonstration and skill development

Under this activity imparting training to all the beneficiaries either as off campus or as on campus is planned.

S. No.	Title	Duration (days)	No. / batch	Total batch	Budget / batch	Total budget (lakhs)
1	Mechanized production technologies for maize	1	50	2	10000	0.2
2	Mechanized production technologies for sunflower	1	50	2	10000	0.2
3	Production technologies for hybrid cotton	1	50	5	10000	0.5
4	SRI training to farmers	1	50	5	10000	0.5
5	SRI training to labourers	1	50	2	10000	0.2
5	Seed production in pulses	1	50	2	10000	0.2
6	Organic farming	1	50	2	10000	0.2
Total						**2.00**

Training

- Titles for training are to be identified based on the interventions.
- Guidelines are to be followed

Guidelines for organizing training programme
A. General

- Number of farmers should be 40 -50 per batch
- Training should cover scheme objectives (10%) and technology (90%) – (30% theory) and (60% practical)
- Providing training bags / kits should be avoided
- More importance to be given for transfer of technologies by providing training manual
- Off campus training to be encouraged
- Number of trainings per technology should match with the activity proposed and impact area targeted.
- For each training one copy of report with details (No. of participants, contents delivered, practical classes) with photograph should be sent to Nodal Officer.

Budget provisions for **off campus training**
No. of participants : 50 Nos.

S.No.	Particulars	Amount (Rs.)
1	Training materials (Note pad / pen and manual) Rs. 40/No.	2000.00
2	Refreshment charges (Intersession tea 2 times + one lunch @ Rs. 50/No.)	2500.00
3	Honorarium for 4 lectures / day Rs.250/No.	1000.00
4	Travel expenses of resource person Rs.200/No.	800.00
5	Miscellaneous (Hall rent / photograph/ documentation)	1200.00
	Total	*7500.00

- If LCD is used by outsourcing an amount of RS.1500/day could be added.

Budget provisions for **on campus training**
No. of participants : 50 / Batch.

S.No.	Particulars	Amount (Rs.)
1	Training materials (Note pad / pen and manual) Rs. 40/No.	2000.00
2	Refreshment charges (Intersession tea 2 times + one lunch @ Rs. 75/No.)	3750.00
3	Honorarium for 4 lectures / day Rs.250/No.	1000.00
4	Transport of farmers (Vehicle hire charges) @ Rs.100/No.	5000.00
5	Miscellaneous (Hall rent / photograph/ documentation)	1250.00
	Total	*13000.00

* If LCD is used by outsourcing an amount of Rs.1500/day could be added.

5.9.4. Capacity building

Under the head of capacity building, an amount Rs. 2.00 lakhs was added to give training and exposure visits to the farmers.

Exposure visit

Places identified for exposure visit

Organic farming	Pondicherry, Puliangudi, Pollachi and Sivagangai
SRI	All I year sub basin areas
Maize	Upper vellar – Palar sub basin

Guidelines for organizing exposure visit

General

- Exposure visit to cover number of technologies
- Preferably to the farmers field
- Utilize private buses by calling quotations
- Number of participants (40 – 45 farmers + 5 SRF) per trip
- Lodging should be arranged preferably in TNAU station
- A detailed report for each exposure visit (Places covered, technologies learnt, feed back) with photograph.
- It is preferable to organize more one day trips.
- Prior approval should be obtained to organize exposure visit indicating places to be covered, purpose, tentative split up budget.

Budget for exposure visit (One day)

S.No.	Particulars	Amount (Rs.)
1	Actual rental charges of vehicles	
2	Refreshment charges for one day @ Rs. 100/No.	5000.00
3	Miscellaneous (Banner / photograph/ documentation/ Note/pen)	2000.00

Budget for exposure visit (Two days)

S.No.	Particulars	Amount (Rs.)
1	Actual rental charges of vehicles	
2	Refreshment charges for 2 days @ Rs. 200/No.	10000.00
3	Miscellaneous (Banner / photograph/ documentation/ Note/pen)	2000.00

5.10. Outsourcing of technical staff

Outsourcing of technical staff is included in TNAU sub basin plan to carry out the field activities. Outsourcing staff has to cover the demo area in addition he / she should cover 200 – 250 hectares per year impact area or as zone of influence in the sub basin. The detailed job chart is as follows.

Project Activity – Project Mode and Mission Mode
Pre implementation activity
Organize awareness campaign

- Informal meetings with Farmers / Water Users Association through PRA methods – Focus group discussion and transect walk
- Ensure Transparency
- Explain about the scheme – organization objectives, activities, project contribution and farmers share
- Emphasis the role of stake holders in the project
- Project the expected benefit

Publicity and Propaganda

- Printing of pamphlets / Media and Boards
- Organize Street plays

Identification and selection of Beneficiary

- Discussion with Water Users Association / any Informal groups
- Willing to pay the farmers share
- Willing to provide Memorandum of Understanding to participate in the project at least for 3 years

Selection of area

- Select area contiguously
- Concentrate in one location in a year
- Select another area in next year

Empowerment of stake holder

- Organize cluster with Farmers Interested Group (FIG)
- Cluster for each activity (SRI / Precision farming)
- A cluster should have 35 beneficiaries (10% may be Non beneficiaries also)
- Facilitate interaction among the members to decide the nature of inputs they need – schedule of operation

- Encourage periodical meeting in between clusters

Sustainability of clusters

- Link each cluster with local Non Governmental Organization
- Form bylaws for each cluster and practice Non agricultural activity (Thrift)
- Identify income generation activities for each cluster preferably agri based (eg) Vermi compost, seedling production, Mushroom cultivation, value addition.

Capacity Building

- Provide hands on training to each cluster
- Explain in details - Do's and Don't
- Arrange exposure visit to show the success of techno logy

Implementation stage

- Formulate calendar of operations month wise for each stakeholder (Field preparation to harvest)
- Arrange all the critical inputs (seeds/bioinoculants/implements/fertilizers/ chemicals
- Implement the technology with stakeholder participation
- Arrange informal gathering of all villagers to show the technology at different stages in field level (eg. In SRI - At Nursery / Transplanting / Mechanical weeding)
- Record the observation on crop, soil, water and economics
- Maintain proper field sanitation (Free from Pest / Diseases)
- Supply nutrient and water under proper supervision
- Fix up field boards to indicate the technology

Organizing field days at Harvest

- Involve all the members
- Provide the yield statistics by actual harvest in the presence of farmer
- Involve all the line department officials
- Organize informal exhibition at field on the field by depicting all the activities to achieve the productivity
- Involve local press people to give wide publicity

Post Implementation Stage

- Analyze the collected data
- Document all the activities related to each stakeholder
- Organize awareness campaign for next season
- Engage the beneficiary as spokesman for technology transfer
- Finalize II year activities
- Prepare the activity chart month wise
- Work out the input requirement
- Finalize the budget requirement
- Evaluate the first year activities based on the achievements of physical and financial target
- Make necessary modification based on farmers feed back
- Provide market linkage for better price
- Utilize the services of Agri Business and Farm Advisory Cell
- Record on soil health

Project Activity - Seed Village

- Delineate the area with the test crop (Identified in the sub basin plan).
- Organize clusters with the farmers
- Sensitize the need of quality seeds
- Replace the farmers seed with quality certified or TFL seeds
- Maintain field sanitation
- Adopt Rogue spacing
- Train the farmers to remove off types
- Harvest Thrashing / Cleaning
- Storing in fresh gunnies
- Create market linkage to the farmers to sell the seeds
- Make the farmer as seed entrepreneur.
- Initiate action to organize seed village in subsequent years

Project Activity – Model Village with Organic Farming

- Delineation of area in a compact block (or) select area in a adopted village of KVK
- Finalise the available components at village level for organic farming
- Provide market linkage
- Arrange market linkage with organic growers association / NGO
- In addition to that it was mutually agreed that the outsourcing technical staff will be utilized for the formation of WUA in sub basins.

Maintenance of records and registers

- Field note for each activity
- Daily memorandum sheet
- Receipt and issue of inputs
- Technical observations on soil, water and crop

5.11. Outsourcing of vehicle

- Expenditure on TA /DA for the purpose of TN-IAMWARM Project
- Fuel bill of university vehicle utilized for the project
- Hire charges of university vehicle utilized for this purpose

Year wise activity

S.No.	Activity	I Year	II Year
1	Mechanized production technologies for maize	10	10
2	Mechanized production technologies for sunflower	20	15
3	Production technologies for hybrid cotton	10	15
5	System of Rice Intensification	40	20
6	Rice Fallow Pulses production technology	40	20
7	Quality seed production	10	-
8	Improved production technology for pulses	10	-
9	Model village and Organic farming	20	-

Adoption rate year wise (ha)

S.No.	Activity	I Year	II Year
1	Mechanized production technologies for maize	100	100
2	Mechanized production technologies for sunflower	200	150
3	Production technologies for hybrid cotton	100	150
4	System of Rice Intensification	280	140
5	Rice Fallow Pulses production technology	280	140
6	Improved production technology for pulses	100	-

Expected output

S.No.	Particulars of activity	Demo. area (ha)	Area spread for adoption (ha)	Additional productivity Kg/ha
1	Mechanized production technologies for maize	20	200	1500
2	Mechanized production technologies for sunflower	35	350	500
3	Production technologies for hybrid cotton	35	350	500
4	System of Rice Intensification	60	420	1200
5	Rice Fallow pulses production	60	420	150
6	Improved production technology for pulses	10	100	250

YEAR WISE BUDGET FOR KALINGALAR SUB BASIN (IN LAKHS)

P - Physical in ha F - Finance in lakhs

Sl No	Activities	I Year		II Year		Total	
		P	F	P	F	P	F
A.	**Project mode**						
1	Improved production technology for sunflower	20	0.80	15	0.60	35	1.40
2	Improved production technology for maize	20	0.80			20	0.80
3	Improved production technology for pulses	10	0.25			10	0.25
4	Improved production technology for Cotton	10	0.68	15	1.01	25	1.69
B	**Mission mode**						
1	System of Rice Intensification	40	2.40	20	1.20	60	3.60
2	Rice fallow pulse production technology	40	0.60	20	0.30	60	0.90
C	Model village and organic farming	20	1.00			20	1.00
D	Seed production green gram	10	0.10			10	0.10
E	**Implements for farm mechanization**						
1	Rotary weeder	200	0.70	100	0.35	300	1.05
2	SRI marker	8	0.05	4	0.02	12	0.07
3	Rotavator	1	0.90			1	0.90
4	Maize husker sheller	1	0.90			1	0.90
5	Mechanical power weeder	1	0.75	1	0.75	2	1.50
6	Sunflower thresher	1	1.50			1	1.50
7	Seed cum fertilizer drill	1	0.60	1	0.6	2	1.20
F	**IEC measures**						
1	Field days	10	0.30	10	0.30	20	0.60
2	Awareness creation activities		0.50		0.50		1.00
3	On farm demonstration & skill development of farmers		1.00		1.00		2.00
4	Documentation & reporting charges		0.20		0.20		0.40
	Capacity building of farmers including on-farm demonstration and skill development to labourers		1.00		1.00		2.00
5	Information, Education & Communication (IEC)		1.00				1.00
I	**Operational cost**						
1	Outsourcing of technical staff	2	2.28	2	2.40	4	4.68
2	Outsourcing charges on vehicles		0.60		0.60		1.2
	Sub total		18.90		10.84		29.74
	Institutional charges @ 7.5 %		1.42		0.81		2.23
	Sub total		20.32		11.65		31.97
	Incentive 1%		0.21		0.12		0.32
	Grand total		**20.53**		**11.77**		**32.29**

Total Budget for Kalingalar sub basin (in lakhs)

P - Physical in ha F - Finance in lakhs

Sl No	Activities	Total	
		P	F
A.	**Project mode**		
1	Improved production technology for sunflower	35	1.40
2	Improved production technology for maize	20	0.80
3	Improved production technology for pulses	10	0.25
4	Improved production technology for Cotton	25	1.69
B	**Mission mode**		
1	System of Rice Intensification	60	3.60
2	Rice fallow pulse production technology	60	0.90
C	Model village and organic farming	20	1.00
D	Seed production green gram	10	0.10
E	**Implements for farm mechanization**		
1	Rotary weeder	300	1.05
2	SRI marker	12	0.07
3	Rotavator	1	0.90
4	Maize husker sheller	1	0.90
5	Mechanical power weeder	2	1.50
6	Sunflower thresher	1	1.50
7	Seed cum fertilizer drill	2	1.20
F	**IEC measures**		
1	Field days	20	0.60
2	Awareness creation activities		1.00
3	On farm demonstration & skill development of farmers		2.00
4	Documentation & reporting charges		0.40
	Capacity building of farmers including on-farm demonstration and skill development to labourers		2.00
5	Information, Education & Communication (IEC)		1.00
I	**Operational cost**		
1	Outsourcing of technical staff	4	4.68
2	Outsourcing charges on vehicles		1.2
	Sub total		29.74
	Institutional charges @ 7.5 %		2.23
	Sub total		31.97
	Incentive 1%		0.32
	Grand total		**32.29**

Nodal Officer (TN-IAMWARM)
& Director (WTC)
Water Technology Centre
TNAU, Coimbatore