Tamil Nadu Irrigated Agriculture Modernization Project
(TNIAMP)

Agriculture Department

DETAILED PROJECT REPORT

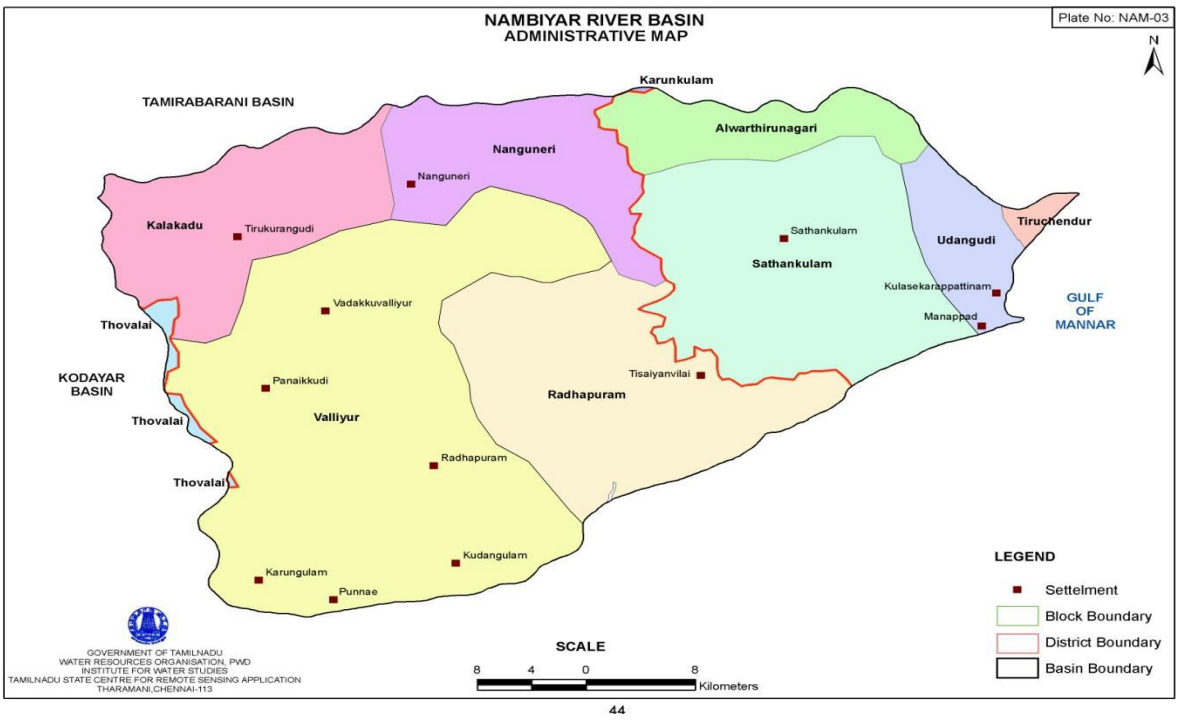
Sub-Basin Name: Nambiyaru

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Joint Director of Agriculture,

Tirunelveli

1.Sub-basin map



2. Introduction

Nambiyar river originates in the eastern slopes of the western ghats near Nalikkal Mottai about 9.6 km west of Thirukkarangudi village at an altitude of about 1060m. This river is constituted by three branches of seasonal streams, like Tamaraiar, Kombaiar and Kodumudiar. Kombaiyar and Kodumudiyar originates at the eastern slope of western ghats at an altitude of about 1600 mm near Mahendragiri hills. Nambiyar then takes an easterly course up to the Tirunelveli-Nagercoil trunk road crossing and flows in a south-easterly direction. Parattaiyar originates in the eastern slopes of the western ghats at an altitude of about 1200 m near Kakamunjikai Mottai and joins with another arm of Nambiyar at the foot of the hills. After feeding number of small tanks, this finally joins with Nambiyar again near Ervadi at 18.5 km.Kalankal odai is another tributary which originates near Kananallur area in Radhapuram taluk of Tirunelveli district. It gets flows from the surpluses of a few tanks dependent on other streams. After traversing a distance of 6.5 km and finally joins with the Nambiyar near Kovankulam.

Another tributary which originates near Vadakku Valliyur area in radhapuram taluk of Tirunelveli district at an altitude of about 90m gets flows from the surpluses of small tanks dependent on other streams. After traversing a

distance of 10.5 km finally the tributary joins with Nambiyar near Sankarapuram village. Finally the Nambiyar river flows into the Gulf of Mannar after traversing a total distance of 59km from the origin of Nambiyar river.

The Nambiyar river has a total of 9 small anicuts viz. 1. Mailannani anicut, 2. Dalavaipuram anicut, 3. Rajakkamangalam anicut, 4.Malapudur anicut 5.Kannanallur anicut, 6. Vijayan anicut, 7.Kovankulam anicut, 8. Islapuram anicut, 9. Pulimangalam anicut. The total extent of this sub basin area is 604.32 sq.km covering blocks of Kalakkadu, Nanguneri, Valliyoor, and Radhapuram in Tirunelveli district. The registered Ayacut area taken for the present project in Nambiyar Sub Basin is 1312.830 **Ha.** Out of which, **724.88 ha** comes under fully irrigated, **316.12 ha** comes under partially irrigated and **271.83 ha** comes under gap area. The important crops grown in the sub-basin are Paddy, Pulses, Groundnut, Coconut, Banana and vegetables.

3.Proposed Project area at a glance

Sl. No	Particulars	Area (Ha)
1	Total registered ayacut area	1312.830
2	Full irrigated area	724.88
3	Partially irrigated area	316.12
4	Gap area	271.83
	Total	1312.830

4.List of Blocks covered in Nambiyaru Sub Basin with Ayacut Area

Ayacut in ha.

Block	Tanks				Total
	Nos.	Full irrigated area	Partially irrigated area	Gap area	
Kalakadu	3	226.213	72.393	87.754	**386.36**
Nanguneri	3	43.432	20.896	8.052	**72.38**
Valliyur	19	352.693	149.973	138.328	**640.994**
Radhapuram	15	102.542	72.858	37.696	**213.096**
Total	**40**	**724.88**	**316.12**	**271.83**	**1312.83**

5.Rainfall

Sl. No	Season	Rainfall (mm)	% of rainfall
1	Winter season	52.02	6.66
2	Summer season	157.02	20.10
3	South west monsoon	83.38	10.67
4	North East Monsoon	488.74	62.57
	Total	**781.16**	

6.Season-wise focus crops

Though Paddy is the mainstay of farming, the other crops also are cultivated in considerable area in the Nambiyaru sub-basin.

Sl. No	Season	Main crops cultivated
1	Summer season	Vegetables
2	South west monsoon	Paddy, Vegetable
3	North east monsoon	Paddy, Pulses, Oil seeds
4	Perennial	Coconut
5	Annual	Banana

7.Soil types

The predominant soil types found in this sub-basin are

1. Inceptisol,
2. Alfisol,
3. Vertisol.

Inceptisol are suitable for growing crops like, Paddy, millets and pulses. Alfisol is the soil type that best suited for cultivation of Groundnut, Pulses, Vegetables, and coconut. Vertisol is suited for cultivating rainfed Pulses, Groundnut.

8.Irrigation sources – borewells and open wells

Sl. No	Blocks	Open well	Borewells
1	Kalakadu	87	32
2	Nanguneri	45	40
3	Valliyur	141	80
4	Radhapuram	72	31
	Total	**345**	**183**

9.SHGs in the sub-basin

Sl. No	Blocks	No. of SHGs	Sphere of interest	No. of FIGs	Sphere of interest
1	**Kalakadu**	3	Self Employment	15	Collective farming
2	**Nanguneri**	5	Self Employment	20	Collective farming
3	**Valliyur**	2	Self Employment	15	Collective farming
4	**Radhapuram**	0	Self Employment	10	Collective farming

10.Infrastructure available in the sub-basin

Sl. No.	Infrastructure	Kalakadu	Nanguneri	Valliyur	Radhapuram
1	Agricultural Extension Centres	3	2	2	3
2	Agri clinic centres	1	-	-	-
3	Private Inputs traders	18	2	4	9
4	Primary Agricultural Cooperative credit society	6	1	3	9
5	Regulated markets	-	-	1	-
6	Cold storage	-	-	-	-
7	Uzhavarshandai	-	-	-	-
8	Food Corporation of India Godown	-	-	-	-
9	Tamil Nadu Civil Supplies godown	-	-	-	-
10	Seed processing unit Govt	-	-	-	-
11	Seed processing unit private	-	-	-	-
12	Marketing committee godown	-	-	-	-
13	Private storage godown	-	-	-	-
14	Milk societies	2	-	5	2
15	Village sandhais	-	-	-	2
16	Machineries custom hiring centre	1	1	-	-

11. Objectives/Interventions:

- Agricultural intensification by Improved production technology crop demonstrations
- Crop diversification with Millets, Pulses and Groundnut
- Climate resilient activity in all the intervention crops
- Reduce the inorganic fertilizers and pesticides as it affects the Soil health and Environment
- Information Education, Communication and Capacity Building activities

12. Implementation strategy

Project will be implemented using the following strategy in order to achieve increasing water productivity in irrigated agriculture.

- Irrigated Agriculture–all the partially irrigated area will be brought under fully irrigated area albeit under low water requiring crops.
- More production per drop of water – area under low water requiring crops like Maize, Pulses, Oil seeds will be increased and hence will increase in water productivity. In paddy crop, SRI technique will be implemented that will lead to 25 per cent savings in water and increase in productivity.
- Work in convergence with line Departments – Project will be implemented in convergence mode along with line departments.
- Cluster approach – All interventions will be implemented in project area on a cluster basis in order for farmers to easily adopt the technologies.
- Crop diversification – Instead of Paddy which covers about two third of cultivable area, maize, groundnut, and pulses crop will be cultivated with improved production technologies.
- Sub Basin approach.
- Dove tailing with other departmental schemes.
- Interventions finalized in consultation with the stake holders base in PRA exercise.
- Facilitate AMD to form crop wise commodity groups / FPO/ FPC.

13. Existing crop scenario in the sub-basin

Paddy, Pulses, vegetables, banana are important crops cultivated in the sub-basin

14. Existing cropping system in the sub-basin

1. Paddy – Vegetables (tomato, chillies, onion, bhendi, brinjal)
2. Paddy – pulses
3. Banana – Paddy (two year crop rotation)

15. Details of cropping pattern

Name of the sub Basin : **Nambiyaru sub-basin**

Registered Ayacut Area : 1312.830 Ha
Fully Irrigated : 724.88 Ha
Partially Irrigated : 316.12 Ha
Gap area : 271.83 Ha

S.No.	Crop	Without Project				With Project				Increasing
		FI	PI	RF/G	TOTAL	FI	PI	RF/G	TOTAL	
I	**Perennial crop**									
1	Coconut	35.00	159.00	0	194.00	35.00	159.00	0	194.00	0.00
2	Mango	0	24.00	0	24.00	0	24.00	0	24.00	0.00
3	Sapota	0	2.00	0	2.00	0	2.00	0	2.00	0.00
4	Guava	0	0.00	0	0.00	0	0.00	0	0.00	0.00
5	Cashew	0	0.00	0	0.00	0	0.00	0	0.00	0.00
6	Casurina	0	2.10	0	2.10	0	2.10	0	2.10	0.00
7	Teak	0	0.50	0	0.50	0	0.50	0	0.50	0.00
8	Tamarind	0	1.13	0	1.13	0	1.13	0	1.13	0.00
9	Acid Lime	0	0.00	0	0.00	0	0.00	0	0.00	0.00
10	Amla	0	1.05	0	1.05	0	1.05	0	1.05	0.00
11	Jack	0	0.00	0	0.00	0	0.00	0	0.00	0.00
12	Other tree crops	0	12.00	0	12.00	0	12.00	0	12.00	0.00
13	Flowers\ Tube Rose	0	0.50	0	0.50	0	0.50	0	0.50	0.00
14	Fodder	0	0.00	0	0.00	0	0.00	0	0.00	0.00
	Total	**35**	**202.28**	**0**	**237.28**	**35**	**202.28**	**0**	**237.28**	**0**
II	**Annual Crop**									
1	Sugarcane	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Banana	82.00	0.00	0.00	82.00	82.00	0.00	0.00	82.00	0.00
3	T.C. Banana	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Tapiaco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	**82.00**	**0.00**	**0.00**	**82.00**	**82.00**	**0.00**	**0.00**	**82.00**	**0.00**
III	**1st crop**									
1. a	Paddy	596.18	0.00	0.00	596.18	0.00	0.00	0.00	0.00	-596.18

b	Paddy - SRI	0.00	0.00	0.00	0.00	596.18	0.00	0.00	596.18	596.18
2	Maize	3.07	0.00	0.00	3.07	3.07	0.00	0.00	3.07	0.00
3	Pulses	4.03	45.00	0.00	49.03	70.00	0.00	0.00	70.00	20.97
4	Groundnut	0.00	10.20	0.00	10.20	50.00	0.00	0.00	50.00	39.80
5	Gingelly	0.00	2.60	0.00	2.60	35.00	0.00	0.00	35.00	32.40
6	Cumbu	0.00	2.50	0.00	2.50	2.50	0.00	0.00	2.50	0.00
7	Tomato	0.70	20.50	0.00	21.20	21.20	0.00	0.00	21.20	0.00
8	Bhendi	0.00	9.20	0.00	9.20	20.00	0.00	0.00	20.00	10.80
9	Brinjal	2.86	5.63	0.00	8.49	20.00	0.00	0.00	20.00	11.51
10	Onion	0.00	5.63	0.00	5.63	16.00	0.00	0.00	16.00	10.37
11	Cucumber	0.00	2.00	0.00	2.00	25.00	0.00	0.00	25.00	23.00
12	Gourds	0.17	1.00	0.00	1.17	25.00	0.00	0.00	25.00	23.83
13	Radish	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
14	Curry leaf	0.00	0.23	0.00	0.23	0.23	0.00	0.00	0.23	0.00
15	Cluster Beans	0.00	0.15	0.00	0.15	0.15	0.00	0.00	0.15	0.00
16	Greens	0.00	1.00	0.00	1.00	1.65	0.00	0.00	1.65	0.65
17	Watermelon	0.00	1.00	0.00	1.00	1.23	0.00	0.00	1.23	0.23
18	Chillies	0.87	3.00	0.00	3.87	35.87	0.00	0.00	35.87	32.00
19	Beans	0.00	0.25	0.00	0.25	0.25	0.00	0.00	0.25	0.00
20	Veg. Cowpea	0.00	0.45	0.00	0.45	0.45	0.00	0.00	0.45	0.00
21	Coriander	0.00	0.85	0.00	0.85	0.85	0.00	0.00	0.85	0.00
22	Colacassia	0.00	1.00	0.00	1.00	13.00	0.00	0.00	13.00	12.00
23	Marigold	0.00	0.65	0.00	0.65	16.00	0.00	0.00	16.00	15.35
24	Fodder cholam	0.00	0.00	0.00	0.00	0.00	38.92	0.00	38.92	38.92
24	Fallow	0.00	0.00	271.83	271.83					
	Total	**607.88**	**113.84**	**271.83**	**993.55**	**954.63**	**38.92**	**0.00**	**993.55**	**271.83**
	Grand total (I+II+III)	**724.88**	**316.12**	**271.83**	**1312.83**	**1071.63**	**241.20**	**0.00**	**1312.83**	**271.83**
IV	**2 nd crop**									
1. a	Paddy	357.00	0.00	0.00	357.00	0.00	0.00	0.00	0.00	-357.00
b	Paddy - SRI	0.00	0.00	0.00	0.00	357.00	0.00	0.00	357.00	357.00
2	Maize	0.00	0.00	0.00	0.00	10.00	0.00	0.00	10.00	10.00
3	Cholam	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Blackgram	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Redgram	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00
6	Groundnut	25.00	0.00	0.00	25.00	55.00	0.00	0.00	55.00	30.00
7	Fodder cholam	0.00	12.05	0.00	12.05	25.00	0.00	0.00	25.00	12.95
8	Rice fallow pulses						0.00	300.00	300.00	300.00
9	Fallow	0.00	0.00	271.83	0.00	0.00	0.00	0.00	0.00	0.00
	Total	**382.00**	**12.05**	**271.83**	**394.05**	**449.00**	**0.00**	**300.00**	**749.00**	**354.95**
	Great Grand Total	**1106.88**	**328.17**	**543.66**	**1706.88**	**1520.63**	**241.20**	**300.00**	**2061.83**	**626.78**
	Cropping Intensity				**130.01**				**157.05**	

16. Area, Production and productivity of existing focus crops

S. No	Crops	Area (ha)	Production (MT)	Productivity (MT/ha)
1	Paddy	953.18	3545.829	3.720
2	Pulses (Blackgram)	49.03	28.192	0.575
3	Maize	3.07	14.276	4.65
4	Oil seeds	37.80	77.490	2.05
	Total	**985.55**	**3665.787**	

17. Existing constraints, challenges and countermeasures

Constraints	Challenges	Counter measures
Lack of quality planting materials		Supply of certified seeds of agricultural crops
Water shortages		Implementation of SRI in larger area in the sub-basin
Pest problems	Endemic outbreak in occasional cases	Use of biocontrol agents and integrated pest management
Lack of Community approach in farming	Lack of awareness	Farmer's field school on seed to seed crop production technologies
Market rejection of produces due to Pesticide residue problems	Lack of awareness	Adoption of ecofriendly practices
Residues management	lack of organized way of management	Supply of vermicompost mobile silpaulin units to on-farm composting
Soil health deterioration	Continued usage of inorganic fertilizers at considerable level.	Soil test based fertilizer application to crops
Environmental pollution	Lack of eco-friendly inputs	Supply of bio inputs like Pseudomonas, Biofertilizers like Azospirillum, Phosphobacteria, Rhizobium

18. Interventions demanded by farmers

1. Green Manure Crop - SRI - Rice Fallow Pulses (3 Crop Sequence)
2. Pulses
3. Oilseeds (Groundnut)
4. Farmers Field Schools (FFS) and Sustainability
5. INM–Vermi compost (Silpaulin) Units (@ 5 Nos./Village) dovetailing with IPM Villages
6. Farmers Field Schools (FFS) and Sustainability
7. Power cono weeding
8. Trainings for SRI skills to 50 No. of Agriculture labours for 2 day Total cost : Rs.18,500/- x 1 Training
9. Farmers training-50 Nos. for 1 day Total cost : Rs.21,000/- x 2 Trainings
10. Extensional Personnel training-30 Nos. for 2 days Total cost : Rs.27,500/- x 1 Training
11. IEC/CB activities [Field support, Sustainability etc., IEC & CB for 66 sub basins] for the Crop Demos Conducted
12. Documentation Charges for the Sub- basins

19. Interventions finalized

a. Green Manure Crop - SRI - Rice Fallow Pulses (3 Crop Sequence)
b. Pulses
c. Oil seeds (Groundnut.)
d. Farmers Field Schools (FFS) and Sustainability
e. Power conoweeding
f. Trainings for SRI skills to 50 No. of Agriculture labours for 2 day Total cost : Rs.18,500/- x 1 Training
g. Farmers training-50 Nos. for 1 day Total cost : Rs.21,000/- x 2 Trainings
h. Extensional Personnel training-30 Nos. for 2 days Total cost : Rs.27,500/- x 1 Training
i. IEC/CB activities [Field support, Sustainability etc., IEC & CB for sub basins] for the Crop Demos Conducted

20. Crop diversification

High water requiring crops will be replaced by less water requiring crops like Pulses, Groundnut, Maize and thereby productivity of water will be increased.

High water utility crops will be diverted to less water utility crops viz. Maize, , Pulses, Oil seed crops, and Horticulture crops.

1. Pulses: Under the Pulses there is an increase of 23 Ha. from the existing area of 49.03 Ha. in garden land pulses. It is proposed to increase rice fallow pulses area to the tune of 300 Ha.

2. Oil seed crops (Groundnut):

The Oil seeds area has been increased from 37.80 Ha. to 140 Ha. in the proposed cropping pattern. Hence, there is an additional area of 102.20 Ha under Oilseed crop.

21. Area, production and productivity of proposed crops.

S.No	Crops	Area (ha)	Production (MT)	Productivity (MT/ha)
1	Paddy	953.18	4622.923	4.85
2	Blackgram	23	16.675	0.725
3	Oil seeds	79.80	207.48	2.6
	Total	**1055.98**	**4847.078**	

22. Cost norms of interventions proposed with authority

S.No	Interventions	Subsidy norms	Authority
1	Green Manure Crop - SRI - Rice Fallow Pulses (3 Crop Sequence)	Rs 10000 per Ha	Assistant Director of Agriculture
2	Pulses	Rs. 5000 per Ha	Assistant Director of Agriculture
3	Oil seeds (Groundnut)	Rs. 5000 per Ha	Assistant Director of Agriculture
4	Farmers Field Schools (FFS) and Sustainability	Rs. 20000 per No	Assistant Director of Agriculture
5	Power conoweeding	Rs. 500 per acre	Assistant Director of Agriculture
6	Trainings for SRI skills to 50 No. of Agriculture labours for 2 day Total cost : Rs.18,500/- x 1 Training	Rs. 18500 per training	Assistant Director of Agriculture

7	Farmers training-50 Nos. for 1 day Total cost : Rs.21,000/- x 2 Trainings	Rs. 21000 per training	Assistant Director of Agriculture
8	Extensional Personnel training-30 Nos. for 2 days Total cost : Rs.27,500/- x 1 Training	Rs. 27500 per training	Assistant Director of Agriculture
9	IEC/CB activities [Field support, Sustainability etc., IEC & CB for 66 sub basins] for the Crop Demos Conducted	Rs. 650 per crop demonstration	Assistant Director of Agriculture
10	Documentation Charges for the Sub- basins	Rs. 10000 per sub-basin	Assistant Director of Agriculture

23. Intervention-wise break up of cost norms

1.Productivity Enhancement in Paddy (IPT Demos: 160 Ha)

In this sub- basin there is scope for improving the productivity to bridge the yield gap (1.0 - 1.2 MT / Ha) both in first and second seasons (Samba and Navarai). The DoA will conduct IPT Paddy Crop Demonstrations with all improved management practices, like planting of single seedling etc. and inputs like improved variety of crop, IPM, INM etc. are practiced in FFS mode, and also suggesting suitable interventions viz., Introduction of three crop sequence of Green Manure – SRI Paddy – Rice Fallow Pulses.

Growing green manure crops especially for their organic matter and ability to improve the soil can dramatically build up poor and exhausted soils and maintain the fertility of better ones. It boosts lands' organic matter (O.M.) level. It keeps nutrients from leaching down beyond reach of crops, provides food for microbial soil life, helps legumes fix nitrogen in their root nodules and helps the soil produce good structure and maintain the air-pore spaces essential to good crop health. Green manure is less expensive than animal manure and is practically free of antibiotics and growth hormones. Green manure can also help create vital soil in areas with little or no top soil due to water runoff. It deters weeds, even without the use of harmful herbicides. Earthworms and beneficial bacteria grow well with green manure. Poor and exhausted soils get rich in nutrients through green manures. Green manure also helps with soil erosion due to weather parameter like wind and rain.

System of Rice Intensification Paddy is the main staple crop grown in the Nambiyar sub-basins where in there is still scope for improving the productivity as the yield gap varies from 1.2 - 1.5 MT / Ha both in first and second seasons (Samba and Navarai). Conventional

method of paddy cultivation requires huge amount of water and cost of cultivation is also high. So, we are programmed to educate the farmers to change the conventional cultivation practices into System of Rice Intensification method in the sub-basin areas. System of Rice Intensification ensures saving of seed and water as they require in less, greater root growth due to young seedlings and wider spacing, more tillers ultimately more grains and yield. There is reduction of cost due to labour saving through the usage of power weeder, fertilizer saving through usage of Leaf Colour Chart and lesser pest and disease incidence.

Rice Fallow Pulses are sown as fallow up crop after the harvest of Paddy. These rice fallow areas offer a huge potential niche for short season pulses crops. In this relay cropping sequence sowing of pulses is being followed before/after the harvest of Paddy under Zero tillage system. The rice fallow pulses are effectively utilizing the available residual moisture and nutrients after the harvest of Rice crop. It enhances the soil fertility status for the next crops due to nitrogen fixation.

Sl.No	Technology	Area (ha)	Unit Cost L.Rs.	Budget (Rs. In lakh)
1	IPT Demo. Of Green Manure Crop - SRI - Rice Fallow Pulses (3 Crop Sequence)	160	0.100	16.000

Unit Cost - SRI Crop Demonstration:

a) Green Manure

Sl. No	Particulars	Unit Cost (Rs. /Kg)	Amount (Rs.)
1	Seed cost with seed treatment components - 40 Kg / Ha	50	2,000
	Total		**Rs.2,000**

b) SRI [Paddy]

Sl. No	Particulars	Unit Cost (Rs. / Kg)	Amount (Rs.)
1	Cost of Soil testing	20	20
2	Seed cost with seed treatment components - 8 Kg / Ha	50	400
3	Cost of nursery raising and Bio-fertilizers		600
4	Cost of fertilizers (150:50:50 Kg NPK / Ha)		
	Urea - 330 Kg	6	1,800
	Muriate of Potash – 80 Kg	16	1,280
	$ZnSO_4$ 25 Kg	70	1,750
5	IPM - Plant protection charges	1,000	1,000
	Total	**Rs. 6850 (Assistance Restricted to) Rs. 6,000**	

Rice Fallow Pulses

Sl. No	Particulars	Unit Cost (Rs. / Kg)	Amount (Rs.)
1	Seed cost with seed treatment components - 20 Kg / Ha	100	2,000
	Total	**Rs.2,000**	
	Total Cost	**Rs. 10,850 (Assistance Restricted to) Rs.10,000**	

2. Improved Production Technology Crop Demos through Crop Diversification:

1. Promotion of Pulses Production (IPT Demos: 15 Ha.):

There is always huge scope for improving the productivity levels of major pulse crops and the poor seed replacement rate, timely availability of quality seeds, zero mineral nutrition, improper pest management practices, poor post-harvest practices etc., are the major constraints for increasing the productivity. The DoA would intervene the farmers with participatory approach and adoption of improved production technologies viz.

a. Usage of high yielding certified seeds of varieties.
b. Pre soaking of seed- 1 kg of seed in 1 lit. of water for 4 hrs. for increasing germination percentage.
c. Promotion of line sowing for maintaining optimum plant population.
d. Balanced Fertilization(Kg/ha) : N : P :K : S MN Mixture
25:50:25: 10 5
e. Productivity enhancement by mass scale spraying of 2% DAPS on 25th and 40th day after sowing.

Sl. No	Technology	Area (ha)	Unit Cost L.Rs.	Budget Rs. In lakh)
1	IPT Demo. of Pulses	15	0.050	0.750

Unit Cost – IPT Pulses (Garden Land):

Sl. No.	Particulars	Unit Cost (Rs /Kg)	Amount (Rs.)
1	Cost of Soil testing	20	20
2	Seed cost with seed treatment components - 20 Kg /Ha	150	3,000
3	Pulse Wonder 2 Kg / ha	220	440
4	Fertilizer: i. DAP 25 Kg / Ha	29	725
5	IPM - Plant protection charges	1,000	1,000
	Total Cost	**Rs. 5,185 (Assistance Restricted to) Rs. 5,000**	

2. Revival of Oilseeds cultivation (IPT Demos: 10 Ha.):

Oilseeds are the next target group to be given special focus in the river sub basins of Tamil Nadu. As they are mostly grown in rainfed situation, the yield levels are far below than the national average and still vast potential untapped to improve the productivity of oilseeds under irrigated conditions. Like pulses, the country being the net importer of oilseeds, and because of increased demand for edible oil consumption by the households in the State, the demand - supply gap is much wider. So, special attention should be envisaged to narrow down this gap. The following interventions are proposed in Oilseeds viz.

a. Usage of high yielding certified seeds of varieties.

b. Promotion of line sowing for maintaining optimum plant population.

c. Application of Gypsum in Groundnut and Manganese Sulphate in Gingelly.

Sl. No	Technology	Area (ha)	Unit Cost L.Rs.	Budget (Rs. In lakh)
1	IPT Demo. of Oilseeds	10	0.050	0.500

Unit Cost - Groundnut:

Sl. No	Particulars	Unit Cost (Rs. / Kg)	Amount (Rs.)
1	Cost of Soil testing	20	20
2	Cost of fertilizers (17:34:54 NPK + Gypsum 400 Kg / Ha)		
	i. Gypsum 400 Kg / Ha	4	1,600
	ii. Urea - 40Kgs	6	240
	iii. MOP - 90 Kg.	16	1,440
3	Micro nutrient spray (DAP–2.5 Kg, Ammonium sulphate – 1 Kg, Borax – 500 gm and planofix–375 Ml) @ Rs.250 for 3 sprays.	250	750
4	Bio fertilizers-20 Packet	10	200
5	IPM - Plant protection charges	1,000	1,000
	Total Cost	**Rs. 5,250 /- (Assistance Restricted to) Rs.5,000**	

The cost of seeds should be spent by the farmers.

II. Agricultural Implements:

Cono weeding operation in SRI Paddy Cultivation:

- Cono weeder is used two times at the stage of 15th and 25th days of planting SRI .

- The weeds are incorporated into the field by this way it is utilized as nutrients in the same field itself.
- Old roots are removed and new roots have been proliferated by using the cono weeder. Since number of tillers will be increased. It leads to increase in yield (300-400 kg/acre). Hence farmers got more income compared to conventional cultivation
- It reduces labour shortage.
- In this project Conoweeding operation will be done by using the self help groups , Amma farm women groups and Farmers Interest group and farmers themselves. By this way womens will be benefited.
- The cono weeding may be done either by manual or mechanical according to the soil status and growth of the crop.
- Back ended subsidy will be given to the beneficiaries by ensuring the operation with proper Geo tagging of the intervention.

Sl.No	Technology	Area (ha)	Unit Cost L.Rs.	Budget (Rs. In lakh)
1	Cono weeding operation	80	0.01250	1.000

III. Other Crop based Components:

1. Farmers Field School

- ❖ Farm Schools would be operationalized at Block level in sub basins
- ❖ These FFS would be set up in the field of outstanding or achiever farmers.
- ❖ "Trainee farmers" would also have the responsibility of providing extension support to other farmers in the respective village or neighboring villages.

Sl.No	Technology	Nos.	Unit Cost L.Rs.	Budget (Rs. In lakh)
1	Farm Schools	5	0.200	1.000

Unit Cost:

Sl. No.	Operationalizing Farmers Field School	Cost Norms in Rs.
1	Frontline demonstration at Farm School on a maximum area of 2 Ha. at same rates as approved under the Guidelines of National Food Security Mission for the crops.	7,500
2	Grant towards logistics support to Farm School	1,000
3	Contingency	2,000
4	Details of interactions / training at Farm School	
a.	Honorarium for maximum two external trainer for maximum 6 visit @ maximum of Rs.250 per visit per trainer	3,000

b.	Travel expenses for maximum two external trainer for maximum 6 visits @ maximum of Rs.150 per trainer per visit	1,800
c.	Food expenses for 28 participants @ Rs.30 per participant per day for 6 events.	5,040
d.	Printed literature @ Rs.50 per participant for 28 participants and trainers	1,400
	Total	**21,740**
	Grand Total:	**Rs.21,740 (Assistance Restricted to) Rs.20,000**

23. Geo-tagging

Activities to be undertaken by the Agriculture department like Improved Production Technology crop demonstrations, Other Crop Based Components like IPM Villages, Farm Field School, INM- Vermicompost units and Cono weeding operation will be geo-tagged using a specialized app developed by TNIAMP.

24. Institutional Strengthening – IEC & Capacity Building Activities

The Capacity building and Change management training are given to the Agricultural Labourers, Farmers and Extensional Personnel viz., Assistant Director of Agriculture, Agricultural Officers, Deputy Agricultural Officers, Assistant Seed Officers and Assistant Agricultural Officers which are imparted by the reputed Capacity building and Change management Training organizations.

Sl.No	IEC & Capacity Building – Change Management Trainings	Nos.	Unit Cost L.Rs.	Budget (Rs. In lakh)
1	Trainings for SRI skills to 50 No. of Agriculture labours for 2 days	1	0.185	0.185
2	Farmers training-50 Nos. for 1 day	2	0.210	0.420
3	Extensional Personnel training-30 Nos. for 2 days	1	0.275	0.275
	Total	**4**		**0.880**

25. EC/CB activities [Field support, Sustainability, Documentation Charges etc.,)

In the sub-basins, the total Crop based demonstrations to be conducted are 185 Ha, As these crop demonstrations are conducted on FFS mode, the Village meetings, Seminars, Village Melas, other Publicity & Propaganda activities, POL, Printing of Leaflets / Pamphlets, Posters, Banners, Relevant Materials for the functions and fields, Documentation

Charges etc., are to be imparted in the proposed Crop based demonstrations to be conducted with the allotted amount.

Sl.No	IEC & Capacity Building – Change Management Trainings	Nos.	Unit Cost L.Rs.	Budget (Rs. In lakh)
1	IEC/CB activities [Field support, Sustainability etc., IEC & CB for the Crop Demos Conducted	185	0.0065	1.203
2	Documentation Charges for the Sub- basins	1	0.10	0.100
	Total			**1.303**

26. Interventions proposed for four years

Sl. No.	Name of the component	Unit	Unit Cost L.Rs.	Project Activities					Financial in Lakh Rs				
				I Year	II Year	III Year	IV Year	Total	I Year	II Year	III Year	IV Year	Total
I. A. Increasing Crop Productivity by Best Management Practices & Innovations (IPT Demos): [Involving more Women Farmers & addressing Climate Resilient Issues] :													
1	Green Manure Crop	Ha.	0.02	40	40	40	40	**160**	0.800	0.800	0.800	0.800	**3.200**
2	SRI	Ha.	0.06	40	40	40	40	**160**	2.400	2.400	2.400	2.400	**9.600**
3	Rice Fallow Pulses	Ha.	0.02	40	40	40	40	**160**	0.800	0.800	0.800	0.800	**3.200**
8	Pulses	Ha.	0.05	4	4	4	3	**15**	0.200	0.200	0.200	0.150	**0.750**
9	Oilseeds	Ha.	0.05	3	3	2	2	**10**	0.150	0.150	0.100	0.100	**0.500**
	IPT Demo. Total	**-**	**-**	**127**	**127**	**126**	**125**	**185**	**4.350**	**4.350**	**4.300**	**4.250**	**17.250**
B. Other Crop based Components [Involving more Women Farmers & addressing Climate Resilient Issues] :													
	Farmers Field Schools (FFS)	Nos.	0.2	2	1	1	1	**5**	0.4	0.2	0.2	0.2	**1.00**
	Other Crop based Components Total	**-**		**1**	**1**	**1**	**1**	**5**	**0.4**	**0.2**	**0.2**	**0.2**	**1.00**
C. Agricultural Implements:													
10	SRI-Conoweeder operation	Nos.	0.0125	20	20	20	20	**80**	0.25	0.25	0.25	0.25	1.00
	Agri. Implements Total	-	-	**20**	**20**	**20**	**20**	**80**	**0.25**	**0.25**	**0.25**	**0.25**	**1.00**
	Agri. Crop Based Components Total (A+B+C)	-	-						**5.00**	**4.80**	**4.75**	**4.70**	**19.250**

II. Institutional Strengthening - IEC & Capacity Building Trainings: [Encouraging More Women Farmers & addressing Climate Resilient Issues													
11	Trainings for SRI skills to 50 No. of Agriculture labours for 2 day Total cost : Rs.18,500/- x 1 Training	Nos.	0.185	1	0	0	0	**1**	0.185				**0.185**
12	Farmers training-50 Nos. for 1 day Total cost : Rs.21,000/- x 2 Trainings	Nos.	0.21	2	0	0	0	**2**	0.420				**0.420**
13	Extensional Personnel training-30 Nos. for 2 days Total cost : Rs.27,500/- x 1 Training	Nos.	0.275	1	0	0	0	**1**	0.275				**0.275**
14	IEC/CB activities [Field support, Sustainability etc., IEC & CB for the Crop Demos Conducted	Ha	0.0065	47	47	46	45	**185**	0.3055	0.3055	0.2990	0.2925	**1.2025**
15	Documentation Charges for the Sub- basins	Nos.	0.1	1	0	0	0	**1**	0.1	0	0	0	**0.100**
II.	**IEC & CB Trainings Total**	**-**	-						**1.2855**	**0.3055**	**0.2990**	**0.2925**	**2.18250**
	Grant total	**-**	**-**						**6.2855**	**5.1055**	**5.0490**	**4.9925**	**21.4325**

27. Block-wise physical

Sl. No	Block	Ayacut area (Ha)	GM-SRI-RFP (Ha)	Pulses (Ha)	Oilseeds (Ha)	Farmer field school	Cono weeding (Ha)	Labour training (Nos)	Farmer's training (Nos)	Extension personnel training (Nos)	IEC activities (Ha)	Documentation
1	Kalakadu	386.36	50	5	2	1	25	1	0	0	57	0
2	Nanguneri	72.38	10	1	1	0	5	0	0	1	12	0
3	Valliyur	640.99	80	7	5	3	40	0	1	0	92	1
4	Radhapuram	213.1	20	2	2	1	10	0	1	0	24	0
	Total	1312.8	160	15	10	5	80	1	2	1	185	1

28.Block-wise Finance

(Amount in lakh Rupees)

Sl. No	Block	Ayacut area (Ha)	GM-SRI-RFP (Ha)	Pulses (Ha)	Oilseeds (Ha)	Farmer field school	Cono weeding (Ha)	Labour training (Nos)	Farmer's training (Nos)	Extension personnel training (Nos)	IEC activities (Ha)	Documentation	Total
1	Kalakadu	386.36	5.0	0.25	0.20	0.20	0.31250	0.185	0	0	0.37050	0	**6.5180**
2	Nanguneri	72.38	1.0	0.05	0.05	0	0.06250	0	0	0.275	0.07800	0	**1.5155**
3	Valliyur	640.99	8.0	0.35	0.25	0.60	0.50000	0	0.21	0	0.59800	0.100	**10.5080**
4	Radhapuram	213.1	2.0	0.10	0.10	0.20	0.12500	0	0.21	0	0.15600	0	**2.8910**
	Total	**1312.8**	**16**	**0.75**	**0.50**	**1.00**	**1.000**	**0.185**	**0.42**	**0.275**	**1.20250**	**0.1**	**21.4325**

29. Intervention wise cluster details.

Sl No	Name of Tank	Village	Block	GM-SRI-RFP (Ha)	Pulses (Ha)	Oil seeds (Ha)	Farmer field school	Cono weeding (Ha)	Labour training (Nos)	Farmer's training (Nos)
	cluster I									
1	Nadukkamparaikulam	Mahiladi	Kalakkad	5	0	0	0	1	0	0
2	KesavaneriKulam	Vadakkuvallioor	Vallioor	12	1	1	1	7	0	0
3	Padalayar Tank	Thirukkurangudy	Kalakkad	25	3	1	1	12	1	0
3a	Padalayarkal	Thirukkurangudy	Kalakkad	10	1	1	0	5	0	0
4	Karisalkulam	Thirukkurangudy	Kalakkad	10	1	0	0	5	0	0
	cluster II									
5	VallioorPuthukulam	TherkkuVallioor	Vallioor	30	2	1	1	12	0	1
6	Devarkulam	TherkkuValliyoor	Vallioor	1	0	0	0	1	0	0
7	Ganapathiyarkulam	TherkkuValliyoor	Vallioor	1	0	0	0	1	0	0
8	Alankulam	A.Thirumalapuram	Vallioor	2	0	0	0	1	0	0
9	Vattakulam	VadakkuValliyoor	Vallioor	2	0	0	0	1	0	0
	cluster III									
10	Kattayanerikulam	Samuharengapuram	Radhapuram	2	1	0	0	1	0	0
11	Eluvarkulam	Kumbikulam	Radhapuram	2	0	0	0	1	0	0

12	Valatharvalavaithankulam	Samuharengapuram	Radhapuram	1	1	1	1	1	0	1
13	Mannarkulam	Samuharengapuram	Radhapuram	2	0	0	0	1	0	0
14	Kurunchikulam	Samuharengapuram	Radhapuram	1	0	0	0	1	0	0
	cluster IV									
15	Nambikurichikulam	Kottaikarunkulam	Radhapuram	2	0	0	0	1	0	0
16	Kannankulam	Kottaikarunkulam	Radhapuram	1	0	0	0	1	0	0
17	Vilimankulam	Urmankulam	Radhapuram	2	0	0	0	1	0	0
18	Aimudikulam	Kasthurirengapuram	Radhapuram	1	0	0	0	1	0	0
19	Palathikulam	Kasthurirengapuram	Radhapuram	1	0	0	0	1	0	0
20	Pappankulam	Kasthurirengapuram	Radhapuram	1	0	0	0	1	0	0
21	Periyalankulam	Kasthurirengapuram	Radhapuram	1	0	0	0	0	0	0
22	Kailasaperikulam	Kasthurirengapuram	Radhapuram	1	0	0	0	0	0	0
23	Ponathikulam	Kasthurirengapuram	Radhapuram	1	0	1	0	1	0	0
	cluster V									
24	Karuthanerikulam	Dhalabathysamuthiram	Nanguneri	2	0	0	0	1	0	0
25	SinammalpuramBigtank	Anaikulam	Vallioor	8	1	1	1	4	0	0
26	Nallapethankulam	Dhalapathysamudram	Nanguneri	2	0	0	0	1	0	0
27	Kandiaperikulam	Dhalabathysamuthiram	Nanguneri	6	1	1	0	2	0	0
28	Kovanerikulam	Vadakkuvallioor	Vallioor	3	0	1	0	1	0	0

	cluster VI									
29	Kallikulam	T.Kallikulam	Radhapuram	1	0	0	0	1	0	0
30	Karuppukalkulam	Anaikulam	Vallioor	1	0	0	0	1	0	0
31	Veetrithankulam	Anaikulam	Vallioor	1	0	0	0	1	0	0
32	Thankaiyankulam	Kannanallur	Vallioor	1	0	0	0	1	0	0
33	Vilvarayankulam	Kannanallur	Vallioor	4	1	0	0	1	0	0
34	Achampadukulam	Achampadu	Vallioor	3	1	0	0	1	0	0
35	Thanuvankulam	Achampadu	Vallioor	1	0	0	0	1	0	0
36	Poopillaikulam	Achampadu	Vallioor	1	0	0	0	1	0	0
37	Panisakulam	Kannanallur	Vallioor	4	1	0	0	2	0	0
38	Thambakulam	Kannanallur	Vallioor	1	0	0	0	1	0	0
39	SitturKeelkulam	Kannanallur	Vallioor	3	0	1	0	1	0	0
40	Iyyapanerikulam	Kannanallur	Vallioor	1	0	0	0	1	0	0
	Total			160	15	10	5	80	1	2

30. Environmental and Social Management

31. Environmental and Social Management:

This chapter envisages the mitigation of environmental impacts by assessing and effectively managing the potential environmental impacts due to the interventions under TNIAMP in Nambiyar sub basin. The primary aim is to manage the impacts by suggesting suitable mitigation measures and monitoring its implementation. Further, Gender participation strategy and Grievance Redressal Mechanism will be devised and implemented suitably for all the sub-projects pertaining to TNIAMP.

32. Summary of walk through survey




தமிழ்நாடு அரசு
வேளாண்மைத்துறை
திருநெல்வேலி மாவட்டம், நாங்குநேரி வட்டாரம்
தமிழ்நாடு நீர்ப்பாசன நவீனமயத்துதல் திட்டம் (TNIAMP) 2020 - 21
நம்பியாறு உபவடிநிலப்பகுதி - நிலை III


தமிழ்நாடு அரசு
வேளாண்மைத்துறை
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நம்பியாறு உபவடிநிலப்பகுதி - நிலை III
விரிவான திட்ட அறிக்கை (DPR) தயாரிப்பிற்கான
விவசாயிகள் ஆலோசனை கூட்டம்
நாள் :
இடம் :
வேளாண்மை உதவி இயக்குநர், நாங்குநேரி.



Walkthrough surveys were conducted through 9 villages situated in Nambiyar sub basin during the month of June 2020. The Officials from Water Resources Department (WRD), Agriculture Department, Horticulture Department, Tamil Nadu Agriculture University (TNAU), Agriculture Engineering Department (AED), Animal Husbandry and Fisheries Department jointly conducted the survey. Around 45 public people from farming and allied sector participated and shared their views and expectations. Regarding WRD, 40 tanks, and supply channels for a total length of 4 km in Nambiyar Sub Basin were selected and proposed for rehabilitation under TNIAMP phase III. Interaction with farmers was made for improving agriculture and allied activities.

It was inferred that the Nambiyar sub basin constitutes 3 type of soil viz. Inceptisol, Alfisol, and Vertisol. Inceptisol type is dominantly prevailing across the sub basin. Due to the soil suitability, Paddy is widely cultivated along the sub basin. Other agricultural crops i.e Pulses and Groundnut also cultivating in Nambiyr sub basin, Perennial crops such as Coconut is also found in Valliyur and Kalakadu Block,

since tender coconut has a good market in nearby urban cities. were also other perennial crops cultivated in this sub basin. Annual crops such as Banana also grown here. Paddy is the major seasonal crop which is grown in areas where irrigation facility is available. Paddy is repeated as second crop in areas where well irrigation facility is available. Vegetable crops such as Tomato, Brinjal, Chilly, Onion and Radish are also cultivated as first crop in this sub basin. When water is available, paddy is cultivated as second crop followed by pulses as third crop

33. Summary of Feedback along with planned activities

The feedback of walk through survey and the planned activities are summarized below

Agricultural related

It was inferred that the farmers are mostly relying on conventional farm methodologies and following same cropping pattern. Hence to make them adopting new methodologies, the following activities are proposed. Farmers can be educated through introduction of field demonstration of improved production technologies (IPT) such as SRI, IPT in pulses and IPT in ground nut.

Farmer's field schools to educate farmers shall be operationalized at block levels followed by capacity building through exposure field visits. During the survey, it was reported by the farmers about reduced soil fertility; hence, it was proposed to encourage the farmers for green manureing by adopting technologies like practicing rice fallow pulses cropping in order to enhance the soil fertility.

Another common problem prevailing in agriculture is water scarcity. Farmers have reported that often they cannot avail water for their crops up to full maturity. For this, it was proposed to switch from conventional paddy cultivation method to System of Rice Intensification (SRI). Through this, they can save appreciable quantity of water and also seed. It was also proposed to divert from high water guzzling crops to less water consuming crops like Pulses, oil seeds and horticulture crops.

34. Special Features of the sub basin:

There are no special features in respect of Nambiyar sub basin

35. Gender Strategy:

Gender mainstreaming plays a vital role in water management and agriculture allied activities. To enhance women participation in the project, women farmers will be informed and made aware of their role in operation and maintenance of water management activities, decision making in the agriculture, labour opportunities in agriculture, encourage their participation in WUA, involvement in livelihood activities etc Specific capacity building programs like exposure visits could be organized for WUA representatives, women in Farmer Producer Organizations(FPO), Farmer Producer Companies(FPC), Dairy Interest Groups(DIG),etc. Team involvement of women in organized groups such as Self Helping Groups will be encouraged. In anticipation, the percentage of women expected to involve in WRD, Agri related and Livelihood related activities are 26%, 30% and 40% respectively

36. Grievance Redress Mechanism and Schedule for Establishment

Grievance Redress Mechanism (GRM) is an essential component of any project implementation, particularly if the project involves the local communities with diverse socio- economic backgrounds as the major stakeholders. The grievance redress process will be a continuous, transparent and participatory process that would be an integral part of the project's accountability and governance agenda.

A project level GRM will be in place for addressing social, environmental and project related grievances. The GRM will have multi-level structures and processes. At the district level the committee is made up of respective JDs of line departments of the sub-basin, this committee meets on weekly basis. This committee will look after the grievances related to irrigation and water management. At the next level the Collector heads the committee and convenes the meetings monthly once. The Collectors will take care of the other grievances related to the project activities. The next level is the HODs at the state level they contact remotely monthly once and organize meetings at every redress; he calls for a meeting once in six months and

annually. For every six months report is prepared at all levels and send to the Secretary. Secretary occupies the next level in the structure and in charge of overall appeals and supervision of grievance at all levels.

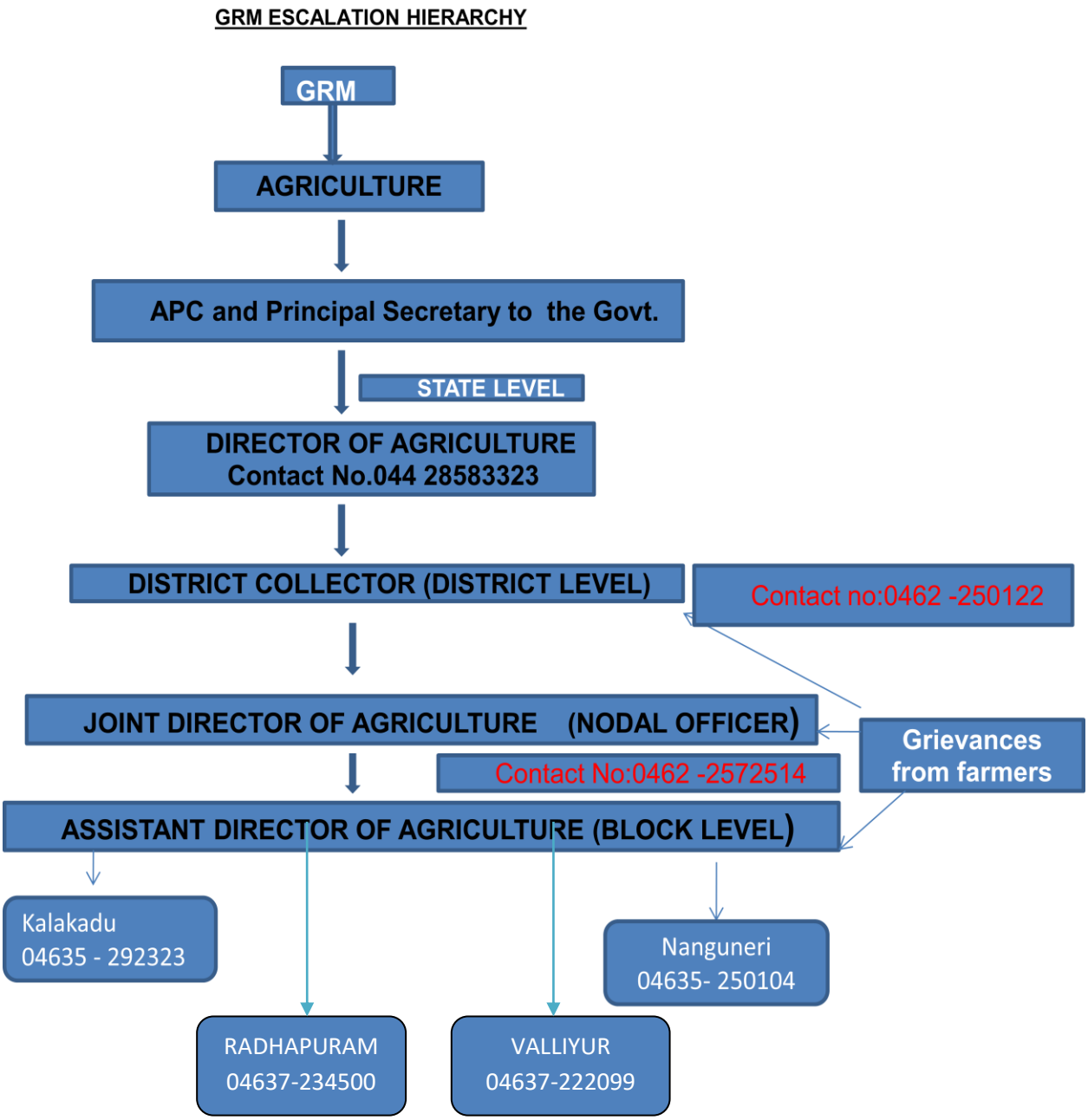
A register for GRM and a box for receiving the Complaints and Grievances shall be maintained in the O/o the Joint Directors for line departments, who is implementing the TNIAMP intervention in that respective Sub Basin and a monthly report on the Grievances received and the action taken shall be sent to the respective Environmental Cell Division for review and submission to the MDPU. Periodical Monitoring of the Implementation of the GRM will be carried out by the Environmental Cell Division.

In the project information boards provided at the Demonstration sites, along with the details of the demonstration, the contact address along with official email and contact numbers of the officer to whom the Grievances has to be addressed shall be displayed. Further OK cards system will be used for transparency.

Efforts will be made to create awareness about GRC mechanism to the beneficiaries through use of flyers and pamphlets at the village, Block and District level. The implementation of GRM will operate by the Grievance Redress Cell (GRC) at the Block and District level .The grievances received should be entered in the GRM Register comprising of (a) Serial Number; (b) Case Number; (c) Name of the Grieved/Complainant; (d) Name of Father/Husband; (e) Gender (f) Age; (g) Full Address; (h) Brief details of grievance/complaint; (i) List of documents, if any, attached; (j) Details of previous grievance/complaint, if any; (k) Date of receipt of grievance/complaint and (l) Date of acknowledgement of grievance/complaint.The GRC will acknowledge receipt of all grievances/complaints, by registered post, within 7 days of receipt and will communicate its decisions/redress in writing to the complainants within 4 weeks depending on the nature of complaints andWhen closing the complaint, agreement should be made with the complainant on remedy, and both parties sign to their approval of the case being closed and outcome accepted. Copies are kept in both hard copy and electronic (please see documentation of Grievance process) by both parties.

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GRM ESCALATION HIERARCHY



38. ESMF & Screening Check list

For the environmental and social impacts (both positive and negative), Environmental and Social Management Framework (ESMF) enumerates a set of measures to minimize the adverse impacts and enhance the positive impacts which are intended to be adopted during the project implementation. This will not only ensure that environmental and social safeguard activities are implemented in accordance with the framework and processes but also that there are adequate funds/resources for implementation and supervision of social and environmental

management plans. Accounting the nature and scale of environmental and social impacts, specific and reliable departmental Standard Operating Procedures along with suggested mitigation measures will be adopted for environmental and social safeguards.

Environmental Social Management Plan (ESMP) not applicable for Agriculture activities.

39. Plan of activities for Environmental Monitoring and Awareness.

Develop Information, Education and Communication (IEC) material in local language for generating awareness regarding safe use of pesticides.

- Promote wide application of safe and biopesticides, wherever possible.
- Promote expansion of System of Rice Intensification (SRI) to reduce water demand Work with WUAs in encouraging market based non-water intensive crops where possible and for promoting conjunctive use of water resources Demonstrate and scale-up IPM strategy and approach; monitor the adoption rate.
- Promote wide use of organic inputs, such as, bio-manure, Farm Yard Manure and Bio-fertilizers and provide training on production and use of these alternatives.
- Ensure that marginal farmers and poor households are also covered for such demonstrations and training
- Shift to less water intensive crops
- Efficient use of water resources – micro irrigation
- Sustainable Intensification
- CC resilient Package of Practices
- Moderate use of agrochemicals – soil test based fertilizer application
- Pest Management in concurrence with Pest Management Plan (PMP)
- Trainings and demonstrations on restricted pesticides and safe use of pesticides
- Trainings and demonstrations on Integrated Crop management Practices
- Bio villages, Support for Production of Bio-pesticides.

Deputy Director, Agri Department
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Annexure

WALK THROUGH SURVEY (WTS)

1. Walk Through Survey in Chinnar Sub Basin conducted during : 9.6.20 to 12.6.20
2. No. of Villages covered - 9 villages
3. Category of Villagers participated :
   i. No. of farmers/ WUA Members participated : 45
   ii. No. of Women Self Help Group Members participated : ---
   iii. No. of representatives from NGO's : ---
   iv. No. of Landless farmers : ---
   v. Panchayat Representatives Participation:
      a) President - ~~Yes~~ /No
      b) Secretary - ~~Yes~~ /No
      c) Members - ~~Yes~~ /No
4. Feed Back (Mention the chapter in DPR where the WTS feedback is recorded):

i. WRD Works:

Tanks (No's)	Anicuts (No's)	Supply Channel/Canal (km)
40	0	4 Km

ii. Agri. Related (Agriculture/Horticulture/TNAU/AED):

Soil Type	Existing Cropping Pattern	Major Crops	Major Issues	Others
Inceptisol, Alfisol, Vertisol	**Perennial crops:** Coconut, **Annual Crop:** Sugarcane, Banana,Tapioca, Turmeric, Fodder sorghum **Seasonal crops:** Paddy, Maize Pulses, Groundnut, , Tomato, Brinjal, Bhendi	Coconut & Mango,Sapota Annual crop like Banana Seasonal crops like paddy, Groundnut pulses and Vegetables.	1.Prevailing gap in irrigation 2.Water scarcity 3.Poor agricultural management practices 4.Less yield 5.Reduced soil fertility 6. Necessity for increased Fertilizers and pesticides 7. Disposal of farm waste 8. Labour scarcity during harvest times 9. Non adoption of multicut fodder crops.	

Iii. Livelihood related (Animal Husbandry/Fisheries):

Veterinary Services (Artificial Insemination, Deworming, Infertility, Disease Surveillance & Prevention, Fodder Development)	Fisheries Activity(Aquaculture in Farm Ponds and Irrigation Tanks)	Others
1. There is gap in demand to supply of fodder for farm animals. 2. Lack of knowledge in managing Cross breed animals. Hence diseases like mastitis, worm infestations are major issues for cattle owners. 3. Infertility of cattles. Many breedable population has not yet been covered under Artificial insemination. 4. Lack of animal identification system which constraints the disease control and planned breeding interventions.	Where ever the impounded water is available for four months and above aquaculture is proposed to be carried out in selected farm ponds.	

5. Special Features of the sub basin:
   i. Ecologically sensitive area if any -
   ii. Sensitive Crops :
      a) Water guzzling :
      b) Less Water :
      c) Others:
6. Gender Strategy:
   i. Percentage of Women expected to involve in
      a) WRD Activities - 26%
      b) Agri. related Activities - 30%
      c) Livelihood related - 40%
7. Environmental Interventions proposed based on Observations:

- For agricultural based activities, it is proposed to study the soil suitability by testing soil samples and to share the outcome for decision making among line department & farmers. Educating the farmers through Capacity building programme for practicing on-farm green manure production from their own farm generated organic solid wastes. It is proposed to collect water and soil samples in Farm Pond area to assess the salinity of water and soil and the test results may be shared with farmers and line department officials.
- It is proposed to collect water sample from the field drains to study Pesticide concentration.,
- Educating the farmers through Capacity building programme for practicing on-farm green manure production from their own, farm generated organic solid wastes.

Checklist

1. Walk through survey form attached : Yes
2. Environmental and Social Management Plan (ESMP)
3. Summary of Walk- Through survey Included : **Yes**
4. Summary of Feed Back along with planned activities Included: **Yes**
5. Special features of the Sub Basin Included: **Yes**
6. Overview of Gender Strategy Included: **Yes**
7. Mechanism & Schedule for establishment of GRM Included: **Yes**
8. Plan of activities for Environmental Monitoring and Awareness Included: **Yes**

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IEC AND CB ACTIVITIES

Activities	Action Plan	Numbers Planned at Sub Basin Level	Total Cost (Rs. in Lakhs)
AGRICULTURE			
Brief summary of Interventions	• Demos • FFS	**185**	**21.4325**
Technology Demonstration	Handout, Pamphlets, Brochures, Posters and Banners) and Capacity Building (through Farmer Field School, Village Level Meetings, Village Melas, Seminars, Farmer Interest Group and Self Help Groups) activities.		
Joint Walk Through Campaign	Line Department officials will conduct Joint Walk Through campaign in sub basins to understand real ground problems, cropping pattern to be followed will be finalized with the farmers by handing over handouts, Posters depicting the profitability of the crop.	**3 Villages conducted**	
System Rice Intensification , Cono Weeder and Power Weeder	Progressive farmers of the village who are popular among the public shall be identified as the Lead Farmers and approached and popularize SRI, Cono Weeder and Power Weeder. (Arranging TV Program for Farmers) Utilizing the service providers		
	The demonstrations conducted on Farmers Field School (FFS) mode, will follow the integrated crop management approach from land preparation to harvesting of the crop, giving special attention to high payoff interventions. The resultant increased yield in demonstrations encourages the nearby farmers to adopt these improved practices in a wider area.	**80**	**1.00**
	Dissemination of Technology through Handouts, Posters, Brochures and video on mobile phones.		
System Rice Intensification , Cono Weeder operations	Advertisement through Newspapers, TV Channel, Slide Show in theatres, FM Radio and All India Radio.		
	Participation in the Exhibitions by displaying photos, Live Specimens, Success stories, Model Chart, Posters and Charts.		
	Wall Painting to be displayed in – Local markets, Primary Agriculture co -operative bank / society, Tea shops, Bus shelters, Uzhavar Sandy,		

	Regulated market, Collector Office, Taluk Office and Village Panchayat Office.		
	Agricultural Laborers trained for SRI skills to popularize the practice in that village in addition to get income for Labourers	**50**	**0.185**
Exposure Visits	Farmers involved in exposure visits to other states and countries to study the practices followed there and which can be followed/replicated in IAM Project Implementation area to fetch the high yield.	**-**	**-**
Trainings	• Officers of Department of Agriculture will be trained in latest crop production technologies, including exposure visits to other states and overseas. • Extension Personnel will be provided training programme on Climate Resilient Agriculture. • Farmers will be provided training on Climate Resilient Agriculture	**3**	**0.795**
Workshop and Seminars	• Farmers will be given awareness to grow the crops and making market demand for commodities produced. • Farmers will be sensitized on the Integrated Pest Management (IPM) and Integrated Nutrient Management (INM) for promoting pesticide free village concept	**-**	**-**
One-One Interaction	• Farmer-to-Farmer interaction may be arranged with the successful farmers for convincing Farmer Interest Group so as to have quick spread of Technology.		
Field Day/Farmer Meet	• On-farm demonstrations for disseminating improved technologies to large number of farmers in the tank villages by organizing field days at selected demonstration plots. • Since seeing is believing, a field day would be organized at the site of demonstration/Harvesting for showing the benefits of adopting the improved technologies to the farmers. This would be done at a stage when marked differences in crop condition and expected yield between the demonstration plot and the control plot are clearly visible.	**5**	**1.00**

Seed Village	• This concept would be promoted through Progressive Farmers preferably a marginal farmers of 15-20 members. They will be provided sufficient training to maintain financial (Maintain Fund) and technical (Quality of Seed) resources. • Quantum of Corpus fund Proposed.	-	-
Bio Village	• Promotion of pesticide free village vegetables in sub-basin through climate resilient activity in model Bio Village.	-	-
IEC & CB Activities	• Pamphlets, booklet, leaflets and exposure visit to successful farmers field	**185**	**1.203**

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