AGRICULTURAL ENGINEERING DEPARTMENT (AED)

TN IAMP (IAMWARM) PHASE – III

GUMMIDIPOONDI SUB BASIN

DETAILED PROJECT REPORT

ESTIMATE AMOUNT RS. 16.50 LAKHS.
Ayacut: 1672.03 Ha

EXECUTIVE ENGINEER
AGRICULTURAL ENGINEERING DEPARTMENT
THIRUVALLUR

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1. INTRODUCTION

1. INTRODUCTION

Tamil Nadu Irrigated Agriculture Modernization Project (TN IAMP)

Gummidipoondi sub basin – Phase III

1.1 GENERAL:

Agriculture is the dominant sector in the Indian economy. Tamil Nadu depends largely on the surface water irrigation as well as ground water irrigation. The state has used the surface and ground water potentials to the maximum limit and hence the future development and expansion depends mainly on the efficient and economical use of water potential and resources.

It is observed that bringing additional area into cultivation is remote but the challenge is how best to bridge the gap in cultivation by reducing demands, by effective water management and by adoption of modern agricultural techniques. Hence, it is imperative for an Integrated Water Resources Management & convergence of various departments for development and management of water resources in Tamil Nadu.

The Government of Tamil Nadu has taken a number of progressive actions on water resources and irrigation management, for the modernization of the traditional irrigation systems in Tamil Nadu under the World Bank funded TN IAMP (IAMWARM-III) project. This multifaceted approach will not only increase the agricultural productivity, it will also expect to yield holistic benefits to the farming community

1.2. DESCRIPTION OF CHENNAI BASIN

The Chennai basin group rivers are situated between latitudes 12º 30' 00'' to 13 º35'00'' N and longitudes 79º15'00'' to 80º22'30''E and is located into the northern part of Tamil Nadu. The Chennai Basin Group of rivers is Araniar, Korattalaiyar or Kosasthalaiyar, Cooum and Adyar and small minor stream on the southern part of the basin. The Chennai basin comprises of 8 sub basins. The northern part of Chennai basin is occupied by Andhra Pradesh and Pulicat lake, south and west by the Palar river basin and east by Bay of Bengal. The total geographical area of Chennai basin within Tamil Nadu is 6118.34 sq. km totally. It covers in the Survey of India toposheets 57'O', 57 'P', 66'C', and 66 'D' and it also cover in Thiruvallur district.

1.2.1 Description of Gummidipoondi Subbasin

This is one of the five sub-basins of the Chennai River Basin. Totally 40 irrigation tanks and 3 Anicuts are under the control of Water Resources Organization (WRO) of Public

Works Department (PWD) in this sub-basin. These Infrastructures are located within the Sub-Basin's hydraulic boundary spread over 40 villages of Gummidipoondi Taluk in Tiruvallur District. The Total Command area under these Infrastructures worksout to 1491.20 Ha.This sub basin orginates from Ellapuram block and passes through Gummidipoondi. The basin area underlined by crystalline rocks of Archaean age comprising granite gneiss, charnockite and associated basic igneous and metamorphic rocks. Gummidipoondi sub basin covers an area of 331.11Sq.Km. Numerous small streams originate form Sathiavedu hills at about an altitude of 261m and a few streams originate from Tamilnadu and drain most of the plain areas of Gummidipoondi. These streams flow in the North, Northeast direction filling up several tanks in Pallavada, Periyaopalapuram, Thanipoondi, Sirupulalpettai and Siruvadur. Finally to the west of Elavur, the streams join with the Pulicat lake in Andhra Pradesh. It is one of the sub basins in Chennai basin which is located in the northen part of Chennai basin and Pulicat lake. The Gummidipoondi sub basin is located between latitude of 13˚20' N to 13˚ 32' N and longitude of 79˚ 56' E to 80 ˚ 10' E

1.2.2 Anicuts

There are four WRD Anicuts proposed under TNIAMP Phase III project in Gummidipoondi sub basin.

1. Panchalai Maduvu Anicut in Poovalambedu village.
2. Sedhilpackam Anicut in Sedhilpackam village.
3. Ralla Kalvoy Anicut in Pondavakkam village.
4. Sanaputhur Anicut in Sanaputhur village.

1.3. Total No. of tanks in Gummidipoondi Sub Basin

In Gummidipoondi Sub Basin 22 System Tanks are available. All the 22 tanks to be taken up for Rehabilitation and Modernization work under TN-IAMP (IAMWARM – III) Project phase-III Sub Basins.

1.4. List of blocks, taluks and district covered in Gummidipoondi sub basin

District	Taluk	Block
Thiruvallur	Gummidipoondi	Gummidipoondi

1.5. List of districts, blocks and taluks, tanks and ayacut details proposed in this project:

Sl. No.	District	Block	Taluk	No.of tanks/anicuts	Ayacut in Ha
1	Thiruvallur	Gummidipoondi	Gummidipoondi	Tanks : 22	1379.01
				Anicuts : 04	293.02
	Total				1672.03

1.6 POPULATION DETAILS

1.6.1 Population Size: Urban and Rural

SI. No.	Sub Basin	Urban Population in million	Rural Population in million	Total Population in million
1	Gummidipoondi	0.033	0.167	0.20

1.6.2 Population Density for Gummidipoondi Sub basin

SI No	District	Area Sq.km	Total Population in million	Density Person / Sq.km
1	Tiruvallur	331.11	0.20	604

SALIENT FEATURES OF GUMMIDIPOONDI SUB-BASIN

IRRIGATION INFRASTRUCTURE

List of tanks with details of Villages, Block, Taluk, District, Direct Ayacut Area, and Capacity

Name of the Sub-Basin: Gummidipoondi Sub Basin **District: Thiruvallur**

Sl. No.	Name of Tank/Anicut/ Supply Channel	Name of Village	Block	Taluk	Ayacut in ha.
1	2	3	4	5	6
I	Aramani Tank	Aramani	Gummidipoondi	Gummidipoondi	48.220
2	Karadiputhur Tank	Karadiputhur	Gummidipoondi	Gummidipoondi	92.680
3	Thervoy Kandigai Chitteri	Thervoy Kandigai	Gummidipoondi	Gummidipoondi	45.680
4	Peddamanjaneri Tank	Peddamanjaneri	Gummidipoondi	Gummidipoondi	47.190
5	Chinna Manjaneri	Chinna Manjaneri	Gummidipoondi	Gummidipoondi	46.140
6	Poovalambedu Tank	Poovalambedu	Gummidipoondi	Gummidipoondi	101.750
7	Amarambedu Parikkeri	Amarambedu	Gummidipoondi	Gummidipoondi	40.660
8	Amirthamangalam Tank	Amirthamangalam	Gummidipoondi	Gummidipoondi	46.140
9	Budur Anicut Thangal	Budur	Gummidipoondi	Gummidipoondi	75.270
10	Vanamalli Tank	Vanamalli	Gummidipoondi	Gummidipoondi	62.850
11	Chinna Bommanjikulam Tank	Chinna Bommanjikulam	Gummidipoondi	Gummidipoondi	46.350
12	Periya Bommanjikulam Tank	Periya Bommanjikulam	Gummidipoondi	Gummidipoondi	62.230
13	Sedilpakkam Tank	Sedilpakkam	Gummidipoondi	Gummidipoondi	44.900
14	Parathambedu Tank	Parathambedu	Gummidipoondi	Gummidipoondi	40.000
15	Soorapundi Tank	Soorapundi	Gummidipoondi	Gummidipoondi	47.800
16	Melapakkam Pettai Cheruvu	Melapakkam Pettai Cheruvu	Gummidipoondi	Gummidipoondi	42.500

17	Narasingapuram Tank	Narasingapuram	**Gummidipoondi**	**Gummidipoondi**	39.200
18	Peria Natham Thattan Tank	Peria Natham Thattan	**Gummidipoondi**	**Gummidipoondi**	69.000
19	Periya Obulapuram Large Tank	Periya Obulapuram Large	**Gummidipoondi**	**Gummidipoondi**	61.000
20	Manallur Pudu Eri	Manallur	**Gummidipoondi**	**Gummidipoondi**	40.500
21	Sanaputhur Tank	Sanaputhur	**Gummidipoondi**	**Gummidipoondi**	40.500
22	Pondavakkam Pudu Tank	Pondavakkam Pudu	**Gummidipoondi**	**Gummidipoondi**	50.590
23	Pondavakkam Large Tank	Pondavakkam	**Gummidipoondi**	**Gummidipoondi**	96.000
24	Edur Tank	Edur	**Gummidipoondi**	**Gummidipoondi**	50.000
25	Elavoor Katteri Tank	Elavoor	**Gummidipoondi**	**Gummidipoondi**	74.050
26	Elavoor Hissa Kattu Thangal	Elavoor	**Gummidipoondi**	**Gummidipoondi**	80.000
27	Parathambedu Tank	Parathambedu	**Gummidipoondi**	**Gummidipoondi**	40.000
28	Soorapundi Tank	Soorapundi	**Gummidipoondi**	**Gummidipoondi**	47.800
29	Melapakkam Pettai Cheruvu	Melapakkam Pettai Cheruvu	**Gummidipoondi**	**Gummidipoondi**	42.500
30	Narasingapuram Tank	Narasingapuram	**Gummidipoondi**	**Gummidipoondi**	39.200
31	Peria Natham Thattan Tank	Peria Natham	**Gummidipoondi**	**Gummidipoondi**	69.000
32	Periya Obulapuram Large Tank	Periya Obulapuram	**Gummidipoondi**	**Gummidipoondi**	61.000
33	Manallur Pudu Eri	Manallur	**Gummidipoondi**	**Gummidipoondi**	40.500
34	Sanaputhur Tank	Sanaputhur	**Gummidipoondi**	**Gummidipoondi**	40.500
35	Pondavakkam Pudu Tank	Pondavakkam	**Gummidipoondi**	**Gummidipoondi**	50.590
36	Pondavakkam Large Tank	Pondavakkam	**Gummidipoondi**	**Gummidipoondi**	96.000

37	Edur Tank	Edur	**Gummidipoondi**	**Gummidipoondi**	50.000
38	Elavoor Katteri Tank	Elavoor	**Gummidipoondi**	**Gummidipoondi**	74.050
39	Elavoor Hissa Kattu Thangal	Elavoor	**Gummidipoondi**	**Gummidipoondi**	80.000
40	Parathambedu Tank	Parathambedu	**Gummidipoondi**	**Gummidipoondi**	40.000

Convergent Table

Details of Cluster Villages in Gummidipoondi Sub Basin

Sl. No.	Name of Tank	Unicode	Villages	Blocks	Ayacut (ha)
1	Amarambedu Parikkeri	TNCH-01-T0070	Amarambedu	Gummidipoondi	40.660
2	Amarambedu Tank	TNCH-01-T0078	Amarambedu	Gummidipoondi	67.580
3	Amirthamangalam tank	TNCH-01-T0068	Amirthamangalam	Gummidipoondi	46.140
4	Aramani Tank	TNCH-01-T0115	Aramani	Gummidipoondi	48.220
5	Budur Anicut Thangal	TNCH-01-T0061	Budur	Gummidipoondi	75.270
6	Chinna Bommanjikulam Tank	TNCH-01-T0052	Bommanjikulam	Gummidipoondi	46.350
7	Kanalur Pedu Eri	TNCH-01-T0104	Kanalur	Gummidipoondi	60.300
8	Periya Bommanjikulam Tank	TNCH-01-T0050	Periya Bommanjikulam	Gummidipoondi	62.230
9	Pondavakkam PuduTank	TNCH-01-T0012	Pondavakkam	Gummidipoondi	50.590
10	Sedilpakkam Tank	TNCH-01-T0029	Sedilpakkam	Gummidipoondi	44.900
11	Edur Tank	TNCH-01-T0007	Edur	Gummidipoondi	50.000
12	Thervoy Kandigai Chitteri	TNCH-01-T0103	Thervoy Kandigai	Gummidipoondi	45.680
13	Vanamalli Tank	TNCH-01-T0060	Vanamalli	Gummidipoondi	62.850
14	Elavoor Hissa Kattu Thangal	TNCH-01-T0004	Elavoor	Gummidipoondi	80.000
15	Elavoor Katteri Tank	TNCH-01-T0005	Elavoor	Gummidipoondi	74.050
16	Elavur Large Tank	TNCH-01-T0009	Elavur	Gummidipoondi	144.170
17	Eguvarpalayam Odaperi	TNCH-01-T0053	Eguvarpalayam	Gummidipoondi	100.030
18	Narasingapuram Tank	TNCH-01-T0026	Narasingapuram	Gummidipoondi	39.200

19	Peria Natham Thattan Tank	TNCH-01-T0025	Peria Natham	Gummidipoondi	69.000
20	Melapakkam Pettai Cheruvu	TNCH-01-T0028	Melapakkam	Gummidipoondi	42.500
21	Poovalai Large Tank	TNCH-01-T0003	Poovalai	Gummidipoondi	80.390
22	Thervali Thamarai Tank	TNCH-01-T0044	Thervali	Gummidipoondi	48.900
					1379.010

2. HYDROLOGY OF GUMMIDIPOONDI SUB BASIN

Hydrometeorlogy

The Hydro Meteorology parameters include rainfall, temperature, humidity, wind velocity, evaporation and duration of sun shine which determine the climate of the basin.

2.1. Rainfall

Average annual rainfall of gauging stations influencing this sub basin is as follows

Sl No	Name of Rain gauge Station	North East Monsoon	Summer	Winter	South west monsoon	Annual
1.	Gummidipoondi	816	46	25	434	1321

2.2. Climate

The Gummidipoondi Sub Basin lies in a Medium rainfall belt having an annual average weighted rainfall of 1321 mm. Southwest monsoon contribute 434 mm, while NE monsoon contributes 816 mm . This basin receives a major share of its rainfall during NE monsoon.

2.3. Soil Classification

In this sub basin, due to different stages, weathering and parent material, the soil types are met with in combination of Inceptisol, Alfisol, and Entisol. More prominent type is Inceptisol.

Inceptisol	Red or brown or grey soil with surface horizon more developed than sub surface. They are developing soils, moderately deep, coarse loamy to loam moderately drained to well drained	Suited for commonly grown crops with exceptions
Alfisol	The red or brown soils having accumulation of alleviated clay in sub surface horizon it well drained, poor water and nutrient holding capacity.	Annual crops with shallow roots systems cum up wells
Entisol	Reddish brown to red,light to medium textured and mostly non-calcareous soils. Dark brown to dark grey soils of fluvial origin, These soils are very deep,freely drained sands and have low water holding capacity.	Dry cultivatuion with millets,pulses and groundnuts

2.4. Land Holdings

The details of farm holdings and size classes prevalent in Gummidipoondi Sub basin are given below:

Category	Size of holdings	Numbers	Percentage (%)
Marginal	Below 1.00 Ha	2500	58.14
Small	1.00 – 2.00 Ha	1000	23.26
Medium	2.00 – 5.00 Ha	600	13.95
Big	5.0 ha & above	100	4.65
Total		4300	100.00

Above table revealed that the marginal farmers alone accounted for 58.14 percent in the sub basin followed by small farmers. Developmental initiatives will need to take the fact into account.

2.5. Demography

Name of the Sub Basin	Total No. of Blocks	Total No. of Villages	Population in, Million		
			2007	2010	2020
Gummidipoondi	1	43	0.075	0.12	0.20

2.6. Ground water potential

Block	Net Groundwater Availability (M.Cu.m)	Existing Gross Draft for all uses (M.Cu.m)	Net groundwatre Availability for future Irriation Development (M.Cu.m)	Stage of Groundwater Development (%)	Category of Block
Gummudipoondi	169.05	86.82	81.99	51	Safe

2.7. Raingauge stations

S. No.	Name of Sub Basins	No. of Raingauge staions	Name of Raingauge station
1	Gummidipoondi	2	Gummidipoondi, Sathiyavedu

2.8. Surface water potential

The sub basin having 75% dependable surface water potential in MCM

South west Monsoon potential	**20.72**
North East Monsoon potential	**32.75**
Non – Monsoon potential	**1.69**
Total	**55.16**

3. PROPOSAL & COST ESTIMATE OF FARM PONDS

3.1 Objectives

The project aims to improve water delivery through Modernisation of Irrigation system, *improved water management and enhanced productivity by adopting climate resilience of irrigated agriculture* with improved agricultural diversification and enhancing alternate livelihoods through Livestock and Inland Aquaculture in a sub basin frame work.

Agricultural Engineering Department's objective in this project is its contribution for climate resilience and water productivity by way of construction of Farm Ponds.

3.2. Concept of Farm Pond

Farm Ponds are constructed by Agricultural Engineering Department (AED) to harvest rain water in the individual land holding of a farmer, having sufficient catchment area, so as to provide supplement irrigation at critical stages of crop growth, mainly, as a "life saving irrigation' to save the crop without wilting. Since, the Farm Pond constructed in the Farmer's land, the conveyance loss is minimized due to localized irrigation and thus improving the water use efficiency. Under suitable conditions, whenever the water can be stored for more than 4 months, fish culture could be encouraged to the farmers so as to provide an opportunity to have an additional income..

The size of the Farm Pond may be 21.5 m x 21.5 m x 3.0 m or 28.0 m x 28.0 m x 1.50 m with a capacity to hold approximately 1100 cubic meters. The size depends on the catchment area and quantity of runoff water and the depth depends on the available soil depth, in principle. But most important factor is the willingness of the farmer to part the portion of his land for the construction of Farm Pond. If soil conditions permit, the depth can be increased to accommodate more water storage. Constructing a farm pond depends on soil condition, topography, drainage capacity, infiltration, rainfall of the area in which the farm land is situated.

Besides, Aqua culture is proposed to be promoted through Fisheries Department in selected Farm Ponds as an additional source of income, wherever the impounded water is available for four months and above.

3.3. Selection Criteria:

The site selection should have high potential for the construction of Farm Ponds with clay/alluvium soil which holds water for a longer time and has less seepage and percolation losses. As far as possible, Farm Ponds should be selected as clusters in the sub basin area, not as isolated ones, so as to evaluate the impact of this intervention.

1. The beneficiary for the construction of Farm Pond is selected based on the land owning farmers with preference to Small Farmers, who are willing to provide an area of approximately between 700 to 1000 sq metres for the construction of Farm Pond.
2. For wide publicity, awareness meetings, announcements, notices should be given in the village clusters of the sub basin area
3. Farmer should be willing to construct the Farm Pond as per the technical specification mentioned in the design.
4. Farmers should be willing to expend approximately, Rs. 25,000/ per Farm Pond towards the cost of transporting the excess earth, elsewhere.
5. The topography of the land should be such that there is sufficient catchment area for the Farm Pond to harvest rain water.
6. Farm Pond will be constructed at the lowest portion of the farmer's land, so as to harvest the maximum runoff water from the farm and there shall be a sufficient catchment area.
7. The soil should be non porous such that, there is not much seepage and percolation losses and thus rain water can be stored for longer days for making use of it during critical stages of the crop period.
8. Inlet and Outlet or inlet cum outlet arrangements may be provided to regulate the inflow and to dispose the excess water safely.
9. A uniform berm width of 1 m must be maintained all around the pond. Vegetative measures should be taken up along the berm width to prevent erosion and sliding of earth. The berm width area can also be utilized to raise homestead garden for additional income.
10. Larger size with shallow depth increase evaporation losses and wastage of cultivable land area. Greater depth reduces evaporation but it increases the seepage losses due to the hydrostatic pressure which is however beneficial for ground water recharge.
11. The farmers opting for Farm Pond may also be motivated for adopting Drip/Sprinkler Irrigation systems to economize water usage.

The Executive Engineer(AE) of the District / Nodal Officer of the sub basin will finalize the list of Beneficiaries at the District Level / sub basin level.

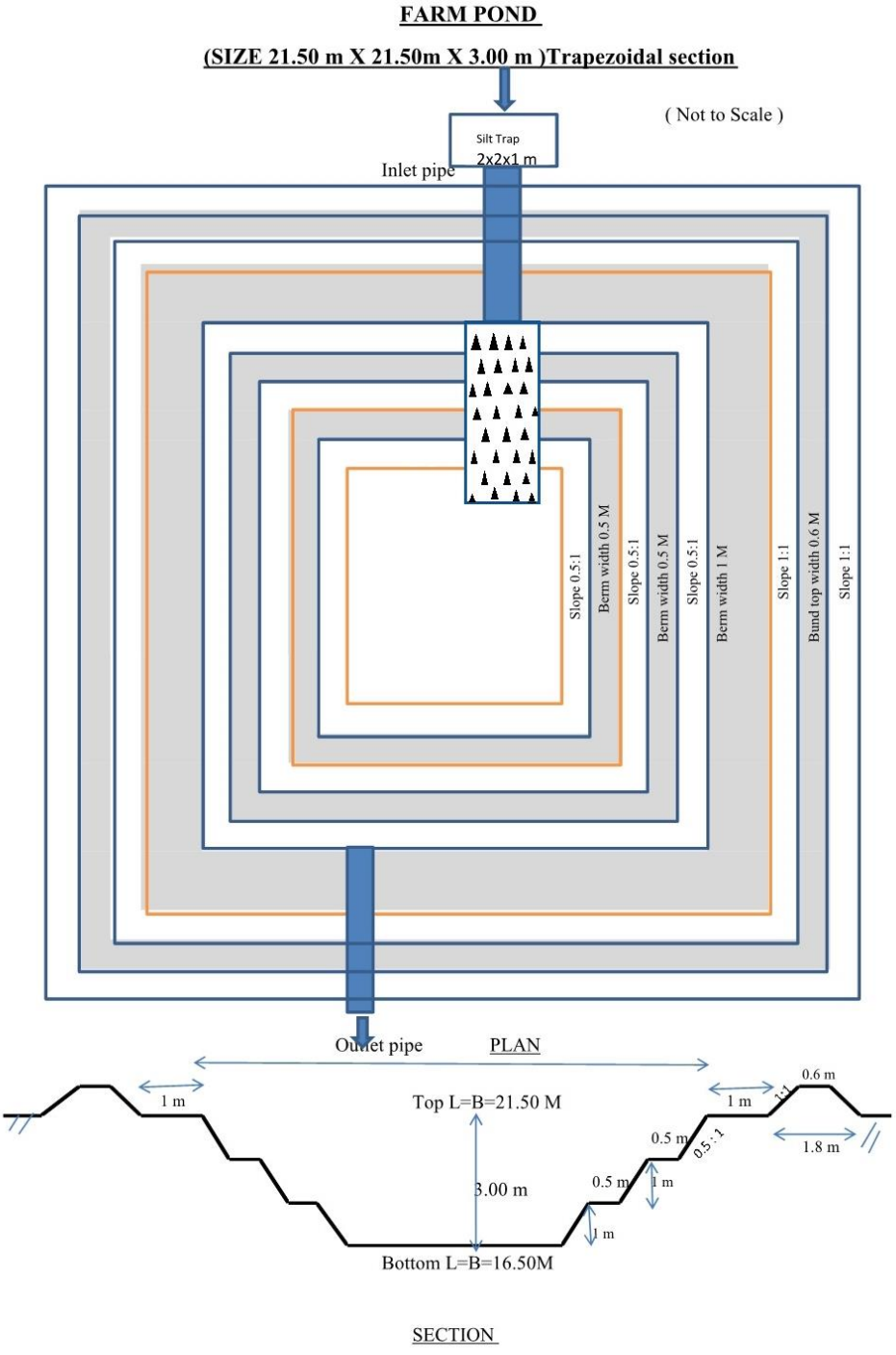
3.4. Design, Layout and Unit Cost:

The two model estimates of Farm Pond of sizes

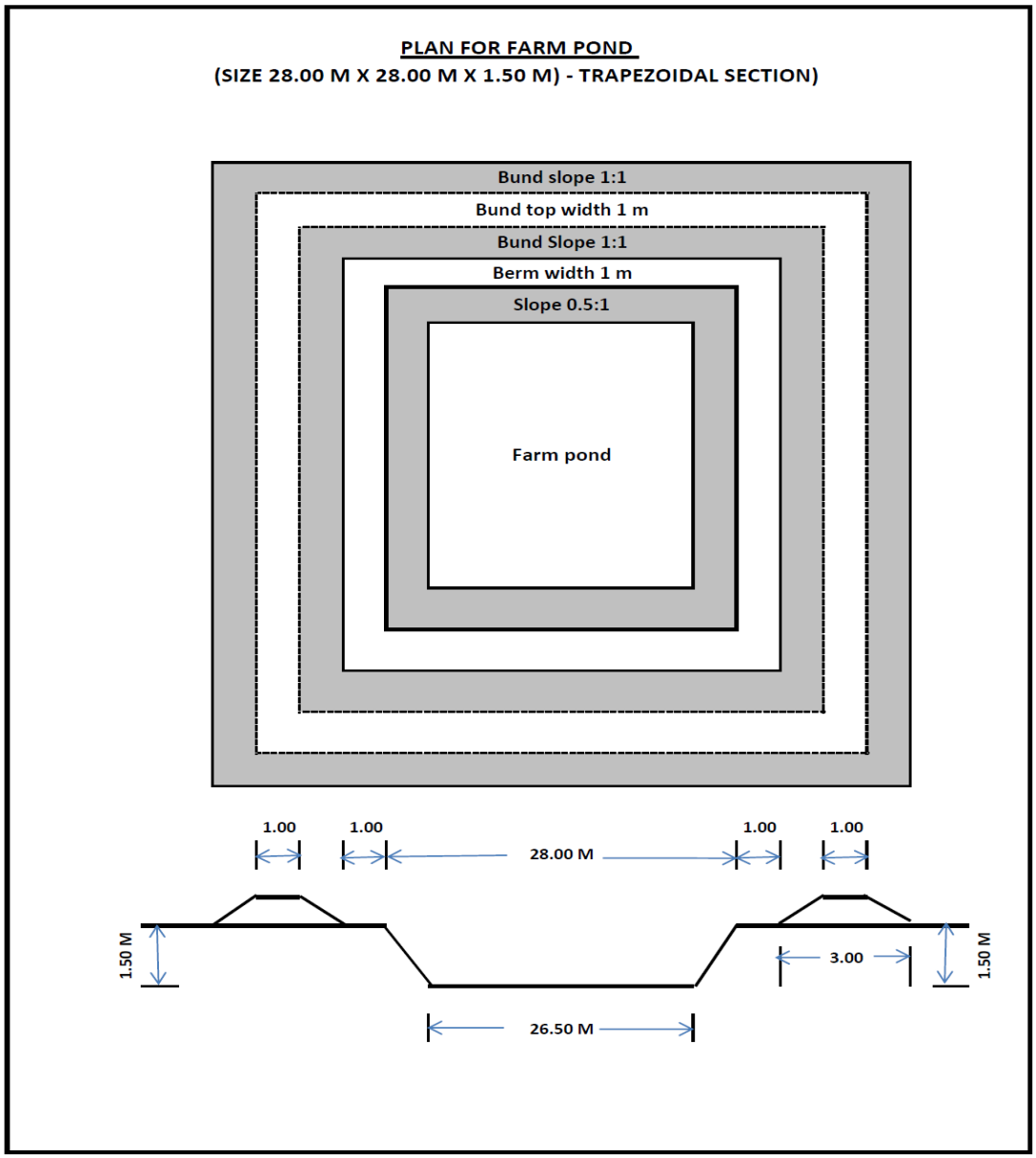
(a) 21.50 m x 21.50 m with 3.00 m depth with 2 step berms at every 1m interval, for soils having sufficient depth and

(b) 28.00 m x 28.00 m with 1.50 m depth with single berm, for soils having limited depth, both for an unit cost of Rs.75,000/- per Farm Pond as Project cost, to be adopted from Phase II onwards, with a capacity to hold about 1100 cubic metres.

Layout of Farm Pond of size 21.50m x 21.50m x 3.00m



Layout of Farm Pond of size 28.00m x 28.00m x 1.50m



3.5. Cost Estimate

Proposals in Gummidipoondi sub basin

S. No.	Component			Total	
		Cluster I	Cluster II	Physical in No.	Financial in Rs. Lakh
1	Farm Pond	10	12	22	16.50
	Grand Total	**10**	**12**	**22**	**16.50**

Based on the joint walk through survey along with all line departments, awareness meetings in the village clusters in the sub basin area, wide publicity given by issue of notices/pamphlets, Announcements in Farmer's grievance day meetings in District Collectorates, Communication in Grama Sabha meetings, Display of Notice in Pachayat's Notice Board, etc., the DPR has been finalized.

During implementation of the intervention, the environmental and social safeguards aspects including grievance redress mechanism will be adhered.

4. CONVERGENT TABLE

4.1 Cluster Classification for Multi department convergence

SI.NO	No. of Cluster	Name of Cluster	Block	Taluk
Tiruvallur				
1	CLUSTER I	Amarambedu Parikkeri	Gummidipoondi	Gummidipoondi
		Amarambedu Tank		
		Amirthamangalam tank		
		Aramani Tank		
		Budur Anicut Thangal		
		Chinna Bommanjikulam Tank		
		Kanalur Pedu Eri		
		Periya Bommanjikulam Tank		
		Pondavakkam PuduTank		
		Sedilpakkam Tank		
		Edur Tank		
		Thervoy Kandigai Chitteri		
2	CLUSTER II	Vanamalli Tank	Gummidipoondi	Gummidipoondi
		Elavoor Hissa Kattu Thangal		
		Elavoor Katteri Tank		
		Elavur Large Tank		
		Eguvarpalayam Odaperi		
		Narasingapuram Tank		
		Peria Natham Thattan Tank		
		Melapakkam Pettai Cheruvu		
		Poovalai Large Tank		
		Thervali Thamarai Tank		

TNIAMP – III PROJECT (PHASE III)GUMMIDIPOONDI SUB BASIN

CLUSTER WISE CONVERGENT TABLE

	Name of the cluster	Total Ayacut (Ha)			Total Area (Ha)			WRD	Agriculture		TNAU		Horticulture		Agri marketing	AED			Fisheries	Animal Husbandry		
		FI	PI	Gap	Wop	WP	Gap		Act	No./ Ha	Act	No./ Ha	Act	No./ Ha	Act	No./ Ha	Act	No.	Act	No./ Ha	Act	No./ Ha
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	CLUSTER I																Farm Pond					
1.	Amarambedu Parikkeri	26.18	6.560	7.920	32.740	40.660																
2.	Amarambedu Tank	43.89	12.840	10.850	56.730	67.580												2-				
3	Amirthamangalam tank	29.52	7.380	9.240	36.900	46.140																
4	Aramani Tank	31.05	7.760	9.410	38.810	48.220																
5	Budur Anicut Thangal	48.9	13.100	13.270	62.000	75.270												**3**				
6	Chinna Bommanjikulam Tank	29.73	7.450	9.170	37.180	46.350																
7	Kanalur Pedu Eri	38.59	9.640	12.070	48.230	60.300												**2**				
8	Periya Bommanjikulam Tank	40.07	10.020	12.140	50.090	62.230												**1**				
9	Pondavakkam PuduTank	32.58	9.140	8.870	41.720	50.590																
10	Sedilpakkam Tank	28.91	7.220	8.770	36.130	44.900																
11	Edur Tank	32.2	8.050	9.750	40.250	50.000												**2**				
12	Thervoy Kandigai Chitteri	29.23	7.300	9.150	36.530	45.680																
	Total	**410.85**	**106.460**	**120.610**	**517.310**	**637.920**												**10 Nos.**				
	CLUSTER II																					
1	Vanamalli Tank	40.47	10.080	12.300	50.550	62.850												2				
2	Elavoor Hissa Kattu Thangal	51.52	13.880	14.600	65.400	80.000																
3	Elavoor Katteri Tank	47.68	11.920	14.450	59.600	74.050												3				

4	Elavur Large Tank	92.84	29.220	22.110	122.060	144.170												1				
5	Eguvarpalayam Odaperi	64.41	18.120	17.500	82.530	100.030												3				
6	Narasingapuram Tank	25.24	6.120	7.840	31.360	39.200												2				
7	Peria Natham Thattan Tank	44.43	13.120	11.450	57.550	69.000												-				
8	Melapakkam Pettai Cheruvu	27.37	7.850	7.280	35.220	42.500												-				
9	Poovalai Large Tank	51.77	14.940	13.680	66.710	80.390												1				
10	Thervali Thamarai Tank	31.48	8.870	8.550	40.350	48.900																
	Total	**477.21**	**134.120**	**129.760**	**611.330**	**741.090**												**12 Nos.**				
	Grand Total	**888.060**	**240.580**	**250.370**	**1128.64**	**1379.01**												**22 Nos.**				

Total Number of Proposed Farm Ponds in Gummidipoondi sub basin, Tiruvallur district - 22 Nos.



Sub committee meeting for TNIAMP Phase III with line departments

5. Walk through survey for Gummidipoondi sub basin

S NO	DATE	LOCATION	FARMERS REQUEST	TECHNICAL SOLUTION	PROPOSAL IN PLAN	REMARKS
1	08.06.2020	Edur Tank Elavoor Katteri Tank Eguvarpalayam Odaperi Thervoy Kandigai Chitteri Melapakkam Pettai Cheruvu	Any type of Water storage or Ground water Recharge Structures in their patta lands	Construction of Farm Pond to improve ground water storage and augment the Irrigation,	Construction of Farm Pond	The water stored in farm ponds shall be utilized as life saving irrigation. This will give assured yield of crops to the farmers.



Tank Name: Elavoor Katteri Tank	Uniq ID : TNCH-01-T0005
Block: Gummidipoondi	Taluk: Gummidipoondi



Tank Name: Edur Tank	Uniq ID : TNCH-01-T0007
Block: Gummidipoondi	Taluk: Gummidipoondi



Tank Name: Eguvarpalayam Odaperi	Uniq ID : TNCH-01-T0053
Block: Gummidipoondi	Taluk: Gummidipoondi



Tank Name: Melapakkam Pettai Cheruvu	Uniq ID : TNCH-01-T0028
Block: Gummidipoondi	Taluk: Gummidipoondi



Tank Name: Narasingapuram Tank	Uniq ID : TNCH-01-T0026
Block: Gummidipoondi	Taluk: Gummidipoondi



Tank Name: Thervoy Kandigai Chitteri	Uniq ID : TNCH-01-T0103
Block: Gummidipoondi	Taluk: Gummidipoondi



Tank Name: Chinna Bommanjikulam Tank	Uniq ID : TNCH-01-T0052
Block: Gummidipoondi	Taluk: Gummidipoondi

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

6.1 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

AED farm pond construction will not arise any environmental safeguard since the volume of work is minimum and constructed in the farmer's own land based on their willingness. In addition, Farmer's land adjoining roads and electric poles will be made environmentally safe by taking necessary precautionary measures.

6.2 ESMF Application in Livelihood Support Interventions

Wherever the Farm Pond is expected to hold water for 3-4 months.AED will intimate Fisheries department for inclusion of Fish fingerlings. This in turn helps farmer to get additional income through Farm Ponds.

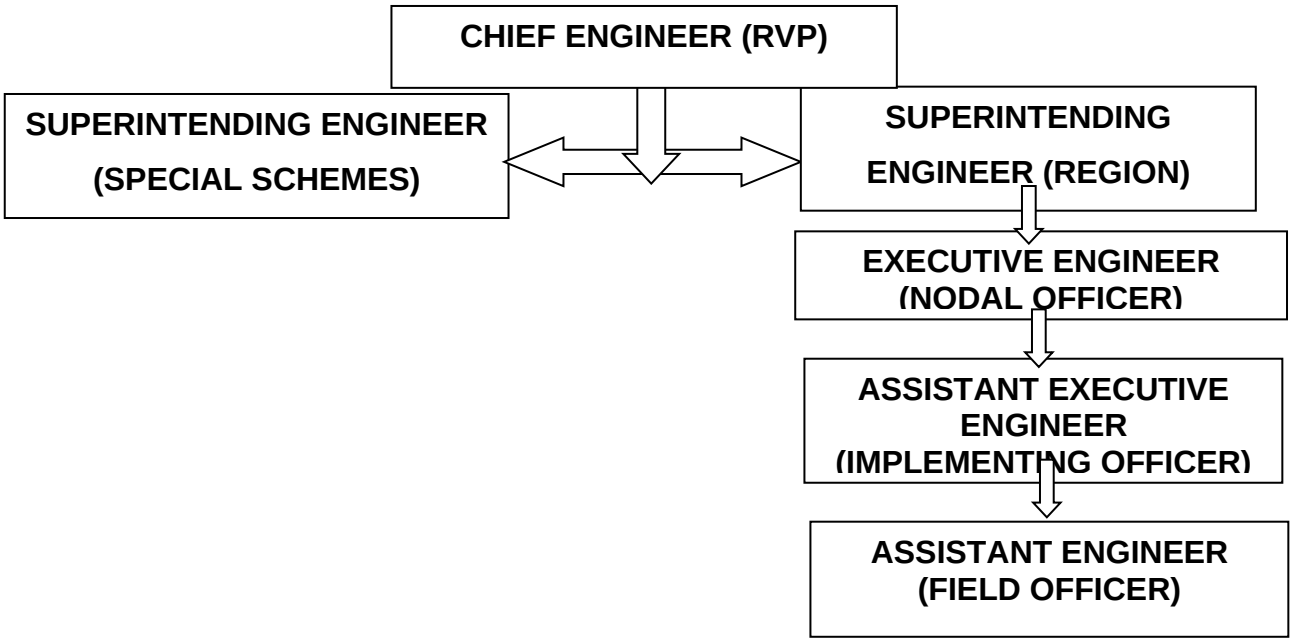
6.3.Grievance Redress Mechanism (GRM)

A project level GRM will be in place for addressing social, environmental and project related grievances. The GRM is monitored through sub basin wise multi level structures and processes.

6.4.1Prompt and Effective Redress of Grievances

a. Grievances will be necessarily acknowledged, with an interim reply within 7 days of receipt and redressed within 1 month of receipt in the Organisation. The same time limit should apply even if co-ordination with subsidiary offices or another Department/Organisation is involved.
b. No grievance will be rejected without having been independently examined.

6.4.2 GRM- Hierarchy



6.4.3 Process of Grievance Redress Mechanism (GRM)

1. The Grievance Redress Committee(GRC) will receive all grievances/complaints and enter them in the Grievance Register
2. The GRC will consider and redress grievances/complaints through public and transparent process.
3. The GRC will communicate its decisions/redress in writing to the complainants within 4 weeks depending on the nature of complaints.
4. The GRC decisions are not the final and the grieved and complainants have the right to seek judicial redress if they are not happy with the decisions of GRC. But it should not paraphrase the constitution fundamental rights.
5. Display boards will be provided in the Farm pond site along with details viz., Name of Sub Basin Nodal officer Name, Office address, contact number,

6.4.4 Complaints/Grievances Register will contain (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

When 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.

6.5 Grievance Redress Mechanism (GRM) – Contact Details

Sl.No	Name	Designation	Contact Number
1	G.SUBRAMANIAN	Superintending Engineer (Region)	9443363967
2.	G.SUBRAMANIAN	Executive Engineer(AE)	9443363967
3.	R.RAJAVELU	Assiatant Executive Engineer(AE)	9789597447
4.	K.BALRAJ	Assitant Engineer (AE)	6379302150

6.6.6 Component B1: Construction of Farm Ponds

1. GENERAL			
1.1.Sub-Basin: Gummidipoondi			
1.2.Package no:01/TNIAMP/AED/GPD/WORKS/PHASE III-2020-21 (1 Package)			
1.3.No. of Canals / Channels / Anaicuts: 04			
1.4.Canal / Channel/ Anaicut ayacut area (Ha): 293.02 ha			
1.5.No. of Tanks: 22			
1.6.Tank ayacut area (Ha): 1379.01 ha			
1.7.Average annual rainfall in command area (mm)	1321 mm		
1.8.Soil type in command area	Inceptisol, Alfisol, Entisol		
1.9.Command area (Ha)	1672.03 ha		
1.10. Proposed area (Ha):	1672.03 ha		
	Category 1	Category 2	Category 3
1.11. Proposed activities under the project	○ Procurement of pesticides ○ Other interventions (list)	○ Promotion of new crop and agronomic practices ○ Farm ponds ○ Promotion of modern technologies ○ Promotion of high value crop using micro-irrigation system ○ Rehabilitation of existing/new field channels ○ Other interventions (list)	○ Training in safe use of pesticides ○ Training on organic farming ○ Creation of WUAs ○ Other interventions (list)
1.12. Command area under cultivation (ha / %)			

1.13. Command area of canal/tank (list name of villages)

Sl. No.	Name of Tank	Ayacut (Ha)
1	Amarambedu Parikkeri	40.660
2	Amarambedu Tank	67.580
3	Amirthamangalam tank	46.140
4	Aramani Tank	48.220
5	Budur Anicut Thangal	75.270
6	Chinna Bommanjikulam Tank	46.350
7	Kanalur Pedu Eri	60.300
8	Periya Bommanjikulam Tank	62.230

	9	Pondavakkam PuduTank	50.590
	10	Sedilpakkam Tank	44.900
	11	Edur Tank	50.000
	12	Thervoy Kandigai Chitteri	45.680
	13	Vanamalli Tank	62.850
	14	Elavoor Hissa Kattu Thangal	80.000
	15	Elavoor Katteri Tank	74.050
	16	Elavur Large Tank	144.170
	17	Eguvarpalayam Odaperi	100.030
	18	Narasingapuram Tank	39.200
	19	Peria Natham Thattan Tank	69.000
	20	Melapakkam Pettai Cheruvu	42.500
	21	Poovalai Large Tank	80.390
	22	Thervali Thamarai Tank	48.900

2. Rain-water harvesting structure	
2.1.RWH proposed?	○ Yes ○ No
2.2.Type of RWH structure proposed	Farm Pond
2.3.Area of proposed RWH (Ha)	0.11
2.4.Expected average rainfall to be captured (mm)	
2.5.Is proposed RWH structure expected to recharge ground water?	○ Yes ○ No
3. Equipment/machinery to be deployed on hourly basis. 3.1.Crawler excavator/Backhoe with front end leveler	○ Yes (1100 hours) ○ None
3.2.Tipper/Lorry	○ Yes (880 hours) ○ None
4. Social Screening	
4.1.Will the proposed project result in physical displacement of any person/family/household in selecting the site for implementing the project?	○ Yes ○ No ○ NA
4.2.Will the proposed project result in loss of land cultivated by encroachers and others	○ Yes ○ No ○ NA
4.3.If Yes, RAP prepared?	○ Yes ○ No ○ NA

4.4.Have the beneficiaries been identified?	○ Yes ○ No ○ NA
4.5.Are WUAs willing to take up activities under the project?	○ Yes ○ No ○ NA
4.6.Gender Action PLAN Required? 4.7.If yes, is the Plan prepared?	○ Yes ○ No ○ NA ○ Yes ○ No ○ NA
4.8.Vulnerable group development plan required? 4.9.If yes, is the Plan prepared?	○ Yes ○ No ○ NA ○ Yes ○ No ○ NA
4.10. Are the documents, books and accounts being maintained by WUA?	○ Yes ○ No ○ NA
4.11. OFD works in each WUA including link drain construction reviewed?	○ Yes ○ No ○ NA

Prepared by:

Assistant Engineer (AE)AED

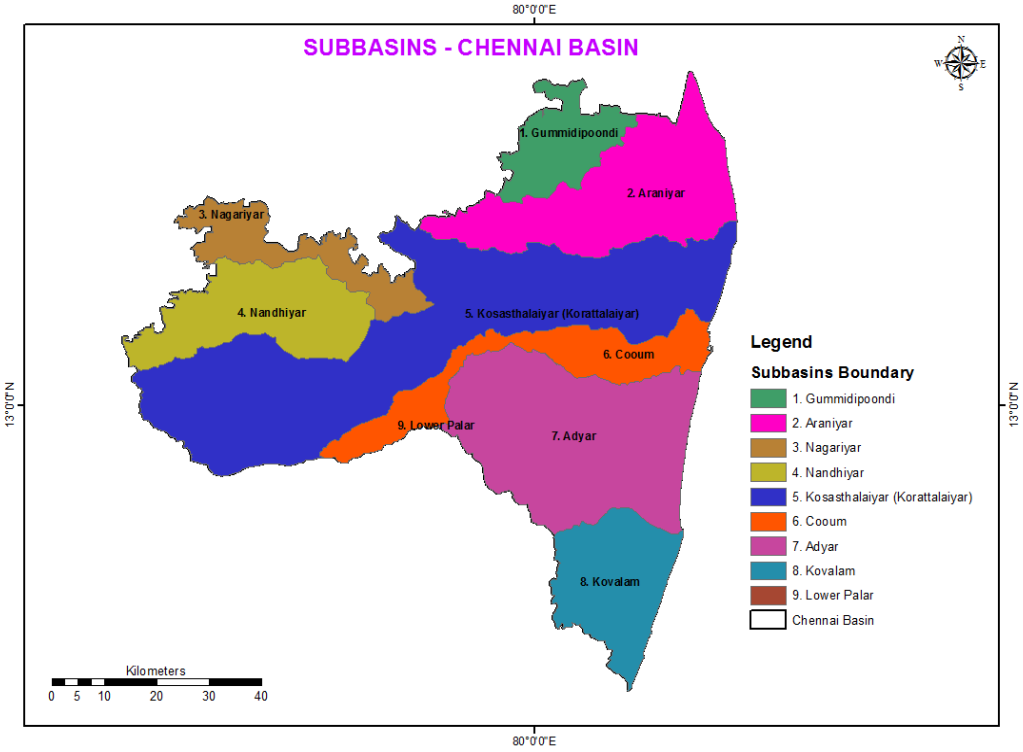
Approved by:

Executive Engineer (AE)AED

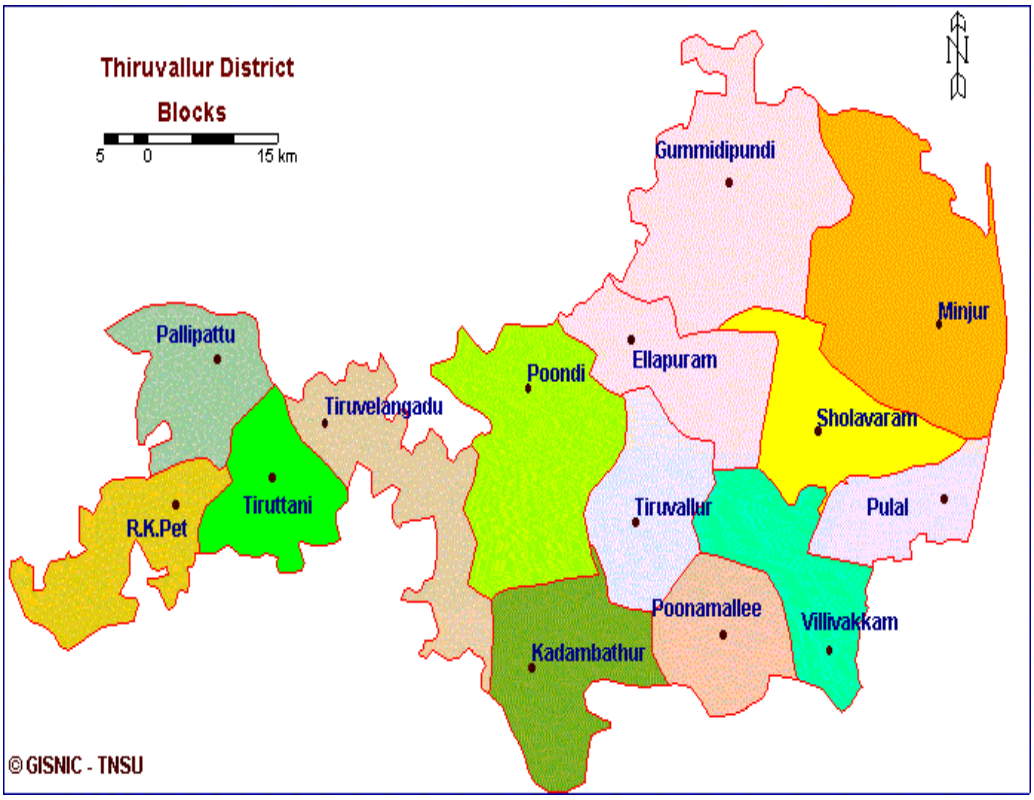
Reviewed by:

Chief Engineer (RVP) AED

7.1.Chennai Basin Map



7.2.Tiruvallur District Map- Blockwise



7.3.SUBBASIN MAP - GUMMIDIPOONDI

