

GOVERNMENT OF TAMILNADU

PUBLIC WORKS DEPARTMENT

WATER RESOURCES DEPARTMENT

TAMILNADU IRRIGATED AGRICULTURE MODERNIZATION PROJECT (TNIAMP)

PHASE– III

GUMMIDIPOONDI SUB BASIN

DETAILED PROJECT REPORT

ESTIMATE AMOUNT Rs.754.00 LAKHS.
AYACUT 1672.03 Ha.

CHENNAI REGION, CHENNAI,

PALAR BASIN CIRCLE, CHENNAI,

ARANIYAR BASIN DIVISION, CHEPAUK,CHENNAI-5.

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CHAPTER 1
INTRODUCTION

1.1 General :

Agriculture continues to be the most predominant sector of the State economy, as 70 percent of the population is engaged in Agriculture and allied activities for their livelihood. The State has as an area of 1.32 Lakh sq.km with a gross cropped area of around 63 Lakh hectares. Tamil Nadu depends largely on the surface water irrigation as well as ground water irrigation. The state has used the surface and ground water potential to the maximum limit and hence the future development and expansion depends mainly on the efficient and economical use of water potential and resources.

To achieve higher water use efficiency, it is necessary to improve and upgrade the existing conveyance system and also to introduce modern irrigation methods. With the above objective, a comprehensive programme has been proposed with a Multi Disciplinary Approach.

The Government of Tamil Nadu have 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 TNIAM 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 the Chennai Basin

The Chennai basin group rivers are situated between latitudes 12°30'00" to 13°35'00" N and longitudes 79°15'00" to 80°22'30"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 eight sub basins. They are Gummidipoondi, Nagariyar, Nandhiyar, Kovalam, Adyar, Araniar, Korattalaiyar or Kosasthalaiyar and Cooum. 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. It covers in Chennai, Kancheepuram, Vellore and Thiruvallur Districts.

1.3 Description of the Gummidipoondi Sub-Basin

The Gummidipoondi Sub Basin is one of the Sub Basin in Chennai Basin, which is located in the western part of Chennai Basin. The sub-basin covers an area of 331.11 km^2. The "Gummidipoondi Sub-Basin" covered in Thiruvallur District of Tamil Nadu at $13^{o}35'00''$Latitude and $80^{o}22'30''$ longitude. The Sub Basin Covers in Gummidipoondi Taluk.

This Sub Basin consists of Numerous small streams originate from Sathiavedu hills in Andhra Pradesh 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. The Gummidipoondi Sub Basin covers 40 Non system Tanks and Four Anicuts. The total Registered Ayacut of this sub basin is 3353.74 Ha.

Tanks in Gummidipoondi Sub Basin

a) Non System Tanks

In Gummidipoondi Sub Basin, 40 non system tanks lies in which 18 tanks already executed under IAMWARM, TNIAMP RAF, Kudimaramathu Scheme 2016-17 & 2017-18, Restoration of Traditional Water bodies Scheme and remaining 22 Tanks to be taken up for Rehabilitations and Modernizations under TNIAMP Phase –III.

b) Anicut / Kondams

The Four Anicuts in Gummidipoondi Sub basin to be executed under this scheme are as follows

1. Panchalai Anicut
2. Sethilpakkam Anicut
3. Sanaputhur Anicut
4. Rala Kalvai Anicut

C) Supply Channel in Gummidipoondi Sub Basin

In Gummidipoondi Sub Basin, there are 22 non system tank with supply channels 27 km to be executed. In Gummidipoondi Sub Basin, Existing tank supply channels of length 53 km is available and now regarding the tank supply channels for the length of 27 km is proposed. In Gummidipoondi Sub Basin, Existing Anicuts supply channels of length 18 km is available and for a length of 14 km is proposed in this project.

1.4 List of Blocks, Taluks and Districts covered in Gummidipoondi Sub Basin:

District	Taluk	Block
Thiruvallur	Gummidipoondi	Gummidipoondi

1.4.1 a) List of Districts, Blocks and Taluks and Ayacut details of the Tanks proposed in this project:

Sl. No.	District	Block	Taluk	No.of Tanks	Ayacut in Ha
1	Thiruvallur	Gummidipoondi	Gummidipoondi	22	1379.01
		Total		22	1379.01

1.4.1 b) List of Districts, Blocks, Taluks and Ayacut details of the Anicut proposed in this project:

Sl. No.	District	Block	Taluk	Anicuts	Ayacut in Ha
1	Thiruvallur	Gummidipoondi	Gummidipoondi	4	293.02
		Total		4	293.02

Command area

In Gummidipoondi sub basin there are 40 Non system Tanks with 53 km length of supply channel and 4 Anicuts with 18 km legth of supply channel are in existence.

The Total Ayacut of 40 Tanks = 3060.72 Ha

The Total Ayacut of Anicut = 293.02 Ha

Grand Total **3353.74 Ha**

Out of which 18 Tanks with supply channel length of 26 km were executed in Various Schemes. Now it is proposed to execute 22 tanks with supply channel length of 27 km and 4 Anicuts with supply channel length of 14 km ..

Tanks 22 Nos = 1379.01 Ha

Anicut 4 Nos = 293.02 Ha

Total **1672.03 Ha**

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1.5 Population Details

1.5.1 Population Size: Urban and Rural

Sl. No.	Sub Basin	Urban Population	Rural Population	Total Population
1	Gummidipoondi Sub basin	159349	31192	190541

As per census India 2011.com
Downloaded from Thiruvallur District Web site

1.5.2 Population Density

Sl No	Sub Basin	Area Sq.km	Total Population	Density Person / Sq.km
1	Gummidipoondi Sub basin	425.47	190541	448

- Downloaded from Tiruvallur District Web site

1.5.3 Population Sex

Sl. No	Name of the Sub Basin	Population			Male %	Female %	Sex Ratio
		Male	Female	Total			
1	Gummidipoondi Sub basin Complete area	94742	95799	190541	49.62%	50.37%	989 females per 1000 males

As per 2011 data

Downloaded from Thiruvallur District website

1.5.4 Literacy Level

Sl. No.	Name of the Sub Basin	Literacy Population in Million			Total Population in Million			% Literacy of Population		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
1	Gummidipoondi Sub Basin Complete Area	0.078	0.063	0.141	0.095	0.096	0.191	82.45%	66.09%	73.82%

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1.6 Convergent Table

1.6.1 Cluster Classification for Multi department convergence

Two Cluster villages are Identified and Listed Below

Sl. No.	No. of Cluster	Name of Cluster	Block	Taluk	District
1	CLUSTER I	Edur	Gummidipoondi	Gummidipoondi	Thiruvallur
2	CLUSTER II	Elavur	Gummidipoondi	Gummidipoondi	Thiruvallur

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1.6.2 Cluster Wise / Infrastructure Wise / Village Wise- WRD Table

Sl. No	Name of the cluster/ Infrastructure/ Village	Total Ayacut (Ha)			Total Area (Ha)			WRD Activities
		FI	PI	Gap	Wop	WP	Gap	
1	2	3	4	5	6	7	8	9
	CLUSTER I							
1	Aramani Tank Parikkeri	26.18	6.56	7.92	32.74	40.66	-	Strengthening of tank bund, Repairs to Weir, Reconstruction of Sluice, Improvements to Supply Channel, & Fixing of tank Boundary stones and Repairs to Anicuts.
2	Amarambedu	43.89	12.84	10.85	56.73	67.58	-	
3	Amirhamangalam Tank	29.52	7.38	9.24	36.90	46.14	-	
4	Aramani Tank	31.05	7.76	9.41	38.81	48.22	-	
5	Budhur Anicut Thangal	48.90	13.10	13.27	62.00	75.27	-	
6	Chinna Bommanjikulam Tank	29.73	7.45	9.17	37.18	46.35	-	
7	Kanalur Pudu Eri	38.59	9.64	12.07	48.23	60.30	-	
8	PeriyaBommanjikulam Tank	40.07	10.02	12.14	50.09	62.23	-	
9	Pondavakkam Pudu Tank	32.58	9.14	8.87	41.72	50.59	-	
10	Sedilpakkam Tank	28.91	7.22	8.77	36.13	44.90	-	
11	Edur Tank	32.20	8.05	9.75	40.25	50.00	-	

Sl. No	Name of the cluster/ Infrastructure/ Village	Total Ayacut (Ha)			Total Area (Ha)			WRD Activities
		FI	PI	Gap	Wop	WP	Gap	
1	2	3	4	5	6	7	8	9
12	Thervoy kandigai Chitheri	29.23	7.30	9.15	36.53	45.68	-	Strengthening of tank bund, Repairs to Weir, Reconstruction of Sluice, Improvements to Supply Channel, & Fixing of tank Boundary stones and Repairs to Anicuts.
13	Panchalai Maduvu Anicut	65.170	16.280	19.72	81.45	101.17		
14	Sedhipackam Anicut	38.940	9.730	12.03	48.67	60.70		
15	Ralla Kalvoy Anicut	32.650	8.170	9.88	40.82	50.70		
16	Sanaputhur Anicut	51.800	14.970	13.68	66.77	80.45		
	Sub Total	599.41	155.61	175.92	755.02	930.94	-	
	CLUSTER II							
1	Vanamallee Tank	40.47	10.08	12.30	50.55	62.85	-	
2	Elavur Hissa Kattuthangal	51.52	13.88	14.60	65.40	80.00	-	
3	Elavur Katteri Tank	47.68	11.92	14.45	59.60	74.05	-	
4	Elavur Large Tank	92.84	29.22	22.11	122.06	144.17	-	
5	Equarpalayam Odaperi	64.41	18.12	17.50	82.53	100.03	-	
6	Narasingapuram Tank	25.24	6.12	7.84	31.36	39.20	-	

Sl. No	Name of the cluster/ Infrastructure/ Village	Total Ayacut (Ha)			Total Area (Ha)			WRD Activities
		FI	PI	Gap	Wop	WP	Gap	
1	2	3	4	5	6	7	8	9
7	Periyanatham Thattankunnu Tank	44.43	13.12	11.45	57.55	69.00	-	
8	Melapakkam Pettai seruvu	27.37	7.85	7.28	35.22	42.50	-	
9	Poovalai Large Tank	51.77	14.94	13.68	66.71	80.39	-	
10	Tervali Thamarai Tank	31.48	8.87	8.55	40.35	48.90	-	
	Sub Total	477.21	134.12	129.76	611.33	741.09	-	
	Grand Total	**1076.62**	**289.73**	**305.68**	**1366.35**	**1672.03**		

Note: For other line department activities separate DPR prepared by concerned Department.

14/9/20

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1.6.3 CONVERGENT TABLE – ABSTRACT (FOR EACH CLUSTER)

Sl. No	Name of the cluster/ Infrastructure/ Village	Total Ayacut (Ha)			Total Area (Ha)			WRD Activities
		FI	PI	Gap	Wop	WP	Gap	
1	2	3	4	5	6	7	8	9
1	Cluster I	599.41	155.61	175.92	755.02	930.94	-	Strengthening of tank bund, Repairs to Weir, Reconstruction of Sluice, Improvements to Supply Channel, & Fixing of tank Boundary stones and Repairs to Anicuts.
2	Cluster II	477.21	134.12	129.76	611.33	741.09	-	
	Total	**1076.62**	**289.73**	**305.68**	**1366.35**	**1672.03**	-	

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1.6.4 Details of WRD Infrastructure with unicode Nos

Sl No	Name of Tank	Unicode	Village	Block	Taluk	District	Ayacut in Ha.			
							FI	PI	Gap	Total
	Cluster I									
1	Amarambedu Parikkeri	TNCH-01-T0070	Amarambedu	Gummidipoondi	Gummidipoondi	Thiruvallur	26.18	6.560	7.920	40.660
2	Amarambedu Tank	TNCH-01-T0078	Amarambedu	Gummidipoondi	Gummidipoondi	Thiruvallur	43.89	12.840	10.850	67.580
3	Amirthamangalam tank	TNCH-01-T0068	Amirthamangalam	Gummidipoondi	Gummidipoondi	Thiruvallur	29.52	7.380	9.240	46.140
4	Aramani Tank	TNCH-01-T0115	Aramani	Gummidipoondi	Gummidipoondi	Thiruvallur	31.05	7.760	9.410	48.220
5	Budur Anicut Thangal	TNCH-01-T0061	Budur	Gummidipoondi	Gummidipoondi	Thiruvallur	48.9	13.100	13.270	75.270

Sl No	Name of Tank	Unicode	Village	Block	Taluk	District	Ayacut in Ha.			
							FI	PI	Gap	Total
6	Chinna Bommanjikulam Tank	TNCH-01-T0052	Bommanjikulam	Gummidipoondi	Gummidipoondi	Thiruvallur	29.73	7.450	9.170	46.350
7	Kanalur Pedu Eri	TNCH-01-T0104	Kanalur	Gummidipoondi	Gummidipoondi	Thiruvallur	38.59	9.640	12.070	60.300
8	Periya Bommanjikulam Tank	TNCH-01-T0050	Periya Bommanjikulam	Gummidipoondi	Gummidipoondi	Thiruvallur	40.07	10.020	12.140	62.230
9	Pondavakkam PuduTank	TNCH-01-T0012	Pondavakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	32.58	9.140	8.870	50.590
10	Sedilpakkam Tank	TNCH-01-T0029	Sedilpakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	28.91	7.220	8.770	44.900
11	Edur Tank	TNCH-01-T0007	Edur	Gummidipoondi	Gummidipoondi	Thiruvallur	32.2	8.050	9.750	50.000

Sl No	Name of Tank	Unicode	Village	Block	Taluk	District	Ayacut in Ha.			
							FI	PI	Gap	Total
12	Thervoy Kandigai Chitteri	TNCH-01-T0103	Thervoy Kandigai	Gummidipoondi	Gummidipoondi	Thiruvallur	29.23	7.300	9.150	45.680
13	Panchalai Anicut		Poovalambedu	Gummidipoondi	Gummidipoondi	Thiruvallur	65.170	16.280	19.72	101.170
14	Sedhilpackam Anicut		Sedhilpackam	Gummidipoondi	Gummidipoondi	Thiruvallur	38.940	9.730	12.03	60.700
15	Ralla Kalvoy Anicut		Pondavakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	32.650	8.170	9.88	50.700
16	Sanaputhur Anicut		Sanputhur	Gummidipoondi	Gummidipoondi	Thiruvallur	51.800	14.970	13.68	80.450
	Cluster II									
17	Vanamalli Tank	TNCH-01-T0060	Vanamalli	Gummidipoondi	Gummidipoondi	Thiruvallur	40.47	10.080	12.300	62.850
18	Elavoor Hissa Kattu Thangal	TNCH-01-T0004	Elavoor	Gummidipoondi	Gummidipoondi	Thiruvallur	51.52	13.880	14.600	80.000
19	Elavoor Katteri Tank	TNCH-01-T0005	Elavoor	Gummidipoondi	Gummidipoondi	Thiruvallur	47.68	11.920	14.450	74.050

Sl No	Name of Tank	Unicode	Village	Block	Taluk	District	Ayacut in Ha.			
							FI	PI	Gap	Total
20	Elavur Large Tank	TNCH-01-T0009	Elavur	Gummidipoondi	Gummidipoondi	Thiruvallur	92.84	29.220	22.110	144.170
21	Eguvarpalayam Odaperi	TNCH-01-T0053	Eguvarpalayam	Gummidipoondi	Gummidipoondi	Thiruvallur	64.41	18.120	17.500	100.030
22	Narasingapuram Tank	TNCH-01-T0026	Narasingapuram	Gummidipoondi	Gummidipoondi	Thiruvallur	25.24	6.120	7.840	39.200
23	Peria Natham Thattan Tank	TNCH-01-T0025	Peria Natham	Gummidipoondi	Gummidipoondi	Thiruvallur	44.43	13.120	11.450	69.000
24	Melapakkam Pettai Cheruvu	TNCH-01-T0028	Melapakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	27.37	7.850	7.280	42.500
25	Poovalai Large Tank	TNCH-01-T0003	Poovalai	Gummidipoondi	Gummidipoondi	Thiruvallur	51.77	14.940	13.680	80.390

Sl No	Name of Tank	Unicode	Village	Block	Taluk	District	Ayacut in Ha.			
							FI	PI	Gap	Total
26	Thervali Thamarai Tank	TNCH-01-T0044	Thervali	Gummidipoondi	Gummidipoondi	Thiruvallur	31.48	8.870	8.550	48.900
	Total Ayacut area of Tank						888.06	240.58	250.37	1379.01
	Total Ayacut area of Anicut						**188.56**	**49.15**	**55.31**	**293.02**
	Total Ayacut area						**1076..62**	**289.73**	**305.67**	**1672.03**

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1.7. Conclusion

In Gummidipoondi sub basin there are 40 Non system Tanks with an ayacut of 3060.72 Ha in which 18 tanks has been already executed under Kudimaramathu and RAFworks and remaining 22 tanks to be taken up for Rehabilitation and Modernisation under TNIAMP Phase III. In gummidipoondi sub basin there are 4 Anicuts with an ayacut of 293.02 Ha to be taken up for Rehabilitation and Modernisation under TNIAMP Phase III. In Gummidipoondi sub basin there are 40 tanks with supply channel length of 53 km out of which sectioning is required for a Length about 27 Km is now proposed. In Gummudipoondi sub basin Four Anicuts with supply channel length of 18km out of which sectioning is required for a length of 14 km. .

Based on the Norms and Guidelines as specified by Mr. R.K. Malhotra, World Bank Consultant , the Detailed Project Report has been Prepared including Provision for WRD Cost Provision for GST 12% , On form Development works , Labour Welfare Fund @ 1% , Lump Sum Provision at 2.5% (For Petty supervision Charges, Charges for Contingencies and Un foreseen Items , advertisement Charges , Photographic Charges and Documentation Charges) , Environmental Component. The Detailed Project Report prepared Based on the Current Schedule of Rate for the Year 2020-21 Pertaining to the Tiruvallur District for an Amount of Rs 754.00 Lakh.

The Proposed Rehabilitation of 22 tanks and Four Anicuts in TNIAMP –Phase III, will surely help to bridge the Gap between the future Projected water demand of irrigation and the water Potential available in the Sub Basin. The Rehabilitation of Irrigation Infra structure will certainly increase the Agriculture Productivity and also more ayacut areas will be stabilised and irrigated by conjunctive use of both Surface and Ground Water

The Expenditure of the above work will be Charged to the Head of Account "4701-Major Works - PHASE III - TNIAMP Project."

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CHAPTER 2

HYDROLOGY OF THE SUB BASIN

Chapter 2

Hydrology of Sub Basin

2.1 Location

The Gummidipoondi Subbasin is one of the Sub Basins in Chennai Basin which is located in theNoth- west part of Chennai Basin. The sub-basin located between the latitudes 13°35'N to 13°54'N and longitudes 79°94"E to 80'14"E covering an area of 331.11Sq km .The Gummidipoondi sub-basin covered in Thiruvallur District of Tamilnadu. The basin completely lies in Gummidipoondi Taluk only. The sub-basin has hot and dry summer during the months of March to August and very cold and misty winter from September to February. The temperature varies from 18.5° C to 37.9°C. The tube/bore wells, wells and the tanks are the important irrigation sources in the area. The depth of bore wells restricted from 150-200 feet in the sub- basin.

2.2 Geomorphology

The Gummidipoondi sub basin area is 425.47Sq.km which is 23.25 % of total basin area.

2.3 Demography

Sl No	Sub Basin	Area Sq.km	Total Population	Density Person / Sq.km
1	Gummudipoondi	425.47	190541	448

- Downloaded from Trivallore web site

2.4 Geology

Rock type	Geological formation
Sediment Rock 80% Hard rock 20%	Charnockite, Gneiss,Conglomerate.Sand stone shale ,Laterite Alluvium and Marine deposits

- *Downloaded from Trivallore web site*

2.5 Land use Classification:

In Gummidipoondi sub basin, mostly, the land area is used for agricultural purposes. Crops grown in this Sub Basin area are coconut, sugar cane, Banana, Mango as annual crops, besides paddy area grown during first season and vegetables, pulses etc, as second season crops. Some of the area is urbanized and they are for residential buildings.

- *Downloaded from Trivallore web site*

2.6 Ground water potential;

The ground water potential for Gummidipoondi sub basin is safe. The Ground water potential for Gummidipoondi Sub basin is 81.99 **M.cu.m** as per Baseline information on water resources in Chennai region published by IWS.

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2.7 Gauging stations in CWC & PWD

There is no CWC & PWD gauging station in Gummidipoondi sub basin.

2.8 Surface water potential

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

South west Monsoon potential	24.43 Mcum
North East Monsoon potential	34.53 Mcum
Non – Monsoon potential	1.34 Mcum
Total	60.30 Mcum

Surface water potential for Gummidipoondi subbasin is 60.30 M.cu.m.

2.9 Level of ground water analysis through observation wells

In view of the comparatively high level of ground water development in the major part of the District and quality problems due to geo genic and anthropogenic factors , it is necessary to exercise caution while planning futhur development available ground water resource in the district . The yield of Dug wells in Crystalline and gondwana formations are improved at favourable locations by construction of extension bores varies from 20 to 40m . In recent years a large number of bore wells have also been drilled by farmers of irrigation purpose

Sl. No.	Block	District	Categorisation of Block (2009)	Categorisation of Block as per G.O (M.s) No.161, P.W (R2) Dept, dt 23.10.2019
1	Gummidipoondi	Thiruvallur	Safe	Safe

Data from Ground waer division , PWD , Thiruvallur.

2.10 Industrial water demand (past and future) of Gummidipoondi sub basin

The Department of industries and commerce has classified the industries as large, medium and Small scale industries . The following type of industries available in Gummidipoondi sub basin as textile, wood products, paper products, metal, machinery, sugar, Automobiles, Machine tools and food products.

Year	Annual water demand in Mcum
2014	1.707
2020	2.055
2023	2.227
2030	2.661
2040	3.500

2.11.Domestic water demand (Past & future) details;

The Ground Water Demand for Domestic Purpose during planning, periods for sub basin is given below

Gummidipoondi sub basin	2011	2020	2030	2040	2050
Population in million	0.792	0.901	1.039	1.201	1.388
Total water demand in mcum	13.22	15.13	17.59	20.47	23.85

Data from Chennai Basin micro level study book

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2.12 Live stock population and annual water demand

Live stock Name	Nos.	Annual water demand Mcum
Cattle male	14523	0.10
Cattle female	39555	0.415
Buffaloes	30614	0.0072
Sheep	38017	0.0145
Goat	23872	0.01210
Horses & Ponies	32	0.0000160
Mule & Donkeys	152	0.0001020
Pigs	17420	0.00269
Dogs	48152	0.130
Rabbits	785	0.000155
Fowls	135805	0.00013
Ducks	5135	0.05
Others	4587	0.00115
Total	**236424**	**0.733043**

Data from Animal Husbandary, Gummidipoondi

2.13. Rainfall & Rain gauge stations in the sub basin:-`

Name of Rain Gauge Station	Taluk	District	Latitude	Longitude	RG station area sq.km	Sub basin area sq.km	Annual average rainfall in mm	Annual average weighted rain fall for the sub basin in mm	NE Mon soon	SW mon soon	Winter	Summer	Annual
Gummidi poondi	Gummidipoondi	Tiruvallur	$13^{o}35'00''$	$80^{o}22'30''$	45.76	425.47	980	1049	250	799	760	259	1049

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2.14 SOIL CLASSIFICATION

In this subbasin ,the north and north west part consist of Forest and having laterite and Gravel soil. The middle of the part consist of Block cotton soil and north east part consists of alluvium , silica sand.

Data from Ground Water Division , Thuruvallur.

2.15 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	3108	64.24%
Small	1.00 – 2.00 Ha	967	19.98%
Medium	2.00 – 5.00 Ha	612	12.64%
Big	5.0 ha & above	152	3.14%
Total		**4839**	

Above table revealed that the marginal farmers alone accounted for 64.24 percent in the sub basin followed by small farmers. Developmental initiatives will need to take the fact into account.

- Data as per the Revenue Record

2.16 CROPPING PATTERN

Cropping pattern

Name of the sub Basin : Gummidi poondi
Nodal District : Tiruvallur
Registered Ayacut Area : 1672.03 ha
No. of WUAs :26

Fully Irrigated : 1076.62 Ha
Partially Irrigate : 289.73 Ha
Gap : 305.68Ha
Total Ayacut Area :1672.03 Ha

S.No.	Crop	Without Project(Ha)				With Project(Ha)				Increase
		FI	PI	RF/G	TOTAL	FI	PI	RF/G	TOTAL	
I	**Perennial crop**									
1	Coconut	0	0	0	0	0	0	0	0	0
2	Mango	40	0	0	40	48	0	0	48	8
	Total	**40**	**0**	**0**	**40**	**48**	**0**	**0**	**48**	**8**
II	**Annual Crop**									
1	Sugarcane	25	0	0	25	0	0	0	0	-25
2	Banana	0	0	0	0	0	0	0	0	0
3	Fodder Agathi	0	0	0	0	0	0	0	0	0
	Total	**25**	**0**	**0**	**25**	**0**	**0**	**0**	**0**	**-25**
III	**1st crop**									
1. a	Paddy	622.56	199.7	0	822.29	90	0	0	90	-732.29
b	Paddy SRI	10	0	0	10	805	0	0	805	795
2	Ragi	0	0	0	0	0	0	0	0	0
3	Cumbu	0	0	0	0	0	0	0	0	0
4	Red Gram	0	0	0	0	0	0	0	0	0
5	Green Gram	10	0	0	10	20	0	0	20	10
6	Groundnut	255.06	90	0	345.06	453.03	0	0	453.03	107.97
7	Gingelly	0	0	0	0	0	0	0	0	0
8	Brinjal	22	0	0	22	52	0	0	52	30
9	Bhendi	28	0	0	28	40	0	0	40	12
10	Chillies	13	0	0	13	30	0	0	30	17
11	Tapioca	8	0	0	8	18	0	0	18	10
12	Bittergourds	0	0	0	0	15	0	0	15	15
13	Sanke gourds	0	0	0	0	12	0	0	12	12
14	Moringa	2	0	0	2	40	0	0	40	38
16	Banana sucker	1	0	0	1	6	0	0	6	5
17	Colocassia Esculanta	0	0	0	0	0	0	0	0	0
18	Greens	15	0	0	15	15	0	0	15	0
19	Flowers	25	0	0	25	25	0	0	25	0
20	Non Agri. Purposes	0	0	0	0	0	0	0	0	0
21	Fallow	0	0	305.7	305.68	0	0	0	0	-305.68
22	Fodder Sorghum	0	0	0	0	1.5	0	0	1.5	1.5
23	Fodder Cowpea	0	0	0	0	1.5	0	0	1.5	1.5
	Total	**1011.62**	**289.73**	**305.7**	**1607.03**	**1624.03**	**0**	**0**	**1624.03**	**17**
	G. Total (I+II+III)	**1076.62**	**289.7**	**305.7**	**1672.03**	**1672.03**	**0**	**0**	**1672.03**	**0**
IV	**2nd crop**									
1. a	Paddy	210	70.58	0	280.58	90	0	0	90	-190.58
b	Paddy SRI	15	10	0	25	450	0	0	450	425
2	Black Gram	0	0	0	0	0	0	0	0	0
3	Green Gram	0	0	0	0	0	0	0	0	0
4	Groundnut	0	0	0	0	0	0	0	0	0
5	Brinjal	10	0	0	10	15	0	0	15	5
6	Bhendi	12	0	0	12	15	0	0	15	3
7	Chillies	5	0	0	5	7	0	0	7	2
8	Fodder Cholam	0	0	0	0	0	0	0	0	0
9	Fodder Cowpea	0	0	0	0	0	0	0	0	0
	Total	**252**	**80.58**	**0**	**332.58**	**577**	**0**	**0**	**577**	**244.42**
V	**3rd crop**									
1. a	Paddy	0	0	0	0	0	0	0	0	0
b	Paddy SRI	0	0	0	0	0	0	0	0	0
2	Black Gram	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0
	Grand Total	**1328.62**	**370.31**	**305.68**	**2004.61**	**2249.03**	**0.00**	**0.00**	**2249.03**	**244.42**
	Cropping Intensity				**119.89%**				**134.50%**	

11.9.2020

Asst/ supt/ AOSS / DDSS

Joint Director of Agriculture, Tiruvallur

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GUMMIDIPOONDI SUB BASIN

2.17.1 Crop water requirement without Project

S.No.	Crop Name	Crop Area (Ha.)	Crop Water Requirement in mm	Crop Water Requirement in MCM	Irrigation water Requirement at source Eff =43%	Total Irrigation requirement in MCM
Perennial Crop						
1	Coconut	-	-	-	-	-
2	Mango	40	1300	0.52	1.21	1.21
3	Flowers					
	Total (i)	40		**0.52**	**1.21**	
Annual Crop						
1	Sugarcane	25	2200	0.55	1.28	1.28
2	Banana					
	Total (ii)	25		0.55	**1.28**	
1st crop						
1	Paddy	822.29	1250	10.278	23.90	23.90
2	SRI Paddy	10.00	1250	0.125	0.291	0.291
3	Green Gram	10 .00	310	0.031	0.072	0.072
4	Banansuker	1.00	300	0 .003	0.007	0.007
5	Moringa	2.00	300	0.006	0.014	0.014
6	Tapioca	8.00	310	0.025	0.058	0.058
7	Chilli	13.00	300	0.039	0.091	0.091
8	Groundnut	345.06	510	1.75	4.09	4.09
9	Brinjal	22.00	310	0.068	0.159	0.159
10	Bhendi	28.00	300	0.084	0.195	0.195
11	Fallow	305.7	300	0.917	2.13	2.13
12	Flower	25.00	300	0.075	0.174	0.174
13	Greens	15.00	300	0.045	0.105	0.105
	Total (iii)	1607.03		**13.446**	31.286	31.286
	Total (i)+(ii)+(iii)	**1672.03**		**14.516**	**33.776**	**33.776**
2nd Crop						

1	Paddy	280.58	1250	3.51	8.16	8.16
2	SRI Paddy	25.00	1250	0.312	0.726	0.726
3	Brinjal	10.00	310.0	0.031	0.072	0.072
4	Bhendi	12.00	300.0	0.036	0.084	0.084
5	Chillis	5.00	300.0	0.015	0.035	0.035
	Sub total	**332.58**		**3.904**	**9.077**	**9.077**
3 rd crop						
1.a	Paddy	0	0	0	0	0
b	Paddy SRI	0	0	0	0	0
2	BlackGram	0	0	0	0	0
	SubTotal	0	0	0	0	0
	Grand Tota	**2004.61**		**18.464**	**42.853**	**42.853**

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2.17.2. Crop water requirement with Project

Sl.No.	Crop Name	Crop Area (Ha.)	Crop Water Requirement in mm	Crop Water Requirement in MCM	Irrigation water requirement at source Eff = 58%	Total Irrigation requirement in MCM
Perennial Crop						
1	Mango	48.00	1300	0.624	1.075	1.075
	Total(i)	**48.00**	**13.00**	**0.624**	**1.075**	**1.075**
Annual Crop						
Nill						
	Total (1)+(ii)	**48.00**		**0.624**	**1.075**	**1.075**
1st crop						
1	Paddy	90.00	1250	1.125	1.940	1.94
2	SRI Paddy	805	1250	10.06	17.34	17.34
3	Green Gram	20	310	0.062	0.11	0.11
4	Ground Nut	453.03	510	2.31	3.98	3.98
5	Brinjal	52.00	310	0.161	0.277	0.277
6	Bhendi	40.00	300	0.120	0.21	0.21
7	Chilli	30.00	310	0.093	0.16	0.16
8	Tapioca	18.00	310	0.06	0.103	0.103
9	Bitter ground	15.00	310	0.465	0.81	0.81
10	Sanke gound	12.00	310	0.037	0.068	0.068
11	Moringa	40.00	310	0.124	0.214	0.214

12	Banansuker	6.00	300	0.018	0.03	0.03
13	Green	15.00	300	0.045	0.078	0.078
14	Flower	25.00	300.0	0.075	0.129	0.129
15	Fodder Sorghum	1.50	310	0.005	0.009	0.009
16	Fodder Cowpea	1.50	310	0.005	0.009	0.009
	Total (iii)	1624.03			25.467	25.467
	Total (i)+(ii)+(iii)	1672.03		**15.389**	**26.542**	**26.542**
2nd Crop						
1	Paddy	90	1250	1.125	1.94	1.94
2	SRI Paddy	450	1250	5.625	9.69	9.69
3	Brinjal	15.00	500	0.075	0.129	0.129
4	Bhendi	15.00	500	0.075	0.129	0.129
5	Chilli	7.00	510	0.036	0.062	0.062
	Sub total	577.0				
3rd crop				6.936	**11.95**	**11.95**
1	Paddy	--	--	--	--	--
2	SRI Paddy	--	--	--	--	--
	Subtotal	--	--	--	--	--
	Grand Total	2249.03		22.325	38.492	38.492

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2.18 WATER BALANCE STATEMENT

Details	Without Project in (Mcum)	With Project in (Mcum)
Water Potential		
Surface Water Potential	60.30	60.30
Ground Water Potential	81.99	81.99
Total	**142.29**	**142.29**
Water Demand		
1. Domestic	17.59	17.59
2. Live stock	0.73	0.73
3. Industrial	2.661	2.661
4. Irrigation : WRO	42.853	38.492
Total water Demand	**63.834**	**59.473**
Water Balance	**78.456**	**82.817**

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CHAPTER 3

HYDRAULIC PARTICULARS OF THE COMPONENTS

3.1 HYDRAULIC PARTICULARS OF TANKS (System & Non System) INCLUDING SUPPLY CHANNELS

GUMMIDIPOONDI SUB BASIN – Annexure A

Sl.No.	District	Taluk	Block	Name of Tank	System Tank / Non System Tank	Tank Unicode	Ayacut (ha)	Capacity (Mcum)	Number of Fillings	Free Catchment (sqkm)	Combined Catchment (sqkm)	Water Spread Area (sqkm)	No. of Sluices	Deepest Sill Level of Sluice (m)	FTL (m)	MWL (m)	TBL (m)	Storage Depth (m)	Free Board (m)	Nos and Length of Weir		Discharge (Cusecs)	Length of Bund (m)	Height of Bund (m)	Length of Supply Channel (m)	Bed Width (m)	Upper Tank	Lower Tank	Remarks
																				Nos	Length (m)								
1	2	3	4	5	6	6A	7	8	9	10	11	12	13	13A	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	Thiruvallur	Gummidipoondi	Gummidipoondi	Amarambedu Parikkeri	Non System	TNCH-01-T0070	40.660	0.03	2	0.36	0.18	0.07	3	29.10	30.250	30.55	31.47	1.45	0.92	1	14.00	102	755	2.37	500	5.0			--
2		Gummidipoondi	Gummidipoondi	Amarambedu Tank	Non System	TNCH-01-T0078	67.580	0.03	2	0.18	0.36	0.16	3	28.100	30.25	30.55	31.48	2.45	0.93	1	14.50	180	1061	3.38	500	5.00	Amarambedu parikkeri	Nandhi River	
3		Gummidipoondi	Gummidipoondi	Amirthamangalam tank	Non System	TNCH-01-T0068	46.140	0.11	2	1.10	2.09	0.18	1	28.730	30.48	30.78	31.700	2.05	0.92	1	21.00	658	1930	2.97	1500	5.00	Periyapuliyur periya tank	Thalaiyar Thangal	
4		Gummidipoondi	Gummidipoondi	Aramani Tank	Non System	TNCH-01-T0115	48.220	0.22	2	1.52	2.32	0.16	2	27.550	30.00	30.58	31.54	2.94	0.96	1	32.60	430	540	3.99	---	-	Kollaur tank	Egnapuram Tank	
5		Gummidipoondi	Gummidipoondi	Budur Anicut Thangal	Non System	TNCH-01-T0061	75.270	0.25	2	1.55	1.55	0.19	1	33.30	35.10	35.40	36.90	1.25	1.50	1	14.00	625	950	3.60	500	4.0 7.0	maderpakkam	Vilakanambudi	
6		Gummidipoondi	Gummidipoondi	Chinna Bommanjikulam Tank	Non System	TNCH-01-T0052	46.350	0.05	2	2.51	4.41	0.09	2	33.45	35.05	36.60	37.58	1.62	0.98	1	14.50	633	690	4.13	2000	5.00		Viellathur Tank	
7		Gummidipoondi	Gummidipoondi	Kanalur Pedu Eri	Non System	TNCH-01-T0104	60.300	0.19	2	1.04	3.30	0.32	2	23.990	25.70	26.16	27.02	1.72	0.860	1	20.43	287	1402	3.03	1500	4.00	A.N.Kuppam	Ayyaneri Tank	
8		Gummidipoondi	Gummidipoondi	Periya Bommanjikulam Tank	Non System	TNCH-01-T0050	62.230	0.06	2	1.11	73.46	0.08	2	28.11	31.200	31.65	32.55	1.45	0.90	1	13.60	685	450	4.44	2300	3.00	Chinna Bommanjikulam	Ayyaneri Tank	
9		Gummidipoondi	Gummidipoondi	Pondavakkam PuduTank	Non System	TNCH-01-T0012	50.590	0.23	2	1.14	1.67	0.15	2	27.30	28.80	29.27	30.18	1.87	0.91	1	22.80	342	720	2.88	1000	4.0, 5.0	Pondavakkam Large Tank	Ayyaneri Tank	
10		Gummidipoondi	Gummidipoondi	Sedilpakkam Tank	Non System	TNCH-01-T0029	44.900	0.32	2	0.88	0.72	0.88	1	26.22	27.29	27.74	28.66	1.07	0.92	2	**26.80, 15.25**	730	725	2.44	1800	3.00	Madarpakkam	Sholingur Tank	
11		Gummidipoondi	Gummidipoondi	Edur Tank	Non System	TNCH-01-T0007	50.000	0.32	2	1.14	6.88	0.42	2	2.93	4.64	4.83	5.14	1.90	0.31	1	14.00	1055	1250	2.21	2800	3.00	Goddu Thangal	Veerangalam Tank	

Sl.No.	District	Taluk	Block	Name of Tank	System Tank / Non System Tank	Tank Unicode	Ayacut (ha)	Capacity (Mcft)	Number of Fillings	Free Catchment (sqkm)	Combined Catchment (sqkm)	Water Spread Area (sqkm)	No. of Sluices	Deepest Sill Level of Sluice (m)	FTL (m)	MWL (m)	TBL (m)	Storage Depth (m)	Free Board (m)	Nos and Length of Weir		Discharge (Cusecs)	Length of Bund (m)	Height of Bund (m)	Length of Supply Channel (m)	Bed Width (m)	Upper Tank	Lower Tank	Remarks
																				No	Length (m)								
1	2	3	4	5	6	6A	7	8	9	10	11	12	13	13A	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
12	T R	Gummidipoondi	Gummidipoondi	Thervoy Kandigai Chitteri	Non System	TNCH- 04-T0536	45,68	0.86	2	4.16	1.04	0.57	2	28.59	31.51	31.98	32.97	2.80	1.01	1	22.50	287	1402	4.38	1500	5.00	-	-	Rain fed tanks
13		Gummidipoondi	Gummidipoondi	Vanamalli Tank	Non System	TNCH- 04-T0546	62.85	0.27	2	2.09	0.93	0.21	2	10.68	12.2	12.80	13.70	1.52	0.90	1	18.00	528	1200	3.02	500	4.0	Poovalam bedu-	-	Rain fed tanks
14		Gummidipoondi	Gummidipoondi	Elavoor Hissa Kattu Thangal	Non System	TNCH- 04-T0546	80.00	0.17	2	1.17	3.24	0.31	1	1.150	2.66	3.150	4.07	1.52	0.92	1	22.90	302	1382	2.92	2000	4.0			
15		Gummidipoondi	Gummidipoondi	Elavoor Katteri Tank	Non System	TNCH- 04-T0508	74.05	0.15	2	1.09	5.51	0.09	1	8.55	10.83	10.98	12.05	2.29	1.07	2	30.5 12.20	280	630	3.50	-				Rain fed Tank
16		Gummidipoondi	Gummidipoondi	Elavur Large Tank	Non System	TNCH-01-T 0009	144.17	0.36	2	11.13	1.29	0.44	3	3.49	5.86	6.24	7.16	2.37	0.92	1	28.95	1688	1204	3.67	1000	5.0			
17		Gummidipoondi	Gummidipoondi	Eguvarpalayam Odaperi	Non System	TNCH-01-T0053	100.030	0.40	2	8.54	1.30	0.24	1	13.35	15.29	16.15	17.07	1.94	0.92	1	83.80	3708	685	3.72	3000	5.0			
18		Gummidipoondi	Gummidipoondi	Narasingapuram Tank	Non System	TNCH-01-T0026	39.200	0.25	2	5.26	18.28	0.29	2	7.38	9.84	10.37	11.29	2.45	0.92	1	29.60	748	640	3.91	1000	5.0	Melakalani Hissa Large tank		
19		Gummidipoondi	Gummidipoondi	Peria Natham Thattan Tank	Non System	TNCH-01-0025	69.000	0.15	2	2.10	3.66	0.26	3	7.69	9.38	9.68	10.75	1.69	1.07	1	6.10	489	381	3.06	1000	5.0	Nar		

Sl.No.	District	Taluk	Block	Name of Tank	System Tank / Non System Tank	Tank Unicode	Ayacut (ha)	Capacity (Mcft)	Number of Fillings	Free Catchment (sqkm)	Combined Catchment (sqkm)	Water Spread Area (sqkm)	No. of Sluices	Deepest Sill Level of Sluice (m)	FTL (m)	MWL (m)	TBL (m)	Storage Depth (m)	Free Board (m)	Nos and Length of Weir		Discharge (Cusecs)	Length of Bund (m)	Height of Bund (m)	Length of Supply Channel (m)	Bed Width (m)	Upper Tank	Lower Tank	Remarks
																				No	Length (m)								
1	2	3	4	5	6	6A	7	8	9	10	11	12	13	13A	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
20		Gummidipoondi	Gummidipoondi	Melapakkam Pettai Cheruvu	Non System	TNCH-01-0028	42.500	0.13	2	0.93	2.64	0.17	3	7.69	9.38	9.68	10.75	1.69	1.07	1	16	328	795	3.06	400	5.0	Nar		
21		Gummidipoondi	Gummidipoondi	Poovalai Large Tank	Non System	TNCH-01-0003	80.390	0.33	2	5.62	6.54	0.33	2	12.100	15.2	16.80	17.07	3.10	1.00	2	22.0, 14.0	1743	1005	4.70	1700	5.0			
22		Gummidipoondi	Gummidipoondi	Thervali Thamarai Tank	Non System	TNCH-01-0044	48.90	0.02	2	1.22	2.09	0.04	2	12.10	15.2	15.80	16.80	3.10	1.00	2	13.4	249	457	4.70	500	4.0	Periyagummidipoondi Thamarai Eri		
Total Ayacut							1379.01ha																		27000 m				

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Chief Engineer, PWD/WRD.,
Chennai Region,
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17.9.20.

3.2 HYDRAULIC PARTICULARS OF ANICUTS/ KONDAMS

Sl.No.	Name of Kondam	Village	Taluk	District	Ayacut (ha)	Length of Kondam (m)	Crest Level of Anicut (m)	Free Catchment (sqkm)	Combined Catchment (sqkm)	Maximum Flood Discharge (cusec)	Latitude	Longitude	Head Sluice Location			Supply Channel					Remarks
													Total No. of Vents	Sill Level of Sluice (m)	Disharge (Cumecs)	Length of Supply Channel (m)	Bed Width (m)	FSD (m)	Bed Slope	No. of Sluice	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Panjalai Maduvu	Sedilpakkam	Gummidipoondi	Thiruvallur	101.70	17.5	31.51	4.16 --	--	716	13.37	79.95			716	4500	20	0.90	1in 500		-
2	RallaKal vai Madu	Pondavakkam	Gummidipoondi		50.17	31.20	28.80	22.0	--	2706	13.46	79.98			2706	3500	20	0.90	1 in 500		
3	Sethilpakkam	Poovalambedu	Gummidipoondi		60.70	31.20	27.29	0.88	--	730	13.44	79.97			730	2500	20	0.90	1 in 500		
4	Sanaputhur Maduvu Anicut	Sanaputhur	Gummidipoondi		80.45	27.80	9.78	4.41	--	449	13.37	80.00			449	3500	3.0 0	0.90	1 in 500		
			TOTAL		293.02											14000					

14/9/20

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Chepauk ,Chennai - 5

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Chief Engineer, PWD/WRD.,
Chennai Region,
Chepauk, Chennai - 5

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CHAPTER 4

PARTICIPATORY IRRIGATION MANAGEMENT

4.1 SALIENT FEATURES OF IMPLEMENTATION OF PARTICIPATORY IRRIGATION MANAGEMENT IN GUMMIDIPOONDI SUB BASIN

In Gummidipoondi Sub Basin, there are 40 non system tanks lies in which 18 Non system Tanks were already executed under TNIAMP RAF, Kudimaramathu Scheme 2016-17 & 2017-18 and remaining 22 Non system tanks and 4 Anicuts are to be taken up for Rehabiltation and Modernisation under TNIAMP Phase –III.

In Gummdipoondi Subbasin, there are 40 Non system Tank Supply Channels are available, which has total length of 53 km. Out of total length, sectioning is required for the length of 27.00 km is now proposed. In Gummidipoondi Sub Basin, Existing Anicut supply channels of length 18 km is available and sectioning the Anicut supply channels for the length of 14 km are proposed under **TNIAMP PHASE III** with an ayacut of **1672.03Hectares(Annexure1).**

4.2 COMMAND AREA (Tanks & Kondams)

Under Non system Tanks	: 1379.01 Ha
Kondams	: 293.02 Ha
Total	**: 1672.03Ha**

4.3 ASSESSMENT OF NUMBER OF WUAS IN GUMMIDIPOONDI SUBBASIN

i)	WUA's are formed already in WRCP & IAMWARM I	NIL
ii)	The Total command area covered by the Above WUAs	NIL

4.4 ASSESSMENT OF AWARENESS CREATION AMONG THE FARMING COMMUNITY

i) There are 40 Tanks and 4 Anicuts proposed in theSub-Basin spread over 40 villages as detailed out in Annexure – 01. All these Villages were visited by the WRDofficials and awareness about various activities, contemplated under TNIAMP Phase – III has been created.

ii) Details of villages covered, walkthrough surveys conducted, farmers attended, listof works suggested by the farmers, list of works analyzed and finalized by WRDofficials, are all furnished in the Annexure -02 and Annexure -03.

4.5 APPOINTMENT AND THE ROLE OF COMPETENT AUTHORITIES

iii) Section 26 of the Tamil Nadu Farmer's Management of Irrigation Systems (TNFMIS) Act provides for the appointment of "Competent Authorities" to assist the respective Organiztion (WUA, Distributory Committee and Project Committee), in the Implementation and execution of all decisions taken by such farmers organization. Similarly, every farmer's organization shall extend such co-operation or assistance, as may be required by the competent Authority, for carrying out all the tasks related to implementation of TNFMIS Act.

iv) Appointment of Competent Authorities for the WUAs proposed to be formed under TNIAMP Phase – III is based on the "WRD section Officerwise" distribution as indicated below.

Name of the WRD Sub Divisional Officers working in the GUMMIDIPOONDI Sub-Basin

1.	Assistant Executive EngineerPWD,WRD Araniyar Sub basin Ponneri	GPD Cluster 1 & 2
2.	Assistant Engineer, WRD, Irrigation Section, Kavarapettai	GPD Cluster 1 & 2

4.6 INVOLVEMENT OF FARMERS IN THE PREPARATION OF SCHEME MODERNIZATION PLANS

4.6.1 Based on the outcome of the "Awareness Creation Programme" and walkthrough survey carried out with the involvement of farmers, a list of tasks proposed to be taken up for "Modernization" under TNIAMP – Phase – III was discussed with No.301 of farmers from 22 Villages.

4.6.2 The cost, period of contract and Name of the contractor will all be fixed at the site of work, as well as the Executive Engineer of WRD, who has been designated as the Nodal Officer for the Sub-Basin concerned.

4.6.3 The field Officers of WRD are all aware of the problems in handing over the operation and maintenance responsibilities to the farmers concerned, if thetasks as desired by the farmers in the command area are not included inmodernization of the system and also in case, some of the tasks already included and planned are not implemented due to some reasons or other.

4.6.4 The WRDofficers were also informed that they are personally responsible for handing over the irrigation systems, under TNIAM Project.

4.7 "CAPACITY BUILDING" OF THE WUA FARMERS

i) Training Modules required will be prepared for building the capacity of the WUA farmers, based on a "Training Needs" Analysis. They will also organize various "CapacityBuilding" programs at suitable locations within the Sub-Basin command area, to benefit the farmers of the WUAs in the Sub-Basin.

ii) Organization the study tours will also be arranged both within and outside the State to enhance their knowledge and experiences which will help them to improve the crop productivity and there by the farmer's income.

iii) Necessary Awareness programme and impart training will also be conducted to educate the farmers of the WUAs in all aspects of the TNFMIS Act, TNFMS Rules and Election procedures for constituting the "Managing Committee" of the WUAs.

The "Competent Authorities" appointed for the Sub-Basin will also be trained to effectively to interact with WUA farmers and maintain good rapport and relationship with the farming community in the Sub-Basin.

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ASSISTANT ENGINEER,PWD, WRD,

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ARANIYAR BASIN DIVISION,

CHEPAUK

4.8 Annexure 1 :

AN ASSESSMENT OF COMMAND AREA AND WUAs UNDER THE CONTROL OF WRD - PWD IN GUMMIDIPOONDI SUB BASIN

WUA No	Name of Irrigation Systems and Tanks	Command Area in (Ha)	Location of the Command Area			Coverage of Command area under different projects (Ha)		Status of formation ofWUAs in the Sub-Basin	
			Villages	Taluk	District	WRCP and Others	TNIAMP	Formed under WRCP	To be formed under TNIAMP PHASE-II
1	2	3	4	5	6	7	8	9	10
CLUSTER I									
1	Aramani Tank Parikkeri	40.66	Aramani	Gummidipoondi	Thiruvallur	-	32.68	-	---
2	Amarambedu	67.58	Amarambedu	Gummidipoondi	Thiruvallur	-	56.73	-	---

3	Amirhamangalam Tank	46.14	Amirhamangalam	Gummidipoondi	Thiruvallur	-	36.90	-	---
4	Aramani Tank	48.22	Aramani	Gummidipoondi	Thiruvallur	-	38.81	-	---
5	Budhur Anicut Thangal	75.27	Budhur	Gummidipoondi	Thiruvallur	-	62.00	-	
6	Chinna Bommanjikulam Tank	46.35	Chinna Bommanjikulam	Gummidipoondi	Thiruvallur	-	37.18	-	---
7	Kanalur Pudu Eri	60.30	Kanalur	Gummidipoondi	Thiruvallur	-	48.23	-	
8	PeriyaBommanjikulam Tank	62.23	PeriyaBommanjikulam	Gummidipoondi	Thiruvallur	-	50.09	-	---
9	Pondavakkam Pudu Tank	50.59	Pondavakkam	Gummidipoondi	Thiruvallur	-	41.72	-	
10	Sedilpakkam Tank	44.90	Sedilpakkam	Gummidipoondi	Thiruvallur		36.13		---
11	Edur Tank	50.00	Edur	Gummidipoondi	Thiruvallur		40.25		---
12	Thervoy kandigai Chitheri	45.68	Thervoy kandigai	Gummidipoondi	Thiruvallur		36.53		---

CLUSTER II									
1	Vanamallee Tank	62.85	Vanamallee	Gummidipoondi	Thiruvallur	-	62.85	-	---
2	Elavur Hissa Kattuthangal	80.00	Elavur	Gummidipoondi	Thiruvallur	-	80.00	-	---
3	Elavur Katteri Tank	74.05	Elavur	Gummidipoondi	Thiruvallur	-	74.05	-	---
4	Elavur Large Tank	144.17	Elavur	Gummidipoondi	Thiruvallur	-	144.17	-	---
5	Equarpalayam Odaperi	100.03	Equarpalayam	Gummidipoondi	Thiruvallur	-	100.03	-	---
6	Narasingapuram Tank	39.20	Narasingapuram	Gummidipoondi	Thiruvallur	-	39.20	-	---
7	Periyanatham Thattankunnu Tank	69.00	Periyanatham Thattankunnu	Gummidipoondi	Thiruvallur	-	69.00	-	---
8	Melapakkam Pettai seruvu	42.50	Melapakkam Pettai seruvu	Gummidipoondi	Thiruvallur	-	42.50	-	---
9	Poovalai Large Tank	80.39	Poovalai	Gummidipoondi	Thiruvallur		80.39		---
10	Tervali Thamarai Tank	48.90	Tervali	Gummidipoondi	Thiruvallur		48.90		---

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ABSTRACT

1.	Command Area already covered under WRCP and other Project / Schemes	: NIL
2.	Command Area proposed to be covered under TNIAMP Phase-III Project	: 1672.03 Hectares
3.	Total command area controlled by WRD of PWD in the Sub Basin	: 3060.72 Hectares
4.	Total No. ofWUAs already formed under WRCP & IAMWARM-I	: Nil
5.	Total No. ofWUAs proposed to be formed under TNIAMP – Phase – III	: - 22
6.	Total No. of WUAs that will cover entire subbasin	: 40

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4.9 ANNEXURE-2

Details of "Awareness Creation Activities and Joint Walk- through surveys"

Sl.No	Date of Visit	Nameof the Village visited	Awareness programme(No.of farmers attended) (preparethelistoffarmers with acknowledgement separately and attach)	Walk-Through Survey(No.of farmers participated) (prepare the list of farmerswith acknowledgement	WUA to be Formed / Formed
CLUSTER I					
1	08.06.2020	Amarambedu Parikkeri	7	7	WUA to be Formed
2	08.06.2020	Amarambedu	6	8	WUA to be Formed
3	08.06.2020	Amirhamangalam Tank	7	6	WUA to be Formed
4	08.06.2020	Aramani Tank	5	7	WUA to be Formed
5	08.06.2020	Budhur Anicut Thangal	9	5	WUA to be Formed
6	08.06.2020	Chinna Bommanjikulam Tank	5	5	WUA to be Formed
7	08.06.2020	Kanalur Pudu Eri	7	8	WUA to be Formed
8	08.06.2020	PeriyaBommanjikulam Tank	8	9	WUA to be Formed
9	08.06.2020	Pondavakkam Pudu Tank	7	8	WUA to be Formed
10	08.06.2020	Sedilpakkam Tank	6	5	WUA to be Formed
11	08.06.2020	Edur Tank	7	8	WUA to be Formed
12	08.06.2020	Thervoy kandigai Chitheri	8	9	WUA to be Formed
CLUSTER II					
1	09.06.2020	Vanamallee Tank	9	6	WUA to be Formed
2	09.06.2020	Elavur Hissa Kattuthangal	6	5	WUA to be Formed
3	09.06.2020	Elavur Katteri Tank	5	4	WUA to be Formed
4	09.06.2020	Elavur Large Tank	7	7	WUA to be Formed
5	09.06.2020	Equarpalayam Odaperi	7	9	WUA to be Formed

6	09.06.2020	Narasingapuram Tank	6	8	WUA to be Formed
7	09.06.2020	Periyanatham Thattankunnu Tank	8	4	WUA to be Formed
8	09.06.2020	Melapakkam Pettai seruvu	7	6	WUA to be Formed
9	09.06.2020	Poovalai Large Tank	6	9	WUA to be Formed
10	09.06.2020	Tervali Thamarai Tank	7	8	WUA to be Formed

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4.10 ANNEXURE-3
DETAILS OF MODERNISATION WORKS AS SUGGESTED BY THE FARMERS AND AS FINALISED BY THE OFFICIALS OF WRD

Sl. No	Date of Visit	Name of the Villages Visited	Out come ofwalkthough surveyand discussions with farmers	
			Works suggested by farmers	Works finalized by WRD officials
		CLUSTER-I		
1	08.06.2020	Amarambeduank Parikkeri	Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.
2	08.06.2020	Amarambedu	Strengthening ofBund, , Desilting Supply Channel.	Strengthening ofBund, , Desilting Supply Channel.
3	08.06.2020	Amirhamangalam Tank	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.
4	08.06.2020	Aramani Tank	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir
5	08.06.2020	Budhur Anicut Thangal	Strengthening ofBund, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, Repairs to Weir, Desilting Supply Channel.
6	08.06.2020	Chinna Bommanjikulam Tank	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir Desilting Supply Channel.
7	08.06.2020	Kanalur Pudu Eri	Strengthening ofBund, Desilting Supply Channel.	Strengthening ofBund, Desilting Supply Channel.
8	08.06.2020	PeriyaBommanjikulam Tank	Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.
9	08.06.2020	Pondavakkam Pudu Tank	Strengthening ofBund, Repairs to Sluice &Weir, Desilting Supply Channel.	Strengthening ofBund, Repairs to Sluice &Weir, Desilting Supply Channel.

Sl. No	Date of Visit	Name of the Villages Visited	Out come of walkthough surveyand discussions with farmers	
			Works suggested by farmers	Works finalized by WRD officials
10	08.06.2020	Sedilpakkam Tank	Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.
11	08.06.2020	Edur Tank	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.
12	08.06.2020	Thervoy kandigai Chitheri	Strengthening ofBund, , , Desilting Supply Channel.	Strengthening ofBund, , , Desilting Supply Channel.
CLUSTER-II				
1	09.06.2020	Vanamallee Tank	Reconstruction ofsluices, , Strengthening ofBund, Desilting Supply Channel	Reconstruction ofsluices, , Strengthening ofBund, Desilting Supply Channel
2	09.06.2020	Elavur Hissa Kattuthangal	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.
3	09.06.2020	Elavur Katteri Tank	Reconstruction ofsluices Strengthening ofBund,	Reconstruction ofsluices Strengthening ofBund,
4	09.06.2020	Elavur Large Tank	Strengthening ofBund, Desilting Supply Channel	Strengthening ofBund, Desilting Supply Channel

Sl. No	09.06.2020	Name of the Villages Visited	Out come of walkthough surveyand discussions with farmers	
			Works suggested by farmers	Works finalized by WRD officials
5	09.06.2020	Equarpalayam Odaperi	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.
6	09.06.2020	Narasingapuram Tank	Strengthening ofBund, , Reconstruction ofsluices,Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices,Desilting Supply Channel.
7	09.06.2020	Periyanatham Thattankunnu Tank	Strengthening ofBund, , Reconstruction ofsluices,Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices,Desilting Supply Channel.
8	09.06.2020	Melapakkam Pettai seruvu	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir..	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir..
9	09.06.2020	Poovalai Large Tank	Strengthening ofBund, , ,Desilting Supply Channel.	Strengthening ofBund, , ,Desilting Supply Channel.
10	09.06.2020	Thervali Thamarai Tank	Strengthening ofBund, , Repairs to Weir,Desilting Supply Channel.	Strengthening ofBund, , Repairs to Weir,Desilting Supply Channel.

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4.11 DETAILS OFWUAs PROPOSED IN GUMMIDIPOONDI SUB BASIN

WUA No	Tank and Villages it covers		Name ofWUA	Ayacut in Ha
	Tanks/kondams	Villages		
		Cluster –I		
	Amarambedu Parikkeri	Amarambedu Parikkeri	Amarambedu Parikkeri Water users association	40.66
	Amarambedu	Amarambedu	Amarambedu Water users association	67.58
	Amirhamangalam Tank	Amirhamangalam Tank	Amirhamangalam Tank Water users association	46.14
	Aramani Tank	Aramani Tank	Aramani Tank Water users association	48.22
	Budhur Anicut Thangal	Budhur Anicut Thangal	Budhur Anicut Thangal Water users association	75.27
	Chinna Bommanjikulam Tank	Chinna Bommanjikulam Tank	Chinna Bommanjikulam Tank Water users association	46.35
	Kanalur Pudu Eri	Kanalur Pudu Eri	Kanalur Pudu Eri Water users association	60.30
	PeriyaBommanjikulam Tank	PeriyaBommanjikulam Tank	Periya BommanjikulamTank Water users association	62.23
	Pondavakkam Pudu Tank	Pondavakkam Pudu Tank	Pondavakkam Pudu Tank Water users association	50.59
	Sedilpakkam Tank	Sedilpakkam Tank	Sedilpakkam Tank Water users association	44.90
	Edur Tank	Edur Tank	Edur Tank Water users association	50.00
	Thervoy kandigai Chitheri	Thervoy kandigai Chitheri	Thervoy kandigai Chitheri Water users association	45.68

	Cluster-II			
	Vanamallee Tank	Vanamallee Tank	Vanamallee Tank Water users association	62.85
	Elavur Hissa Kattuthangal	Elavur Hissa Kattuthangal	Elavur Hissa Kattuthangal Water users association	80.00
	Elavur Katteri Tank	Elavur Katteri Tank	Elavur Katteri Tank Water users association	74.05
	Elavur Large Tank	Elavur Large Tank	Elavur Large Tank Water users association	144.17
	Equarpalayam Odaperi	Equarpalayam Odaperi	Equarpalayam Odaperi Water users association	100.03
	Narasingapuram Tank	Narasingapuram Tank	Narasingapuram Tank Water users association	39.20
	Periyanatham Thattankunnu Tank	Periyanatham Thattankunnu Tank	Periyanatham Thattankunnu Tank Water users association	69.00
	Melapakkam Pettai seruvu	Melapakkam Pettai seruvu	Melapakkam Pettai seruvu Water users association	42.50
	Poovalai Large Tank	Poovalai Large Tank	Poovalai Large Tank Water users association	80.39
	Tervali Thamarai Tank	Tervali Thamarai Tank	Tervali Thamarai Tank Water users association	48.90

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4.12 WALK THROUGH SURVEY

cluster I

Sl. No	Walk Through Survey		Farmers request	Technical Solution								Proposals in Plan								Re ma
	Date	Location		WRD	Agri	Horti	AED	TNAU	AGMT	AHD	Fisheries	WRD	Agri	Horti	AED	TNAU	AGMT	AHD	Fisheries	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	08.06.2020	Amarambedu Parikkeri	Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.								Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.								
2	08.06.2020	Amarambedu	Strengthening ofBund, , Desilting Supply Channel.	Strengthening ofBund, , Desilting Supply Channel.								Strengthening ofBund, , Desilting Supply Channel.								
3	08.06.2020	Amirhamangalam Tank	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.								Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.								
4	08.06.2020	Aramani Tank	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir								Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir								
5	08.06.2020	Budhur Anicut Thangal	Strengthening ofBund, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, Repairs to Weir, Desilting Supply Channel.								Strengthening ofBund, Repairs to Weir, Desilting Supply Channel.								

Sl. No	Walk Through Survey		Farmers request	Technical Solution								Proposals in Plan								Rema
	Date	Location		WRD	Agri	Horti	AED	TNAU	AGMT	AHD	Fisheries	WRD	Agri	Horti	AED	TNAU	AGMT	AHD	Fisheries	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
6	08.06.2020	Chinna Bommanjikulam Tank	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.								Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.								
7	08.06.2020	Kanalur Pudu Eri	Strengthening ofBund, Desilting Supply Channel.	Strengthening ofBund, Desilting Supply Channel.								Strengthening ofBund, Desilting Supply Channel								
8	08.06.2020	PeriyaBommanjikulam Tank	Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.	Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.								Strengthening ofBund, Reconstruction ofsluices, Repairs to Weir, Desilting Supply Channel.								
9	08.06.2020	Pondavakkam Pudu Tank	Strengthening ofBund, Repairs to Sluice &Weir, Desilting Supply Channel.	Strengthening ofBund, Repairs to Sluice &Weir, Desilting Supply Channel.								Strengthening ofBund, Repairs to Sluice &Weir, Desilting Supply Channel.								
10	08.06.2020	Thervali Thamarai Tank	Strengthening ofBund, , Repairs to Weir,Desilting Supply Channel.	Strengthening ofBund, , Repairs to Weir,Desilting Supply Channel.								Strengthening ofBund, , Repairs to Weir,Desilting Supply Channel.								
11	08.06.2020	Edur Tank	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.								Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.								

12	08.06.2020	Thervoy kandigai Chitheri	Strengthening ofBund, , , Desilting Supply Channel.	Strengthening ofBund, , , Desilting Supply Channel.								Strengthening ofBund, , , Desilting Supply Channel.								
13	08.06.2020	Panchalai Maduvu Anicut	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall								Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall								
14	08.06.2020	Sedilpakkam anicut	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall								Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall								
15	08.06.2020	Ralla kalvoy Anicut	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall								Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall								
16	08.06.2020	Sanaputhur Aniuct	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall								Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall								

cluster II

Sl. No	Walk Through Survey		Farmers request	Technical Solution							Proposals in Plan								Remarks
	Date	Location		WRD	Agri	AED	TNAU	AGMT	AHD	Fisheries	WRD	Agri	Horti	AED	TNAU	AGMT	AHD	Fisheries	
1	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	09.06.2020	Vanamallee Tank	Reconstruction ofsluices, , Strengthening ofBund, Desilting Supply Channel	Reconstruction ofsluices, , Strengthening ofBund, Desilting Supply Channel							Reconstruction ofsluices, , Strengthening ofBund, Desilting Supply Channel								
2	09.06.2020	Elavur Hissa Kattuthangal	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.							Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.								
3	09.06.2020	Elavur Katteri Tank	Reconstruction ofsluices Strengthening ofBund,	Reconstruction ofsluices Strengthening ofBund,							Reconstruction ofsluices Strengthening ofBund,								
4	09.06.2020	Elavur Large Tank	Strengthening ofBund, Desilting Supply Channel	Strengthening ofBund, Desilting Supply Channel							Strengthening ofBund, Desilting Supply Channel								
5	09.06.2020	Equarpalayam Odaperi Narasingapuram Tank	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel. Strengthening ofBund, , Reconstruction ofsluices,Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel. Strengthening ofBund, , Reconstruction ofsluices,Desilting Supply Channel.							Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel. Strengthening ofBund,								

											, Reconstruction ofsluices,Desilting Supply Channel.								
6	09.06.2020	Periyanatham Thattankunnu Tank	Strengthening ofBund, , Reconstruction ofsluices,Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices,Desilting Supply Channel.							Strengthening ofBund, , Reconstruction ofsluices,Desilting Supply Channel.								
7	09.06.2020	Equarpalayam Odaperi	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.							Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir,Desilting Supply Channel.								
8	09.06.2020	Melapakkam Pettai seruvu	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir..	Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir..							Strengthening ofBund, , Reconstruction ofsluices, Repairs to Weir..								
9	09.06.2020	Poovalai Large Tank	Strengthening ofBund, , ,Desilting Supply Channel.	Strengthening ofBund, , ,Desilting Supply Channel.							Strengthening ofBund, , ,Desilting Supply Channel.								
10	09.06.2020	Thervali Thamarai Tank	Strengthening ofBund, , Repairs to Weir,Desilting Supply Channel.	Strengthening ofBund, , Repairs to Weir,Desilting Supply Channel.							Strengthening ofBund, , Repairs to Weir,Desilting Supply Channel.								

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CHAPTER 5

IRRIGATION INFRASTRUCTURE

5.1 LIST OF TANKS (System Tanks) - NIL

5.2 LIST OF TANKS (Non System Tanks) IN GUMMIDIPOONDI SUB BASIN

Sl. No	Tank Name	Village	Block	Taluk	District	Ayacut (hectare)	Capacity Mcum
1	3	4	5	6	7	8	9
1	Aramani Tank	Aramani	Gummidipoondi	Gummidipoondi	Thiruvallur	48.220	0.22
2	Karadiputhur Tank	Karadiputhur	Gummidipoondi	Gummidipoondi	Thiruvallur	92.680	0.19
3	Kollanur Tank	Kollanur	Gummidipoondi	Gummidipoondi	Thiruvallur	100.00	0.32
4	Kanalur Pudhu Eri	Kanalur	Gummidipoondi	Gummidipoondi	Thiruvallur	60.300	0.19
5	Thervoy Kandigai Chitheri	Thervoy Kandigai	Gummidipoondi	Gummidipoondi	Thiruvallur	45.680	0.86
6	Thervoy Big Tank	Thervoy	Gummidipoondi	Gummidipoondi	Thiruvallur	45.687	0.83
7	Peddamanjaneri Tank	Peddamanjeri	Gummidipoondi	Gummidipoondi	Thiruvallur	47.190	0.14
8	Priyapuliyur PeriaEri	Periyapuliyur	Gummidipoondi	Gummidipoondi	Thiruvallur	133.400	0.33

Sl. No	Tank Name	Village	Block	Taluk	District	Ayacut (hectare)	Capacity Mcum
9	Kannankottai Hissa Rajan Eri	Kannan Kottai	Gummidipoondi	Gummidipoondi	Thiruvallur	288.200	0.83
10	Amarambedu Tank	Amarambedu	Gummidipoondi	Gummidipoondi	Thiruvallur	67.580	0.03
11	Poovalambedu Tank	Poovalambedu	Gummidipoondi	Gummidipoondi	Thiruvallur	101.750	0.35
12	Amarambedu Parikkeri	Amarambedu	Gummidipoondi	Gummidipoondi	Thiruvallur	40.660	0.03
13	Amirthamangalam Tank	Tiruttani Big	Gummidipoondi	Gummidipoondi	Thiruvallur	46.140	0.11
14	Budur Anicut Thangal	Ayyaneri	Gummidipoondi	Gummidipoondi	Thiruvallur	75.270	0.25
15	Vanamalli Tank	Vanamalli	Gummidipoondi	Gummidipoondi	Thiruvallur	62.850	0.27
16	Eguvarpalayam Odaperi	Equvarpalayam	Gummidipoondi	Gummidipoondi	Thiruvallur	100.03	0.40
17	ChinnaBommanjikulam Tank	ChinnaBommanjikulam	Gummidipoondi	Gummidipoondi	Thiruvallur	46.350	0.05
18	Periya Bommanjikulam Tank	Periya Bommanjikulam	Gummidipoondi	Gummidipoondi	Thiruvallur	62.230	0.06
19	Thervali Thamarai Tank	Thervali	Gummidipoondi	Gummidipoondi	Thiruvallur	48.900	0.02
20	Parathambedu Tank	Parathambedu	Gummidipoondi	Gummidipoondi	Thiruvallur	40.000	0.20
21	Soorapoondi Tank	Soorapoondi	Gummidipoondi	Gummidipoondi	Thiruvallur	47.800	0.13

Sl. No	Tank Name	Village	Block	Taluk	District	Ayacut (hectare)	Capacity Mcum
22	Madarpakkam Tank	Madarpakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	80.00	0.38
23	Sedhipakkam Tank	Sethilpakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	44.900	0.32
24	Melapakkam Pettai Cheruvu Tank	Melapakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	42.500	0.13
25	Narasingapuram Tank	Narasingapuram	Gummidipoondi	Gummidipoondi	Thiruvallur	39.200	0.25
26	Periyanatham Thattan Tank	Periyanatham	Gummidipoondi	Gummidipoondi	Thiruvallur	69.000	0.15
27	Periya Obulapuram LargeTank	Periya obulapuram	Gummidipoondi	Gummidipoondi	Thiruvallur	61.000	0.09
28	Manallur Pudu Eri	Manallur	Gummidipoondi	Gummidipoondi	Thiruvallur	40.500	0.09
29	Sanaputhur Tank	Sanaputhur	Gummidipoondi	Gummidipoondi	Thiruvallur	40.500	0.19
30	Sennavaram Tank	Sennavaram	Gummidipoondi	Gummidipoondi	Thiruvallur	53.000	0.08
31	Manallur Large Tank	Manallur	Gummidipoondi	Gummidipoondi	Thiruvallur	200.34	1.40
32	Pondavakkam Pudu Tank	Pondavakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	50.590	0.23
33	PondavakkamLarge Tank	Pondavakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	96.000	0.29
34	Elavur Large Tank	Elavur	Gummidipoondi	Gummidipoondi	Thiruvallur	144.170	0.36
35	Edur Tank	Edur	Gummidipoondi	Gummidipoondi	Thiruvallur	50.000	0.32

Sl. No	Tank Name	Village	Block	Taluk	District	Ayacut (hectare)	Capacity Mcum
36	Elavur Katteri Tank	Elavur	Gummidipoondi	Gummidipoondi	Thiruvallur	74.050	0.15
37	Elavur Hissa Kattuthangal	Elavur	Gummidipoondi	Gummidipoondi	Thiruvallur	80.000	0.17
38	Poovalai Large Tank	Poovalai	Gummidipoondi	Gummidipoondi	Thiruvallur	80.390	0.33
39	Arur Kannambakkam Tank	Kannambakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	100.670	1.20
40	EgumaduraiTank	Egumadurai	Gummidipoondi	Gummidipoondi	Thiruvallur	113.000	0.54
					Grand Total	3060.72	

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5.3 List of Anicuts

Sl. No.	Anicut/Kondam Name	Villages	Blocks	Taluks	District	Registered Ayacut in Ha
1	Pan jalai Maduvu Kondam weir	Poovalambedu	Gummidipoondi	Gummidipoondi	Thiruvallur	101.17
2	Sethilpakkam Maduvu Weir	Sethilpakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	60.70
3	Ralakalvoy weir	Pondavakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	50.17
4	Sanaputhur Maduvu weir	Sanaputhur	Gummidipoondi	Gummidipoondi	Thiruvallur	80.45
				Grand Total		293.02

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5.4.a. System Tanks supply channel - NIL
5.4.b. Non System Tanks supply channel

Sl. No.	Name of Supply Channel	Length in metre	Village	Block	Taluk	District
1.	Amarambedu Parikkeri	1500	Amarambedu	Gummidipoondi	Gummidipoondi	Thiruvallur
2.	Amarambedu Tank	500	Amarambedu	Gummidipoondi	Gummidipoondi	Thiruvallur
3.	Amirthamangalam tank	1500	Amirthamangalam	Gummidipoondi	Gummidipoondi	Thiruvallur
4.	Aramani Tank	--	Aramani	Gummidipoondi	Gummidipoondi	Thiruvallur
5.	Budur Anicut Thangal	2500	Budur	Gummidipoondi	Gummidipoondi	Thiruvallur
6.	Chinna Bommanjikulam Tank	2000	Chinna Bommanjikulam	Gummidipoondi	Gummidipoondi	Thiruvallur
7.	Kanalur Pedu Eri	1500	Kanalur	Gummidipoondi	Gummidipoondi	Thiruvallur
8.	Periya Bommanjikulam Tank	1000	Periya Bommanjikulam	Gummidipoondi	Gummidipoondi	Thiruvallur
9.	Pondavakkam PuduTank	1200	Pondavakkam	Gummidipoondi	Gummidipoondi	Thiruvallur
10.	Sedilpakkam Tank	1300	Sedilpakkam	Gummidipoondi	Gummidipoondi	Thiruvallur
11.	Edur Tank	1500	Edur	Gummidipoondi	Gummidipoondi	Thiruvallur
12.	Thervoy Kandigai Chitteri	1000	Thervoy	Gummidipoondi	Gummidipoondi	Thiruvallur

Sl. No.	Name of Supply Channel	Length in metre	Village	Block	Taluk	District
13.	Vanamalli Tank	1500	Vanamallee	Gummidipoondi	Gummidipoondi	Thiruvallur
14.	Elavoor Hissa Kattu Thangal	2000	Elavoor Hissa Kattu Thangal	Gummidipoondi	Gummidipoondi	Thiruvallur
15.	Elavoor Katteri Tank	--	Elavoor Katteri Tank	Gummidipoondi	Gummidipoondi	Thiruvallur
16.	Elavur Large Tank	1500	Elavur Large Tank	Gummidipoondi	Gummidipoondi	Thiruvallur
17.	Eguvarpalayam Odaperi	2000	Eguvarpalayam Odaperi	Gummidipoondi	Gummidipoondi	Thiruvallur
18.	Narasingapuram Tank	1000	Narasingapuram Tank	Gummidipoondi	Gummidipoondi	Thiruvallur
19.	Peria Natham Thattan Tank	1000	Peria Natham Thattan Tank	Gummidipoondi	Gummidipoondi	Thiruvallur
20.	Melapakkam Pettai Cheruvu	--	Melapakkam Pettai Cheruvu	Gummidipoondi	Gummidipoondi	Thiruvallur
21.	Poovalai Large Tank	2000	Poovalai Large Tank	Gummidipoondi	Gummidipoondi	Thiruvallur
22.	Thervali Thamarai Tank	500	Thervali Thamarai Tank	Gummidipoondi	Gummidipoondi	Thiruvallur
23	Kollanur Tank	2000	Kollanur	Gummidipoondi	Gummidipoondi	Thiruvallur

Sl. No.	Name of Supply Channel	Length in metre	Village	Block	Taluk	District
24	Chinnamanjeri Tank		Chinnamanjeri	Gummidipoondi	Gummidipoondi	Thiruvallur
25	Periyapuliyur Periya Eri	3000	Periyapuliyur	Gummidipoondi	Gummidipoondi	Thiruvallur
26	Poovalambedu Tank	3500	Poovalambedu	Gummidipoondi	Gummidipoondi	Thiruvallur
27	Manellur large	2500	Manellur	Gummidipoondi	Gummidipoondi	Thiruvallur
28	Parathambedu Tank	2000	Parathambedu	Gummidipoondi	Gummidipoondi	Thiruvallur
29	Soorapoondi Tank	1000	Soorapoondi	Gummidipoondi	Gummidipoondi	Thiruvallur
30	Madarpakkam Tank	1000	Madarpakkam	Gummidipoondi	Gummidipoondi	Thiruvallur
31	Manallur Pudu Eri	2000	Manallur	Gummidipoondi	Gummidipoondi	Thiruvallur
32	Sennavaram Tank		Sennavaram	Gummidipoondi	Gummidipoondi	Thiruvallur
33	Arur Kannambakkam Tank	1000	Arur Kannambakkam	Gummidipoondi	Gummidipoondi	Thiruvallur
34	Egumadurai Tank	2000	Egumadurai	Gummidipoondi	Gummidipoondi	Thiruvallur

Sl. No.	Name of Supply Channel	Length in metre	Village	Block	Taluk	District
35	Pondavakkam Large Tank	3000	Pondavakkam	Gummidipoondi	Gummidipoondi	Thiruvallur
36	Peddamanjaneri	500	Peddamanjaneri	Gummidipoondi	Gummidipoondi	Thiruvallur
37	Thervai Big Tank	1000	Thervai	Gummidipoondi	Gummidipoondi	Thiruvallur
38	Sanaputhur tank	500	Sanaputhur	Gummidipoondi	Gummidipoondi	Thiruvallur
39	Karadiputhur tank	1000	Karadiputhur	Gummidipoondi	Gummidipoondi	Thiruvallur
40	Kannankottai Hissa Rajaeri	----	Kannankottai	Gummidipoondi	Gummidipoondi	Thiruvallur
	Total	53000				

5.4.c Anicuts Supply Channels

Sl. No.	Anicut/Kondam Name	Villages	Blocks	Taluks	District	Registered Ayacut in Ha	Length of supply channel in Metre
1	Panjalai Anicut	Poovalambedu	Gummidipoondi	Gummidipoondi	Thiruvallur	101.17	5000
2	Sethilpakkam Anicut	Sethilpakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	60.70	4500
3	Ralakalvoy Anicut	Pondavakkam	Gummidipoondi	Gummidipoondi	Thiruvallur	50.70	3500
4	Sanaputhur Anicut	Sanaputhur	Gummidipoondi	Gummidipoondi	Thiruvallur	80.45	5000
					Total	293.02	18000

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5.5 List of tanks/Anicuts executed under various schemes (Viz, Part II Scheme, NABARD, Kudimaramath and any other scheme) for the past Five years

Non System Tanks

Sl. No.	Name of Tank / Anicut	Ayacut (ha)	Scheme in which executed	Details of components executed	Remarks
1	Kollanur Tank	100.00	Kudimaramathu 2020-21	Strengthening of Tank Bund, Repairs to Sluice, Weir,	
2	Chinnamanjeri Tank	46.140	RAF	Strengthening of Tank Bund, Reconstruction of sluice Sluice, Reconstruction of Weir,	
3	Periyapuliyur Periya Eri	133.400	Kudimaramathu 2020-21	Strengthening of Tank Bund, Repairs to Sluice, Weir, Desilting Channel	
4	Poovalambedu Tank	101.750	Kudimaramathu 2020-21	Strengthening of Tank Bund, Repairs to Weir	
5	PalayaGummidipoondi Thamarai Eri	83.300	Kudimaramathu 2020-21	Strengthening of Tank Bund, Repairs to Weir	
6	Parathambedu Tank	40.000	Kudimaramathu 2019-20	Strengthening of Tank Bund, Repairs to Sluice, Weir, Desilting Channel	
7	Soorapoondi Tank	47.800	Kudimaramathu 2017-18	Strengthening of Tank Bund, Reconstruction of sluice Repairs to Weir,	
8	Madarpakkam Tank	80.000	Kudimaramathu 2020-21	Strengthening of Tank Bund, Repairs to Weir,	
9	Manallur Pudu Eri	40.500	Kudimaramathu 2019-20	Strengthening of Tank Bund, Reconstruction of Sluice& Weir,	
10	Sennavaram Tank	53.000	Kudimaramathu 2019-20	Strengthening of Tank Bund, Repairs to Weir	
11	Arur Kannambakkam Tank	100.67	Kudimaramathu 2019-20	Strengthening of Tank Bund, Repairs to Sluice, Weir,	

Sl. No.	Name of Tank / Anicut	Ayacut (ha)	Scheme in which executed	Details of components executed	Remarks
12	Egumadurai Tank	113.000	Kudimaramathu 2019-20	Strengthening of Tank Bund, Repairs to Weir	
13	Pondavakkam Large Tank	96.000	Kudimaramathu 2020-21	Strengthening of Tank Bund, Repairs to Weir	
	Total	1240.38			

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5.6 ABSTRACT ON THE DETAILS OF IRRIGATION INFRASTRUCTURE AVAILABLE AND WORKS TO BE TAKEN UP UNDER TNIAMP -PHASE – III

Sl. No	Details	Anicut / Kondam			System Tank			Non system Tank			Any other supply channel		Remarks
		Nos	supply channel in km	Direct Ayacut	Nos	supply channel in (Km)	Ayacut	Nos	supply channel in (Km)	Ayacut	Length	direct ayacut (Hec)	
1	Available Infrastructure in Sub Basin	4	18.00	293.02				40	53.00	3060.72	...	...	In respect of tanks, Supply channels are feeding directly to the Tanks.
2	Infrastructure excluded in TNIAM project since works carried out under various schemes last 5 Years	-	-	-	-	-	-	13	18	1240.38	....	.....	
3	Infrastructures that does not require any rehabilitation works	-	4	-	-	...	-	5	8	441.33	....	....	
4	Works takenup in TNIAMP Phase III	4	14	293.02	-	...	-	22	27	1379.01	....	....	

1. Certified that the Panchayat Union Tanks are not included in this project.
2. Certified that the following tanks does not require any Rehabiliatation.
   Peddamanjeri Tank, Gummidipoondi Perumanjeri Tank, Priya Obulapuram Large Tank, Sanaputhur Tank, Manallur Large Tank
3. Certified that the component of works in tanks executed under various schemes (Viz, NABARD, PART II schemes, Restoration of Traditional water bodies, RRR Scheme, Kudimarmathu Scheme and any other deposit Schemes) last 5 Years were not proposed in this project.

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CHAPTER 6

REHABILITATION OF

IRRIGATION INFRASTRUCTURES

Chapter 6

Rehabilitation of Irrigation Infrastructure

6.1 Structural Status & Deficiencies in the System

The following are the present structural conditions of Gummidipoondi sub basin.

1. This system is an old system, existing for more than 60 years as such requires rehabilitation.

2. The damaged or dilapidated existing sluices, weirs, entire Anicut/Kondam and supply channels causes to poor standard of conveyance system.

3. The existing tank bunds are in damaged condition and required to be standardised. The existing banks of the supply channels are in damaged condition at many places.

4. The non system tanks are to be rehabilitated.

6.2 Salient Features of Proposals:

In order to improve the conveyance and Operational Efficiency in Irrigation, it is now proposed to improve and modernize the Irrigation Infrastructures in Gummidipoondi sub-basin.

1. Repairs to the damaged Anicut
2. Trimming the supply channels by earthwork excavation and providing bed bars in it
3. Repairing, Restoring the traditional water bodies (i.e. tanks)

a. Restoring the capacity of the tanks and improvements to supply channels.

b. Strengthening the bunds of the tanks and channels wherever necessary for effectively storing the water and conveying it to the entire command area and also for conveying agriculture inputs to the field.

c. Repairs to the damaged weirs.

d. Reconstruction of Sluices.

e. Strengthening the bund to the standards with necessary free board recommended and rear slope protected by gravel filing and turfing.

f. Lining the field channels and fixing flow measuring devices for effective control and conveyance of water.

Expected Outcome

1. Increase in conveyance efficiency from 43% to 58%

2. The present Gap area of 305.68 Ha and partially irrigated area of 289.73 Ha Have been proposed to be converted as a fully irrigated area.

3. The following irrigation infrastructure development works are proposed in the Sub Basin.

4. Rehabilitation works for 22 Tanks

5. Standardisation of tank bund for 20101 m .

6. Reconstruction of tank sluices for 10 Nos

7. Repairs to Tank weir for 13 Nos.

8. Improvements to Tank supply channel for a length of 27.00 km.

9. Rehabilitation works for 4 Anicuts and its supply channel for a length of 14.00 km

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6.3 Soil Test Results - NIL

6.4 TANK DETAILS WITH FREE BOARD PROVIDED

Sl. No	Name of the Tank	Maximum Height of Bund in m	Free Board		Length of Bund in m	Remarks
			Provided previously in m	Proposed now in m		
1	Amarambedu Parikkeri	2.37	0.92	1.25	755	Since the available free board is inadequate as per standards, the existing free board is revised to 1.50 m by raising the tank bund
2	Amarambedu Tank	3.38	0.93	1.50	1060	
3	Amirthamangalam tank	2.97	0.92	1.25	1930	
4	Aramani Tank	3.99	0.96	1.50	540	
5	Budur Anicut Thangal	3.60	1.50	1.50	950	
6	Chinna Bommanjikulam Tank	4.13	0.98	1.50	690	
7	Kanalur Pedu Eri	3.03	0.860	1.50	1402	
8	Periya Bommanjikulam Tank	4.44	0.90	1.50	450	
9	Pondavakkam PuduTank	2.88	0.91	1.25	720	
10	Sedilpakkam Tank	2.44	0.92	1.25	725	
11	Edur Tank	2.21	0.31	1.25	1250	
12	Thervoy Kandigai Chitteri	4.38	0.99	1.50	1250	
13	Vanamalli Tank	3.02	0.90	1.50	1200	
14	Elavoor Hissa Kattu Thangal	2.92	0.92	1.25	1382	
15	Elavoor Katteri Tank	3.50	1.07	1.50	630	

16	Elavur Large Tank	3.67	0.92	1.50	1204
17	Eguvarpalayam Odaperi	3.72	0.92	1.50	685
18	Narasingapuram Tank	3.91	0.92	1.50	640
19	Peria Natham Thattan Tank	3.06	1.07	1.50	381
20	Melapakkam Pettai Cheruvu	3.06	0.92	1.50	795
21	Poovalai Large Tank	4.70	1.00	1.50	1005
22	Thervali Thamarai Tank	4.70	0.91	1.50	457

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CERTIFICATE FOR STANDARDISATION OF BUND

In Gummidipoondi sub basin, out of 22 Nos. of tanks proposed in TNIAMP Phase-III, **5** Nos. of tanks have height more than 4 m.

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6.5 DETAILS OF PROPOSAL IN EACH INFRASTRUCTURE OF SUB BASIN – TANKS AND ANICUT SUPPLY CHANNEL

A) TANKS/anicut

Sl No	Name of tank/ Anicut	Bund				Sluice					Weir						Rehabilitation to Supply channel		Rehabilitation to kondam / Surplus Course		Total Amount in Lakhs	Remarks
		Rehabilitation to Bund		Model Section		Total No. of Sluice		Repairs to Sluice	Reconstruction of Sluice		Total No. of Weir	Length of Weir (m)	Repais to Weir		Reconstruction of Weir							
		Length in (m)	Amount in Lakhs	No	Amount in Lakhs			Amount in Lakhs	No	Amount in Lakhs			No	Amount in Lakhs	No	Amount in Lakhs	Length in km	Amount in Lakhs	Length in m	Amount in Lakhs		
1	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PACAKGE I																						
1	Amarambedu Parikkeri	755	9.10	1	0.96	3			1	6.46	1	14.0	1	5.38			1000	0.58			18.94	
2	Amarambedu Tank	1060	12.52	1	0.90	3					1	14.50					500	0.54			8.86	
3	Amirthamangalam tank	1930	18.34	2	1.40	2			1	8.75	2	15.30 36.00	1	8.27			1500	1.66			38.56	
4	Aramani Tank	540	7.68	1	0.7	2			1	6.10	1	32.60	1	9.11							30.75	
5	Budur Anicut Thangal	950	13.39	1	0.96	1					1	14.00	1	6.53			2000	4.00			19.97	
6	Chinna Bommanjikulam Tank	690	8.28	1	0.95	2			1	9.47	1	14.50	1	5.82			2000	1.36			24.13	
7	Kanalur Pedu Eri	1402	19.22	2	1.40	2					1	20.43					1500	1.71			17.12	
8	Periya Bommanjikulam Tank	450	6.02	1	0.92	2					1	13.60	1	6.01			1000	1.36			11.82	
9	Pondavakkam PuduTank	720	8.87	1	0.95	2			1	5.22	1	22.80					1000	1.36			18.81	

Sl. No	Name of cluster / Infrastructure / village	Bund				SLUICE					WEIR						Rehabilitation to Supply channel		Rehabilitation to kondam / Surplus Course		Total Amount in Lakhs	Re ma rks
		Rehabilitation to Bund		Model Section		Tot al No . of Sluice	Repairs to Sluice		Reconstructi on of Sluice		Tot al No. of We ir	Length of Weir (m)	Repais to Weir		Reconstr uc tion of Weir							
		Length in (m)	Amount in Lakhs	No	Amo unt in Lakh s		NO	Amo unt in Lakh s	No	Amou nt in Lakh s			No	Amou nt in Lakhs	No	Amo unt in Lakh s	Leng t h in (km)	Amou nt in Lakhs	Lengt h in m	Amou nt in Lakh s		
1	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
10	Sedilpakkam Tank	725	8.90	1	0.95	1			1	7.60	2	26.80 16.20	2	9.35			1000	0.52			29.49	
11	Edur Tank	1250	16.90	1	0.90	2			1	5.81	1	14.00					1500	1.67			22.66	
12	Thervoy Kandigai Chitteri	1250	18.61	1	0.98	2					1	22.50					1000	1.20			16.15	
13	Vanamalli Tank	1200	17.13	1	0.80	1			1	8.77	1	18.00					500	0.52			23.25	
14	Elavoor Hissa Kattu Thangal	1382	16.83	1	0.90	2					1	22.90	1	7.14			2500	1.58			21.55	
15	Elavoor Katteri Tank	630	9.24	1	0.82	1					1	30.50									8.08	
16	Elavur Large Tank	1204	18.43	1	1.07	3					1	28.95					2500	1.58			15.56	
17	Eguvarpalayam Odaperi	685	8.70	1	0.99	1					2	83.80 24.30	2	19.73			3000	4.28			36.17	
18	Narasingapuram Tank	640	9.21	1	0.88	2					1	29.60					1000	1.34			9.46	
19	Peria Natham Thattan Tank	381	5.45	1	0.97	3			1	6.81	1	6.10					500	0.31			12.29	
20	Melapakkam Pettai Cheruvu	795	10.37	1	0.94	2			1	6.60	1	16.00					2500	4.10			17.42	
21	Poovalai Large Tank	1005	12.95	1	0.99	1					1	14.0	1	5.56			500	0.52			11.87	
22	Thervali Thamarai Tank	457	5.96	1	0.80	2					1	9.20	1	7.14							13.76	

Sl. No	Name of cluster / Infrastructure / village	Bund				SLUIC					WEIR						Rehabilitation to Supply channel		Rehabilitation to kondam / Surplus Course		Total Amount in Lakhs	Remarks
		Rehabilitation to Bund		Model Section		Total No. of Sluice	Repairs to Sluice		Reconstruction of Sluice		Total No. of Weir	Length of Weir (m)	Repais to Weir		Reconstruction of Weir		Length in (km)	Amount in Lakhs	Length in m	Amount in Lakhs		
		Length in (m)	Amount in Lakhs	No	Amount in Lakhs			Amount in Lakhs	No	Amount in Lakhs			No	Amount in Lakhs	No	Amount in Lakhs						
1	2	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Tank toal	20101	262.10	25	21.13	39			10	71.59	25		13	90.04			27000	30.19			475.05	
	ANICUT																					
	Panjalai Anicut																3500	9.88	27.20	26.59*	36.47	
	Ralakalvai Anicut																3500	9.88	31.20	23.45*	33.33	
	Sanaputhur Anicut																3500	9.88	27.20	19.01*	28.89	
	Sethilpakkam Anicut																3500	10.67	17.80	28.92*	39.59	
	Anicut Toal																14000	40.31		97.97	138.28	
	Grand Total																				613.33	
	Provision for GST @ 12% for Civil works																				73.60	
	Provision for Contingencies, Unforeseen items, Advertisement Charges, Documentation, Photographic Charges, Petty Supervision @ 2.50 %																				17.17	
	Provision for Labour Welfare Fund @ 1 %																				7.04	
	Provision for OFD works																				35.86	
	Provision for Environmental Component																				7.00	
	*providing skin wall and repairs to apron, abutment and wings																Total				754.00	

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6.6 DETAILS OF PROPOSAL IN EACH INFRASTRUCTURE OF SUB BASIN – TANKS AND ANICUT ABSTRACT

Sl. No	For Rehabilitation Package No	Ayacut in Ha	No of tanks	Bund		Sluice Reconstruction		Repairs to Weir		Rehabilitation of Tank Supply channel		Anicut		Rehabilitation of Anicut Supply channel		Total in lakhs
				Length (m)	Amt in Lakhs	No	Amt in Lakhs	No	Amt in Lakhs	Length (km)	Amt in Lakhs	Nos	Amount	Length (KM)	Amount in Lakh	
1	Package No 1	1672.03	22	20101	283.23	10	71.59	13	90.04	27.00	30.19	4	97.97	14.00	40.31	613.33
2	Provision for GST @ 12%															73.60
3	Provision for Unforeseen items, advertisement chareges, Photographic Charge, documentation (2.5%)															17.17
4	Provision for Labour Welfare Fund (1%)															7.04
5	Provision for OFD works including field channel lining,measuring devices and maintenance charges for tanks(Rs2200/Ha)															35.86
6	Provision for Environmental component															7.00
																754.00

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6.7 WRD – COST TABLE
Ayacut = 1672.03 Ha

Sl. No	Description Of Work	Quantity	Amount in Lakhs
1	Strengthening of Tank Bund	20101 m	283.23
2	Reconstruction of Sluice	10Nos	71.59
3	Repairs to Weir	13 Nos	90.04
4	Improvements to tank Supply Channel	27000 m	30.19
5	Repairs to Anicut / Kondam	4 Nos	97.97
6	Improvements to Anicut Supply Channel	14000m	40.31
		Total	613.33
7	Add GST @ 12 %		73.60
		Sub Total	**686.93**
8	Provision for Contingencies, Unforeseen items, Advertisement Charges, Documentation, Photographic Charges, Petty Supervision @ 2.50 %		17.17
9	Provision for Labour Welfare Fund @ 1 %		7.04
10	Provision for OFD works		35.86
11	Provision for Environmental Component		7.00
		Grand Total	**754.00**

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6.8 Details of Packages

6.8.1 Package Details

Package No I

Sl. No	Description Of Work	Quantity	Amount in Lakhs
1	Strengthening of Tank Bund	20101 m	283.23
2	Reconstruction of Sluice	10Nos	71.59
3	Repairs to Weir	13 Nos	90.04
4	Improvements to Tank Supply Channels	27000 m	30.19
5	Repairs to Anicut / Kondam	4 Nos	97.97
6	Improvements to Anicut Supply Channel	14000m	40.31
		Total	613.33
7	Add GST @ 12 %		73.60
		Sub Total	**686.93**
8	Provision for Contingencies, Unforeseen items, Advertisement Charges, Documentation, Photographic Charges, Petty Supervision @ 2.50 %		17.17
9	Provision for Labour Welfare Fund @ 1 %		7.04
10	Provision for OFD works		35.86
			747.00

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Chepauk, Chennai-5.

TNIAM Project, Phase – III

Gummidipoondi Sub Basin

General Abstract

CLUSTER Nos	PACKAGE	CONTENT	AMOUNT (In Lakhs)
Cluster :1 & 2	PACKAGE No. I	Rehabilitation and Modernisation of 22 Tanks and 4 Anicut and its supply channels in Gummidipoondi Subbasin in Gummidipoondi Block and Taluk of Thiruvalur District.	**747.00**
		SUB TOTAL	**747.00**
		Environmental component	7.00
		TOTAL	**754.00**

14/9/20

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

14/9/20

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

16/9/20

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

6.8.2 BILL OF QUANTITIES PACKAGE – I				ARANIYAR BASIN DIVISION Chennai	
SPECIFICATIONS					
Sl.No.	**Description of works**	**Quantity**	**Unit**	**Rate in figures and words**	**Amount**
1	Clearing scrub jungle including removal of stumps roots and disposing of the same etc., complete as directed by the Engineer in Changes of works and as per the technical specification.	393540.07 M^2 (three lakh ninty three thousand five hundred and fourty point zero seven square meter only)	$1M^2$ (One Square metre)	4.25 (Rupees four point twenty five only)	1672545.29
2	Earth work in all soils and sub soils except hard rock requiring blasting, and conveying earth by deploying earth moving machineries and tippers for formation of bund with a lead of **0 to 100** m in layers of suitable thickness, depending upon type of compaction equipment deployed and not exceeding 23Cm thickness, benching of slopes prior to placement of earth fill including extra earth filling, breaking clods, watering to OMC (Optimum moisture content) and compaction of each layer to 95% of proctor Density through deployment of appropriate compaction equipment (8-10T power roller) Vibratory power roller of short width (0.90m width drum) power roller or vibratory power roller ensuring compaction of designed bund section and also ensuring compaction of earth fill of side slopes through the deployment of hydraulic excavators with steel plate figures attached to their booms/heavy power rollers or vibratory power roller/fuel operated or electrically operated, vibratory plate compactors, capable of including 1.5 (Horizontal): 1 (Vertical slope including side slopes etc., complete as directed by the Engineer in Charge of works and as per the technical specification.	193884.00 M^3 (one lakh ninety three thousand eight hundred and eighty four cubic meter only)	$1M^3$ (One cubic metre)	90.96 (Rupees ninty point ninty six paisa only)	17635688.64

3	Earthwork Compaction side slopes of Tank Bund by using Rig mounted steel Plate Compactors to achieve designed bund slope etc complete as directed by the Engineer in charge of works and as per the Technical Specifications.	121794.59 M^2 (one lakh twenty one thousand seven hundred and ninety four point fifty nine square meter)	$1M^2$ (One Square metre)	Rs 16.26 (Rupees sixteen point twenty six only)	1980380.03
4	Earth work deploying earth moving machinery for desilting channels, depositing the earth on banks for forming bund, well consolidated and dressed, including sectioning and jungle clearance (having width of 3M to 10M) etc., complete as directed by the Engineer in charge of works and as per the technical specification.	196500.00 M^3 (one lakh Ninety six thousand five hundred cubic meter)	$1M^3$ (One cubic metre)	Rs 32.36 (rupees Thirty two point thirty six only)	6358740.00
5	Earth work in all soils and sub soils except hard rock requiring blasting, and conveying earth by deploying earth moving machineries and tippers for formation of bund with a lead of **0 to 100** m in layers of suitable thickness, depending upon type of compaction equipment deployed and not exceeding 23Cm thickness through deployment of appropriate compaction equipment (8-10T power roller) Vibratory power roller of short width (0.90m width drum) power roller or vibratory power roller ensuring compaction of designed bund section and also ensuring compaction of earth fill of side slopes through the deployment of hydraulic excavators with steel plate figures attached to their booms/heavy power rollers or vibratory power roller/fuel operated or electrically operated, vibratory plate compactors, capable of including 1.5 (Horizontal): 1 (Vertical slope including side slopes etc., complete as directed by the Engineer in Charge of works and as per the technical specification.	16215M^3 (sixteen thousand two hundred and fifteen cubic meter)	$1M^3$ (One cubic metre)	Rs 47.44 (Rupees fourty seven point fourty four only)	769239.60

6	Earth work excavation for cut opening the tank bund with initial lead of 10 (ten) metres and initial lift of 2 (two) metres in hard stiff clay, stiff black cotton, soil, hard red earth, shales, murrams, gravel, stoney earth and earth mixed with small sized boulders and hard gravelly soil etc., complete as directed by the Engineer in charge of works and as per the technical specifications	2245.15 M^3 (two thousand two hundred and fourty five point fifteen cubic meter)	1M^3 (One cubic metre)	Rs 84.70 (Rupees eizhty four point seventy paise only)	190164.20
7	Earth work excavation for foundation in all soils inclusive of refilling the sides of foundation, shoring, strutting and bailing out water wherever necessary, well rammed, consolidated and depositing the surplus earth in places as shown by the departmental officers with an initial lead of 10 (Ten) metres and initial lift of 2 (Two) metres and clearing, levelling the site etc., complete as directed by the Engineer in charge of works and as per the technical specifications.	1943.43 M3 (one thousand nine hundred and fourty three point fourty three cubic meter)	1M^3 (One cubic metre)	Rs 127.31 (Rupees one hundred and twenty seven point thirty one paisa only)	247418.07
8	Dismantling, clearing away and carefully stacking materials and without disturb nearby structure useful for reuse for any thickness of **Brick or Stone masonry** in cement mortar walls under 3 (Three) metres high etc., complete as directed by the Engineer in charge of wor4ks and as per the technical specification.	899.43 M^3 (eight hundred and ninety nine point fourty three cubic meter)	1M^3 (One cubic metre)	Rs 192.99 (Rupees one hundred and ninety two point ninety nine paisa only)	173580.99
9	Dismantling clearing away and carefully stacking the material useful for reuse for any thickness of **cut stone slab** etc., complete as directed by the Engineer-in- charge of works and as per the technical specifications.	283.92 M^3 (two hundred and eighty three point ninety two cubic meter)	1M^3 (One cubic metre)	Rs 323.35 (Rupees three hundred and twenty three point thrity five paisa only)	91805.53

10	Dismantling clearing away and carefully stacking the material useful for reuse for any thickness of **cement concrete** slab etc., complete as directed by the Engineer-in-charge of works and as per the technical specifications.	220.79 M^3 (two hundred and twenty point seventy nine cubic meter)	$1M^3$ (One cubic metre)	Rs 332.57 (Rupees three hundred and thirty two point fifty seven paisa only)	73428.13
11	Providing and placing in position of plain cement concrete of grade M 10 with well graded aggregates and the nominal maximum size of coarse aggregate of 20mm and downgrade to I.S specified grading and mixing in mechanically in approved mixer (to produce concrete of the specified characteristic strength of 10N/mm2 at 28 days) including dewatering the placement site bailing/pumping and by diverting wherever necessary laying the concrete in layers of not exceeding 15cm thick compacting finishing the surface with all leads and lifts watering, curing complete so as to attain the profile and strength specified in the drawing etc., complete as directed by the Engineer in charge of works and as per the technical specifications.	366.12 M^3 (three hundred and sixty six point twele cubic meter)	$1M^3$ (One cubic metre)	Rs 5891.57 (Rupees five thousand eight hundred and ninety one point fifty seven paisa only)	2157021.60
12	Providing and placing in position of Plain cement concrete of grade M 15 with well graded aggregates and the nominal maximum size of coarse aggregate of 40mm and 20mm in the ratio of 60:40 weigh batching the ingredients and mixing in approved mixers/batching plant (to produce concrete of the specified characteristic strength of 15N/mm2 at 28 days) including dewatering the placement site by bailing/pumping and by diverting wherever necessary laying the concrete in layers of not exceeding 15cm thick and in bays vibrating, compacting and finishing the surface with all leads and lifts, watering curing complete so as to attain the profile and strength specified in the approved drawing & specifications and **excluding the cost component of providing rigid and**				

	smooth centering for soffits of concrete slab for plain surface including shuttering wherever necessary for various depths below ground level and various heights above ground level using MS sheets of size 90 x 60cm and BG 10 gauge stiffened with MS Angles of size 25 x 25 x 3mm laid over silver oak joist of size 7.50 x 5cm, spaced at op cm C/c and supported by casurina props of size 10 to 13cm dia, spaced at 75cm C/c etc., complete as directed by the Engineer in charge of works and as per the technical specifications.				
a	Plain Cement concrete M 15 (Bed Concrete)	2.00 M^3 (two point zero cubic metre)	1M^3 (One cubic metre)	4854.45 (Rupees four thousand eight hundred and fifty four and fourty five Paise only)	9708.90
	Providing and placing in position of Plain cement concrete of grade M 15 with well graded aggregates and the nominal maximum size of coarse aggregate of 40mm and 20mm in the ratio of 60:40 weigh batching the ingredients and mixing in approved mixers/batching plant (to produce concrete of the specified characteristic strength of 15N/mm2 at 28 days) including dewatering the placement site by bailing/pumping and by diverting wherever necessary laying the concrete in layers of not exceeding 15cm thick and in bays vibrating, compacting and finishing the surface with all leads and lifts, watering curing complete so as to attain the profile and strength specified in the approved drawing & specifications and **Including the cost component of providing rigid and smooth centering** for soffits of concrete slab for plain surface including shuttering wherever necessary for various depths below ground level and various heights above ground level using MS sheets of size 90 x 60cm and BG 10 gauge stiffened with MS Angles of size 25 x 25 x 3mm laid over silver				

	oak joist of size 7.50 x 5cm, spaced at op cm C/c and supported by casurina props of size 10 to 13cm dia, spaced at 75cm C/c etc., complete as directed by the Engineer in charge of works and as per the technical specifications.				
b	Including Vertical Centering Height - 0 to 90 CM.	499.35 M^3 (four hundred and ninety nine point thirty five cubic meter)	$1M^3$ (One cubic metre)	6080.70 (Rupees six thousand and eighty point seventy Paise only)	3036397.54
c	Including Vertical Centering Height – 0.90 to 180 CM.	649.15 M^3 six hundred and fourty nine point fifteen cubic meter)	$1M^3$ (One cubic metre)	5829.10 (Rupees five thousand eight hundred and twenty nine point ten Paise only)	3783960.26
d	Including Vertical Centering Height – 1.80 to 300 CM.	969.85 M^3 (nine hundred and sixty nine point eighty five cubic meter	$1M^3$ (One cubic metre)	6043.26 (Rupees six thousand fourty three point twenty six Paise only)	5861055.71
e	Including curved Centering Height - 300 CM.-400cm	119.04 M^3 (one hundred and nineteen point zero four only	$1M^3$ (One cubic metre)	5993.49 (Rupees five thousand nine hundred and ninety three point fourty nine Paise only)	713465.04

13	Providing and placing in position of plain cement concrete of grade M 20 with well graded aggregates and the nominal maximum size of coarse aggregate of 20mm weigh batching the ingredients and mixing in approved mixers/batching plant (to produce concrete of the specified characteristic strength of 20N/mm2 at 28 days) including dewatering the placement site by bailing/pumping and by diverting wherever necessary laying the concrete in layers of not exceeding 15cm thick and in bays vibrating, compacting and finishing the surface with all leads and lifts, watering curing complete so as to attain the profile and strength specified in the approved drawing & specifications and **excluding the cost component of providing rigid and smooth centering** for soffits of reinforced cement concrete slab for plain surface including shuttering wherever necessary for various depths below ground level and various heights above ground level using MS sheets of size 90 x 60cm and BG 10 gauge stiffened with MS Angles of size 25 x 25 x2mm laid over silver oak joist of size 10 x 6.5cm, spaced at 90cm C/C and supported by casurina props of size 10 to 13cm diameter, spaced at 75cm C/C etc., complete as directed by the Engineer in charge of works and as per the technical specifications 0 to 270m/300m.				
a	Plain Cement concrete M20, (Bed Concrete).	24.80 M^3 (twenty four point eizhty cubic meter	1M^3 (One cubic metre)	6366.85 (Rupees six thousand three hundred and sixty six point eizhty five Paise only)	157897.88

	Providing and placing in position of plain cement concrete of grade M 20 with well graded aggregates and the nominal maximum size of coarse aggregate of 20mm weigh batching the ingredients and mixing in approved mixers/batching plant (to produce concrete of the specified characteristic strength of 20N/mm2 at 28 days) including dewatering the placement site by bailing/pumping and by diverting wherever necessary laying the concrete in layers of not exceeding 15cm thick and in bays vibrating, compacting and finishing the surface with all leads and lifts, watering curing complete so as to attain the profile and strength specified in the approved drawing & specifications and **Including the cost component of providing rigid and smooth centering** for soffits of reinforced cement concrete slab for plain surface including shuttering wherever necessary for various depths below ground level and various heights above ground level using MS sheets of size 90 x 60cm and BG 10 gauge stiffened with MS Angles of size 25 x 25 x2mm laid over silver oak joist of size 10 x 6.5cm, spaced at 90cm C/C and supported by casurina props of size 10 to 13cm diameter, spaced at 75cm C/C etc., complete as directed by the Engineer in charge of works and as per the technical specifications 0 to 270m/300m.				
b	Including Vertical Centering Height - 0 to 90 CM.	285.70 M^3 (two hundred and eighty five point seventy cubic meter)	$1M^3$ (One cubic metre)	5817.72 (Rupees five thousand eight hundred and seventeen point seventy two Paise only)	1662122.60

c	Including Vertical Centering Height – 0.90 to 180 CM.	90.05 M^3 (ninety point zero five cubic meter)	1M^3 (One cubic metre)	7652.21 (Rupees seven thousand Six hundred and fifty two point twenty one Paise only)	689081.51
14	Providing and placing in position of Ready mixed cement concrete of grade M 25 with well graded aggregates and the nominal maximum size of coarse aggregate of 20mm weigh batching the ingredients and mixing in approved mixers/batching plant (to produce concrete of the specified characteristic strength of 25 N/mm2 at 28 days) including dewatering the placement site by bailing/pumping and by diverting wherever necessary laying the concrete in layers of not exceeding 15cm thick and in bays vibrating, compacting and finishing the surface with all leads and lifts, watering curing complete so as to attain the profile and strength specified in the approved drawing & specifications and **excluding the cost component of providing rigid and smooth centering** for soffits of reinforced cement concrete slab for plain surface including shuttering wherever necessary for various depths below ground level and various heights above ground level using MS sheets of size 90 x 60cm and BG 10 gauge stiffened with MS Angles of size 25 x 25 x2mm laid over silver oak joist of size 10 x 6.5cm, spaced at 90cm C/C and supported by casurina props of size 10 to 13cm dia, spaced at 75cm C/C etc., complete as directed by the Engineer in charge of works and as per the technical specifications 0 to 270m/300m.				
a	Plain Cement concrete M 25, (Bed Concrete).	22.20 M^3 (twenty two point twenty cubic meter)	1M^3 (One cubic metre)	8172.07 (Rupees eight thousand one hundred and seventy two point zero seven Paise only)	181419.96

	Providing and placing in position of Ready mixed cement concrete of grade M 25 with well graded aggregates and the nominal maximum size of coarse aggregate of 20mm weigh batching the ingredients and mixing in approved mixers/batching plant (to produce concrete of the specified characteristic strength of 25 N/mm2 at 28 days) including dewatering the placement site by bailing/pumping and by diverting wherever necessary laying the concrete in layers of not exceeding 15cm thick and in bays vibrating, compacting and finishing the surface with all leads and lifts, watering curing complete so as to attain the profile and strength specified in the approved drawing & specifications and **Including the cost component of providing rigid and smooth centering** for soffits of reinforced cement concrete slab for plain surface including shuttering wherever necessary for various depths below ground level and various heights above ground level using MS sheets of size 90 x 60cm and BG 10 gauge stiffened with MS Angles of size 25 x 25 x2mm laid over silver oak joist of size 10 x 6.5cm, spaced at 90cm C/C and supported by casurina props of size 10 to 13cm dia, spaced at 75cm C/C etc., complete as directed by the Engineer in charge of works and as per the technical specifications 0 to 270m/300m.				
b	Including Centering of Plain Surface .0-90cm	46.04 M^3 (fourty six point zero four cubic meter)	$1M^3$ (One cubic metre)	8510.90 (Rupees eight thousand five hundred and ten point ninety Paise only)	391841.83

c	Including Centering of Plain Surface 0.90 -180 cm	209.70 M^3 (two hundred and nine point seventy paise only)	$1M^3$ (One cubic metre)	7061.51 (Rupees Seven thousand and sixty one point fifty one Paise only)	1480798.64
15	Manufacturing and fixing of M15 concrete using 20mm ISS HBG stone Cement Concrete block of size 300X250X200mm including cost and conveyance of all materials to work site labour charges for fixing the same in position and handling charges for the same in position including all other incidental charges etc complete.	321.90 M^3 (three hundred and twenty one point ninety cubic meter)	$1M^3$ (One cubic metre)	5422.31 (Rupees five thousand four hundred and twenty two point thirty one Paise only)	1745441.58
16	Supplying demarcation of R.C.C precast post in Cement Concrete of grade M 25 with well graded aggregates and the nominal maximum size of coarse aggregate of size 20mm of size 0.20x0.20x1.45M and fixing the post 40cm depth below ground level, the post includes using 4 numbers of 10mm RTS main road to a length of 1.325M, using 8mm MS 10 numbers and strips with steel centering and painting the post with enamel paint to a height of 0.80M around the post etc., complete and conveying the post to the site of demarcation boundary such as tank bund and foreshore including earth work excavation for foundation in HSC having the base plain cement concrete of 10cm of grade M 10 with well graded aggregates and the nominal maximum size of coarse aggregate of 40mm, and the post embedded by using cement concrete of grade M 10 with well graded aggregates and the nominal maximum size of coarse aggregate of 20mm etc., complete as directed by the Engineer in charge of works and as per the technical specifications.	650 No (six hundred and fifty number Only)	1 No (One number only)	2017.89 (Rupees two thousand and seveteen point eighty nine Paise only)	1311628.50

17	Supplying, fabricating and placing in position of Ribbed tor steel grills for Reinforcement of RCC works including cost of steel and binding wire and labour charges for de-coiling, cutting, bending, tying the grills and laying in position etc., complete as directed by the Engineer in charge of works and as per the technical specifications.	693.87 Qtl (six hundred and ninetythree point eighty seven quintal only)	1 Qtl (One Quintal)	6818.85 (Rupees Six thousand eight hundred and eighteen point eighty five Paise only)	4731395.44
18	Refilling the excavated earth and watering to OMC (Optimum Moisture content) and compaction of each layer to 95% of proctor Density through deployment of appropriate compaction equipment (8-10T power roller) vibratory power roller of short width (0.90m width drum) power roller or vibratory power roller/fuel operated or electrically operated, vibratory plate compactors, ensuring compaction of designed bund section including side slopes etc., complete as directed by the Engineer in charge of works and as per the technical specifications.	2045.15 M^3 (two thousand fourty five point one five cubic metre)	$1M^3$ (One cubic metre)	119.35 (Rupees one hundred and nineteen point thrity five pasia only)	244088.65
19	Plastering in Cement mortar 1:4 [one of cement and four of sand by volume mixed mechanical in approved mixer] 20 mm thick including finishing, curing etc., as directed by Engineer-in-charge of the works.	2199.93 M^2 (two thousand one hundred and ninety nine point ninety three square metre)	$1M^2$ (One Square metre)	369.00 (Rupees Three hundred and sixty nine point zero Paise only)	811774.17
20	Providing and fixing best country wood plug with 50mm dia MS screw gearing rod 4m height support on 2 Nos. ISMB 125 RJ Joists of 3.50m length and guide beam 1 No. of the same size resting in turn of MS base plate of 50 X 30 mm size 6 mm thick with cast iron hexagonal head set and a collar plate of 300 X 300 X 6 mm thick fixed with necessary bolts and nuts and other fixture etc, complete complying with standard specifications and as directed by the departmental officers	12No (twelve number only)	1Nos (One number)	21621.97 (Rupees twenty one thousand six hundred and twenty one point ninety seven paise only)	259463.64

21	**Gravel backing for apron and revetment** of 15cm thick including the cost of grvel at site of work, ixing with water so as to form into stiff plastic balls and laying and finishing etc., complete as directed by the Engineer in charge of works and as per the technical specification.	267 M^3 (two hundred and sixty seven cubic meter)	1M^3 (One cubic metre)	1192.97 (Rupees one thousand one hundred and ninety two point ninety seven Paise only)	318522.99
22	Turfing on downstream side (Rear) slope on bund including waterinf and fixing with a initial upto 50m including cost of turf and labour charges etc complete as directed by the Engineer in charge of works as per the technical specification (S.R.Sl.No.82	77027.34 M^3 (seventy seven thousand and twenty seven point thrity four cubic meter)	1M^3 (One cubic metre)	30.60 (Rupees thirty point sixty Paise only)	2357036.60
23	Supplying and fixing cut stone fully dressed to size all faces and set in cement mortar 1:4 [one cement and four sand by volume mixed mechanically in approved mixer] including all incidental charges such as finishing and curing etc complying with technical specification and as directed by the Engineer in charge of works.	27 M^3 (twenty seven cubic meter)	1M^3 (One cubic metre)	6884.78 (Rupees six thousad eight hundred and eighty four point seventy eight Paise only)	185889.06
24	Fabricating , supplying and fixing of teak wood plug with screw gearing steel rod of 50mm diameter of 3.50m height and 150x75mm RS joist, beam 600mm 2Nos, with necessary base plate and fish plate and C.I head sets for operation of the screw gearing plug rod and necessary bolts and nuts etc., the wooden plug of conical shape of top 300mm and bottom 80mm dia and height 600mm. Top and bottom fixed with iron straps with iron plate of 50mm x6mm top of the wooden plug provided M.S. plate of 6mm thick for S.G. plug of tank sluice etc., comp[lete with required anchor rod and plate spanners etc, as directed by the Departmental officers including painting with and corrosive paint over one coat of red oxide, charges for civil works cost of construction	2No (two numbers only)	1no (One number)	25000 (Rupees twenty five thousand only)	50000.00

	materials and cost of rease and oil a d gearing arrangements etc., complying with technical specifications and as directed by the depaartmental officers.				
Total					**61333002.50**

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

Superintending Engineer, PWD, WRD.,
Palar Basin Circle,
Chepauk, Chennai-5.

Chief Engineer, PWD, WRD.,
Chennai Region ,
Chepauk, Chennai-5.

17.9.20.

6.8.3 CALCULATION OF MACHINERIES REQUIREMENT

PACKAGE – 1

Hydraulic Excavator & Tippers

Hydraulic Excavator	4	Nos
Tippers	12	Nos
Working Hours	8	Hours / Day
Loads / Hour	3	loads / Hour
Quntity per 1 Trip	4	M^3 / Trip
For 1 Day	1152	M^3 / Day
For 1 Month	25	Working Days
For 1 Month	28800	M^3 / Month
Quantity of Earhwork	410787.43	M^3
Period required (Month)	14.26	or 15 Months
Working Period for earthwork	**18 Months including rainy season**	

I. Machineries Required for Earthwork

Hydraulic Excavator	4	Nos
Tippers / Lorries	12	Nos
Power Roller	3	Nos
Vibrated Compactor	3	Nos
Water Lorries	4	Nos

Concrete work

Mixer Machine

Mixer Machine	1	No
Working Hours	6	Hours / Day
Quantity per 1 Hour	3	M^3/ Hour
For 1 Day	18	M^3 / Day
For 1 Month	25	Working Days
For 1 Month	450	M^3 / Month
Total Quantity of Concrete	2785.00	M^3
Period required (Month)	6.18	say 6

Requirement of Mixer

Machine **6** :

Mixer Machine required = 6 nos for 25 days per month – 9 Month

Lorry required for Construction materials

Material Conveyance Tippers / Lorries

Cement :	10 Mt / Trip	1 Trip / Day	10 Mt / Day
Sand :	5.66 M^3/ Trip	4 Trip / Day	22.64 M^3 / Day
Metal :	5.66 M^3 / Trip	5 Trip / Day	28.30 M^3 / Day

Item of work	Concrete Quantity	Cement	20mm&40mm	Sand
Cement Concrete M10(in M^3)	366.12	79081.92	329.51	177.93
Cement Concrete M15,(in M3)	2239.39	325596.11	2015.45	1088.34

Cement Concrete M20(in M3)	400.55	65970.59	360.50	194.67
Cement Concrete M25,(in M3)	277.94	53156.03	250.15	135.08
		523804.64	2955.60	1596.02

	OR	523.8 Mtonne	Cum	Cum
Tipper Required for Conveyance of cement	523.8/10	52.38	52	Nos
Tipper Required for Conveyance of Sand	1596.02/22.64	70.5	71	Nos
Tipper Required for Conveyance of 40&20MM JELLY	2955/28.30	104.42	105	Nos
			228	Nos
Tippers / Lorries for conveyance of Materials	228/25	9nos for 25 days	for 9 Month	

Assistant Engineer, PWD, WRD.,
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Ponneri

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Araniyar Basin Division,
Chepauk, Chennai-5.

6.8.4. REQUIREMENT OF EQUIPMENT AND MATERIALS - ABSTRACT

Name of Sub Basin	Package No:1	Equipment Required In Nos							Materials Required				
		Hydraulic Excavator	Power Roller	Vibrated Compactor	Tipper / Lorry	Water Lorry	Concrete Mixer Machine	Concrete Vibrator	CEMENT(Mtonne)	Sand in M_3	Steel (in Qtl)	40mm Jelly(cum)	20 mm jelly
Gummidipoondi Sub basin	I	4	3	3	12	4	6	3	523.8	1596.02	148.00	1173.44	1782.16

14/9/20

Assistant Engineer, PWD, WRD.,
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Ponneri

16/9/20

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

6.8.5. PHYSICAL AND FINANCIAL PROGRAM

Sl.No	Description of Work	Total		Ist Year		IIND YEAR	
		Quantity(in M^3)	Amount in Lakhs	Quantity(in M^3)	Amount in Lakhs	Quantity(in M^3)	Amount in Lakhs
I	**Earthwork Excavation**						
1	Tank Bund	212344.00	18595091	53086.00	4648772.75	159258.00	13946318.25
2	Tank Supply Channel	196500.00	6358740.00	49125.00	1589685.00	147375.00	4769055.00
3	Foundation	1943.43	247418.07	486.00	61872.65	1457.43	185545.41
II	**Cement Concrete**						
5	Cement Concrete M10	366.12	2157021.60	91.53	539255.40	274.59	1617766.20
6	Cement Concrete M15	1740.04	10368188.9	435.00	2591987.63	1305.04	7776201.26
7	Cement Concrete M20	400.55	2509101	100.14	627290.91	300.41	1881810.08
8	Cement Concrete M25	277.94	2054061	69.48	513478.29	208.46	1540582.70

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6.8.6 CONSTRUCTION METHODOLOGY

Package 1

Sl.No	Description of Item	2020			2021									2021			2022			Total
		Rainy season			Working Month									Rainy season						
		10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	
I	**Earthwork Excavation**																			
1	Tank Bund				17695.39	17695.35	17695.34	21765.20	21765.30	21765.20	21765.26	21765.25	21765.26				9555.48	9555.48	9555.48	212344
2	Tank Supply Channel				16375	16375	16375	20141.25	20141.25	20141.25	20141.25	20141.25	20141.25				9825	9825	9825	196500
3	Foundation				162	162	162	199.18	199.18	199.18	199.18	199.18	199.18				87.44	87.44	87.44	1943.43
II	**Cement Concrete**																			
4	Cement Concrete M10				30.501	30.521	37.52	37.52	37.52	37.52	37.52	37.52	37.52				16.47	16.47	16.47	366.12
5	Cement Concrete M15				145	145	145	178.35	178.35	178.35	178.35	178.35	178.35				78.3	78.3	78.3	1740.04
6	Cement Concrete M20				33.35	33.38	33.48	41.05	41.05	41.05	41.05	41.05	41.05				18.02	18.02	18.02	400.55
7	Cement Concrete M25				23.16	23.16	23.16	28.48	28.48	28.48	28.48	28.48	28.48				12.5	12.5	12.5	277.94

14/9/20

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

15/9/20

Assistant Executive Engineer, PWD, WRD.,
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GOVERNMENT OF TAMILNADU

PUBLIC WORKS DEPARTMENT

WATER RESOURCES DEPARTMENT

CHAPTER 7

IMPLEMENTATION AND MONITORING OF ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK FOR GUMMIDIPOONDI SUB BASIN OF ARANIYAR BASIN IN THIRUVALLUR DISTRICT.

Executive Engineer, PWD/WRD

Environmental Cell Division,

Tharamani, Chennai-113.

1.SOCIO ECONOMIC PROFILE OF GUMMIDIPOONDI SUB BASIN

Gummidipoondi sub basin is located in the western part of Chennai basin and spreads over 79 villages of one taluk namely Gummidipoondi in Thiruvallur District. The total sub basin area falls under the Gummidipoondi block.

1.1 Population

The sub basin has a total population of 1,70,877 people, out of which 85,803 people are male and 85,074 people are female. In the project area, about 93% of the total population is rural population and 7% of the total population is urban population.

S.No	Block	Total/Urban/Rural	Population		
			Total	Male	Female
1.	Gummidipoondi	Total	1,70,877	85,803	85,074
		Rural	1,58,583	79,640	78,943
		Urban	12,294	6163	6131

(Source:Census of India 2011)

1.2 Rural Poverty

In the Gummidipoondi sub basin, the proportion of rural poverty is 38.55%. The district level poverty in Thiruvallur district is 37.84%

1.3 Gender

In Gummidipoondi sub basin, the sex ratio is 992(number of females per thousand males) which is lower than the state average of 995(number of females per thousand males)

1.4 Households

There are 45,141 households in the project area proposed in the sub basin.

S.No	Block	Total/Rural/Urban	Number of Households
1.	Gummidipoondi	Total	45,141
		Rural	41,932
		Urban	3209

(Source: Census of India 2011)

1.5 Literacy

In this sub basin,70% of the males are literate and 55% of the female population is literate.

S.No	Block	Total/Rural/Urban	Literates		
			Total	Male	Female
1.	Gummidipoondi	Total	1,06,894	59,955	46,939
		Rural	98,095	55,252	42,843
		Urban	8799	4703	4096

(Source: Census of India 2011)

1.6 SC/ST population

There are 47,316 SC households in the proposed project area of the sub basin of which 46,188 are rural dwellers and the remaining 1128 are urban dwellers.

S.No	Block	Total/ Rural/Urban	SC Population			ST Population		
			Total	Male	Female	Total	Male	Female
1.	Gummidipoondi	Total	47,316	25,535	23,781	5048	2493	2555
		Rural	46,188	22,966	23,222	4659	2306	2353
		Urban	1128	569	559	389	187	202

(Source:Census of India 2011)

1.7 Landholdings

Category	**Size of holdings**	**Numbers**	**Percentage**
Marginal	Below 1.00 Ha	3108	64.24%
Small	1.00 – 2.00 Ha	967	19.98%
Medium	2.00 – 5.00 Ha	612	12.64%
Large	5.0 ha & above	152	3.14%
Total		**4839**	**100%**

1.8 Women landholders

There are about 1847 female land cultivators and 9353 female agricultural labourers in the sub basin area.

S.No	Block	Total/Rural /Urban	Total Workers	
			Cultivators	Agricultural Labourers
1.	Gummidipoondi	Rural	1835	9200
		Urban	12	153
		Total	**1847**	**9353**

(Source:Census of India 2011)

1.8 Key Social Issues

In the Gummidipoondi sub basin area, female literacy rate is recorded as 44% which is lower than the state female literacy rate of 73%.Also the percentage of male cultivators is 74% whereas female cultivators account for a meagre percentage of 26%.Since women are provided with equal opportunities as men in the workers segment, the ratio is recorded to be very low. The number of female landholders is very low in comparison to male landholders in the area and this might reduce the chances of selecting women as beneficiaries of the project. Another issue is that the percentage of landholdings in the marginal category is higher(64.24%) when compared with large landholdings. This fact should also be taken into account while doing development activities.

1.9 Irrigation Access

Irrigation is carried through 40 tanks and 4 anicuts under the control of WRD of PWD in this sub basin.

Tank Ayacut -40 Nos	3060.72Ha
Anicut Ayacut-4 Nos	293.02 Ha
Total	3353.74 Ha
For Present Project Area	
Tank Ayacut-22 Nos	1379.01 Ha
Anicut Ayacut-4 Nos	293.02 Ha
Total	1672.03 Ha.

2.Stakeholder Consultations and Feedback

2.1 Walkthrough Surveys:

Walk through survey was conducted for two days in which 22 tanks and 4 anicuts were covered in the sub basin area. Officials from Water Resources Department (WRD), Agricultre Department, Horticulture Department, Tamil Nadu Agricultre University (TNAU), Agriculture Engineering Department(AED),Animal Husbandry and Fisheries Department jointly conducted the survey. Around 176 people participated and shared their views and expectations. Regarding WRD,22 tanks and 4 anicuts and supply channels for a total length of 41 km in Gummidipoondi Sub Basin were selected and proposed for rehabilitation under TNIAMP phase III. Interaction with farmers was held to improve agriculture and other allied activities.

2.2Consultation/Awareness Meetings:

S.No	Date of Visit	Name of the Village visited	Awareness Programmes (No of farmers attended)	Walk Through Survey (No of farmers participated)	Remarks
(1)	(2)	(3)	(4)	(5)	(6)
1.	08.06.2020	AmarambeduParikkeri	7	7	WUA to be formed
2.	08.06.2020	Amarambedu Tank	7	8	WUA to be formed
3.	08.06.2020	Amirthamangalam Tank	7	6	WUA to be formed
4.	08.06.2020	Aramani Tank	7	7	WUA to be formed

5.	08.06.2020	Budur Anicut Thangal	7	5	WUA to be formed
6.	08.06.2020	ChinnaBommanjikulam Tank	7	5	WUA to be formed
7.	08.06.2020	Kanalur Pudhu Eri	7	8	WUA to be formed
8.	08.06.2020	Periya Bommanjikulam Tank	7	9	WUA to be formed
9.	08.06.2020	PondavakkamPudu Tank	7	8	WUA to be formed
10.	08.06.2020	Sedilpakkam Tank	7	5	WUA to be formed
11.	08.06.2020	Edur Tank	7	8	WUA to be formed
12.	08.06.2020	ThervoyKandigai Tank	7	9	WUA to be formed
13.	09.06.2020	Vanamalli Tank	7	6	WUA to be formed
14.	09.06.2020	ElavoorHissaKattuThangal	7	5	WUA to be formed
15.	09.06.2020	ElavoorKatteri Tank	7	4	WUA to be formed
16.	09.06.2020	Elavur Large Tank	7	7	WUA to be formed
17.	09.06.2020	EguvarpalayamOdaperi	7	9	WUA to be formed
18.	09.06.2020	Narasingapuram Tank	7	8	WUA to be formed
19.	09.06.2020	PeriaNathamThattan Tank	7	4	WUA to be formed
20.	09.06.2020	MelapakkamPettaiCheruvu	7	6	WUA to be formed
21.	09.06.2020	Poovalai Large Tank	7	9	WUA to be formed
22.	09.06.2020	ThervaliThamarai Tank	7	7	WUA to be formed

23.	08.06.2020	Pan jalai Maduvu Kondam weir	7	5	WUA to be formed
24.	08.06.2020	Sethilpakkam Maduvu Weir	7	8	WUA to be formed
25.	08.06.2020	Ralakalvoy weir	7	7	WUA to be formed
26.	08.06.2020	Sanaputhur Maduvu weir	7	6	WUA to be formed

2.3 Stakeholder Feedback:

I. WRD Related:

S.No	Date of visit	Name of the Villages Visited	Outcome of walk through survey and discussions with farmers	
			Work suggested by farmers	Work finalised by WRD officials
Cluster -I				
1	08.06.2020	Amarambedu Parikkeri	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel.	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel
2	08.06.2020	Amarambedu Tank	Strengthening of Bund, Desilting Supply Channel	Strengthening of Bund, Desilting Supply Channel
3	08.06.2020	Amirthamangalam Tank	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel.	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel.
4	08.06.2020	Aramani Tank	Strengthening of Bund,Reconstruction of sluices, Repairs to weir	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir.
5	08.06.2020	Budhur Anicut Thangal	Strengthening of Bund, Repairs to Weir,	Strengthening of Bund, Repairs to

			Desilting Supply Channel.	Weir, Desilting Supply Channel.
6	08.06.2020	Chinna Bommanjikulam Tank	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel
7	08.06.2020	Kanalur Pudu Eri	Strengthening of Bund, Desilting Supply Channel.	Strengthening of Bund, Desilting Supply Channel.
8	08.06.2020	PeriyaBommanjikulam Tank	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel
9	08.06.2020	Pondavakkam Pudu Tank	Strengthening of Bund, Repairs to Sluice &Weir, Desilting Supply Channel	Strengthening of Bund, Repairs to Sluice &Weir, Desilting Supply Channel
10	08.06.2020	Sedilpakkam Tank	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel.	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel.
11	08.06.2020	Edur Tank	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel.	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel.
12	08.06.2020	Thervoy kandigai Tank	Strengthening of Bund, Desilting Supply Channel.	Strengthening of Bund, Desilting Supply Channel.

13	08.06.2020	Pan jalai Maduvu Kondam weir	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall and supply channel	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall and supply channel.
14	08.06.2020	Sethilpakkam Maduvu Weir	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall and supply channel	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall and supply channel.
15	08.06.2020	Ralakalvoy weir	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall and supply channel.	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall, supply channel.
16	08.06.2020	Sanaputhur Maduvu weir	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall and supply channel.	Repairs to wing, Abutment, Retrun, Skin Wall, apron, cutoff wall and supply channel
Cluster-II				
17	09.06.2020	Vanamalli Tank	Reconstruction of sluices, Strengthening of Bund, Desilting Supply Channel	Reconstruction of sluices, Strengthening of Bund, Desilting Supply Channel
18	09.06.2020	Elavur Hissa Kattuthangal	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel
19	09.06.2020	Elavur Katteri Tank	Reconstruction of sluices Strengthening of Bund	Reconstruction of sluices

				Strengthening of Bund
20	09.06.2020	Elavur Large Tank	Strengthening of Bund, Desilting Supply Channel	Strengthening of Bund, Desilting Supply Channel
21	09.06.2020	Eguvarapalayam Odaperi	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel.	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir, Desilting Supply Channel.
22	09.06.2020	Narasingapuram Tank	Strengthening of Bund, Reconstruction of sluices, Desilting Supply Channel.	Strengthening of Bund, Reconstruction of sluices, Desilting Supply Channel.
23	09.06.2020	Periyanatham Thattan Tank	Strengthening of Bund, Reconstruction of sluices, Desilting Supply Channel.	Strengthening of Bund, Reconstruction of sluices, Desilting Supply Channel.
24	09.06.2020	Melapakkam Pettai Cheruvu	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir.	Strengthening of Bund, Reconstruction of sluices, Repairs to Weir.
25	09.06.2020	Poovalai Large Tank	Strengthening of Bund, Desilting Supply Channel.	Strengthening of Bund, Desilting Supply Channel.
26	09.06.2020	Thervali Thamarai Tank	Strengthening of Bund, Repairs to Weir, Desilting Supply Channel	Strengthening of Bund, Repairs to Weir, Desilting Supply Channel

II AGRICULTURE RELATED:

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 technology. 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 growing green manure crops, 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 upto 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.

III HORTICULTURE 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 technology. During the survey, it was reported by the farmers about reduced soil fertility. Hence, it was proposed to encourage the farmers to apply bio manure,farm yard manure and compost for Horticulture crop. Another common problem prevailing in the sub basin is water scarcity. Farmers have reported that often they cannot avail water for their crops upto full maturity. For this, farmers will be convinced take up short duration, low water requiring Horticulture Crops like vegetables, fruits and flowers instead of conventional crops like sugarcane and paddy.

IV LIVESTOCK RELATED:

Livestock production is widely practiced in this sub basin. Milk collection, Storage and processing is being carried out both by the cooperative and private diary processors in this sub basin. Disease diagnostic facilities and veterinary facilities at the institutions are insufficient. By strengthening the infrastructure facilities animal health measures will be prevented effectively. Another major issue is lack of animal identification system and recording constraints the disease control and planned breeding intervention. By linking Government of India animal identification system program, we can enable ICT based MIS.

2.4 Summary of the Interventions proposed

I. WRD

- In the sub basin area,22 tanks and 4 anicuts with a total ayacut area of 1672.03 Ha have been selected and proposed for rehabilitation under Phase III of TN IAM Project
- Strengthening of bunds, desilting the supply channels, repair and rehabilitation of the supply channels, anicuts and sluices have to be carried out accordingly.

II. Agriculture related Infrastructure and Marketing

- Market design shall have adequate public conveniences.
- Ensure vermi-composting pits are made to prepare good quality compost from organic wastes of the markets
- As far as possible develop design for markets with adequate introduction of green building norms – natural light, cross ventilation, use of solar power of lighting etc.
- Sites for establishing any new markets are free from natural features
- Plastic and other packaging wastes should be disposed as per existing state rules with proper tie up for disposal; these should be made part of standard operation procedures
- Follow the project's gender strategy for ensuring proper representation of women across all levels of decision making
- Ensure that right of way is not affected during construction/repair of warehouses
- Energy efficient machinery in value addition
- Promotion of pre and post harvest practices to improve grain quality through crop demonstration and farmer training programs.
- Awareness shall be created regarding sources of market information

III Agriculture Department

- Agricultural intensification by improved production technology crop demonstrations.
- Farmer Field Schools(FFS)
- Revival of oilseed cultivation.
- Seed Village-a)Pulses b) Groundnut c) Green Manure
- Power conorweeding.
- IEC & Capacity Building Activities(Field Support, Sustainability etc.,) for crop demos conducted.
- Green Manure Crop-SRI-Rice Fallow Pulses.
- Crop diversification with Millets and Pulses.
- Climate resilient activity in all the intervention crops
- Ensure reduction in the use of inorganic fertilizers and pesticides as it affects the soil health and Environment
- Information Education, Communication and Capacity Building activities
- Trainings for SRI skills to 50 No. of Agriculture labours for 2 day Total cost : Rs.18,500/- x 1 Training
- Farmers training-50 Nos. for 1 day Total cost : Rs.21,000/- x 2 Trainings
- Extensional Personnel training-30 Nos. for 2 days Total cost : Rs.27,500/- x 1 Training.

IV TNAU

- Develop Information, Education and Communication (IEC) material in local language for generating awareness regarding safe use of pesticides
- Developing high yielding, salinity tolerant rice to overcome salinity problem.
- Promote wide application of safe and biopesticides, wherever possible.
- Promote expansion of AWDI to reduce water demand
- Demonstrate and scale-up IPM strategy and approach; monitor the adoption rate
- 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
- Moderate use of agrochemicals – soil test based fertilizer application
- Pest Management in concurrence with Pest Management Plan (PMP)
- Trainings and demonstrations on Integrated Crop management Practices.
- Bio villages, Support for Production of Bio-pesticides
- Farm mechanization by using mango tree pruner to improve yield and to get a good price in the market

V.Horticulture

- Increase in crop productivity based on best management practices.
- Horticulture crop demonstrations by addressing the climate resilient issues.
- Promotion of reduced pesticide use villages to produce vegetables
- Promotion of Hi-Tech irrigation like micro irrigation by encouraging women farmers also.

VI Fisheries

- Fish Culture in Short Seasonal Irrigation Tanks
- Fishing Implements (Dragnet/Gillnet)
- Aquaculture in Farm Ponds.

3. SCREENING FOR CONSTRUCTION AND CIVIL WORKS (WRD,AED)
3.1. WRD:

S.No	Component	Numbers	Size/Length in km	Estimated Cost(Rs in lakhs)
Package-1				
1.	Tanks	22		**444.86**
2.	Anicuts	4		**97.97**
3.	Supply Channels	-	41 km	**70.5**

3.2 AED:

S.No	Type of Structure	Number	Size/Length	Estimated Cost
1.	Farm Ponds	22	28m x 28m x 1.5m or 21.5m x 21.5m x 3m	Rs 75000/- per farm pond

3.3 Summary of Contract Packages

S. No	Package No	Ayacut in Ha	Bund				Sluice					Total No.of Weir	Length of Weir(m)	Weir				Rehab to Supply Channel		Rehab to Anicut/ Surplus Course		Total Amt in Lakhs
			Rehab to Bund		Model Sectn			Repair to Sluice		Reconst of sluice				Reconst. to Weir		Repair to Weir						
			Length(km)	Amt in Lakhs	No.	Amt in Lakhs	Total No.of Sluice	No.	Amt in Lakhs	No.	Amt in Lakhs			No.	Amt in Lakhs	No.	Amt in Lakhs	Length(km)	Amt in Lakhs	Length(m)	Amt in Lakhs	
1	I	1672.03	20.101	262.10	25	21.13	42	0	0	10	71.59	25	236.3	0	0	13	90.04	41	70.5	4	97.97	613.33

3.4 Screening Details:

Screening checklist is attached for intervention proposed by WRD.

Gummidipoondi Sub Basin -TNIAMP Phase III

WRD ESMF Monitoring Table (Environmental)

Total TNIAMP Packages	Total No. of TNIAMP Tanks			Number of Tanks above 7m height	Number of Tanks with History of floods / breaches or in seismic zone for the past 10 years	Number of works near Forest Wildlife areas	No of activities in the proximity of Industrial areas	Number of tanks under the oversight of the state Dam safety panel
	Tanks	Anicuts	Supply Channel					
1	22	4	41 km	NIL	NIL	NIL	1*	NIL

1*=Eguvarapalayam Odaperi Tank

WRD ESMF monitoring table (social)

Total TNIAMP Packages	Total No. of TNIAMP Tanks			Number of TNIAMP Tanks With encroachments	Number of TNIAMP Tanks where shelters, shops and farmers have been Physically relocated.	Number of TNIAMP Tanks where residents / farmers / Utilies / shops etc adversely affected.	Number of TNIAMP works (Tanks/Anicuts/supply channel) with labour camps.
	Tanks	Anicuts	Supply Channel				
1	22	4	41 km	NIL	NIL	NIL	NIL

4. Environmental and Social Management Plan(ESMP)

The Environmental and Social (ESMP) integrates the baseline conditions, impacts likely to occur, and the measures which need to be implemented for amelioration of adverse impacts in the proposed sub-project regions. The ESMP shall give particular attention to project sustainability issues like EHS, construction camps and site office, prevention of pollution, user conflicts,etc. This detail is to be included in the bid document, followed by implementation by the prospective contractor.

Screening for Environmental and Social aspects in the sub basin has been done as per the Environmental and Social issues listed below and also the Individual Screening of the tanks in this sub basin has been done. Based on the screening, Eguvarpalayam Odaperi Tank has been identified as being in the proximity of an industrial area and individual screening for that tank is attached. Hence ESMP monitoring is required for Eguvarpalayam Odaperi Tank on a quarterly basis and the other anicuts and supply channels will be monitored during ESMF monitoring.

Envisaged impacts and mitigation measures:

- **Disposal of excavated earth**: Since the excavated / desilted earth is proposed to be utilized for forming bunds in channels, no earth has to be disposed.
- **Disposal of debris from rehabilitation/restoration of hydraulic structures**: Quantity of stone / cement masonry and concrete debris that would be generated, the remains after reuse will be carried away by the contractor to fill the nearby areas pointed out by the engineer in charge of work. The disposal will be decided in consultation with the local community and V.A.Os.
- **Air Pollution**: Heavy equipment including power rollers, tippers, Lorries, water Lorries, etc., are planned to be used. Pollution from exhausts of these vehicles and dusts from hauling of material will cause air pollution. Mitigation measures for keeping the pollution in control includes
  - Monitoring the proper functioning of construction equipment to minimize exhaust. Educate the operators and drivers for optimal idling of machines and equipment.
  - Covering the stockpiled silt and trucks which are hauling silt, sand, and other loose materials will be insisted or at least two feet of freeboard will be maintained in trucks during hauling
- **Health and safety needs of workforce employed**:

In addition to necessary monitoring, contractors and site in charge personal will be educated and insisted to

i. Provide Safe access to the job sites
ii. Keeping Passage ways, walkways, and ramps free of materials, scraps or obstructions
iii. Keeping First Aid box readily available at construction sites
iv. To maintain contact with nearest nursing homes/clinics/primary health centre to deal with any emergency at site
v. To ensure availability of vehicle at construction site to meet emergency situation
vi. To comply with all the precautions as required for the safety of the workmen as per labour laws as applicable to this project
vii. To strictly follow the statutory child labour act
viii. To provide necessary personal protective equipment such as helmets, hand gloves, safety shoes, nose masks, safety goggles to the workers as per act.
ix. To provide mask and safety kits to all workers and ensure that they are free from Covid-19 by means of thermal scanning and pulse oximeter testing.

Public safety: Warning sign boards will be provided along the construction sites in Tamil/English.

Plan of Activities for Environment Monitoring and Awareness:

i). Environmental Monitoring:

It is proposed to study the impacts due to interventions implemented in the sub basin by collecting field samples at key points both during pre-implementation and post project periods. Thus collected field samples will be analysed at laboratories for various influencing parameters and results will be communicated to MDPU and line departments concerned for future reference. Based on the results, awareness will be created during capacity building meetings for the water users of the respective tanks. The manner in which samples to be collected are summarized below,

Water samples from selected points of river and Tank where infall of runoff from agriculture fields /channel with fishing activities and the Water Samples from the Dam and Tank in which the Fisheries Department interventions will takes place will be collected. These collected water samples will be tested for key physical, chemical and biological characteristics along with pesticides and heavy metals.

ii). Monitoring and reporting compliance of ESMP, ESMF and updating GRM:

The works in the Priority Tanks will be inspected once in a 3month by the Environmental cell engineers. All the other Anicuts/Supply Channels will be inspected once in 6 months for compliance of ESMF. The reports regarding compliance of environmental safety procedures and recommended mitigation measures will be submitted to the MDPU and a copy will be marked to the nodal officer concerned for necessary corrective measures if any to be taken. The expenditure involves photographic and documentation charges, conveyance arrangement to work sites.

Implementation of GRM provisions will be monitored by the Environmental Cell Division Engineers in all packages of this sub basin. 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.

iii). Propagation of site safety and Environmental Codal Procedure Awareness:

Usually contractors and site workers will focus on speedy achievement of work in volumetric basis and they rarely focus on safety and environmental aspects during the work. To make them aware about the norms and codal practices, it is proposed to issue pamphlets with pin pointed safety tips and environmentally safe practice to contractors, site-in-charges and labourers.

To create the awareness among the public about Environmental aspects to remove or reduce the impacts due to the Environmental problems is essential. Hence to create the awareness, pamphlets will be issued to the people and also awareness painting will be created in the permanent structures in the tanks.

iv). Capacity Building activities for WRD Engineers, Contractors :

One-day capacity building training programme will be conducted for WRD Engineers, contractors, members of WUA and stake holders to educate about ESMF, ESMP and GRM activities. It is proposed to conduct one training for this sub basin.

v). Safeguard Training for Implementing Agencies:

Safeguard training will be conducted for the WRD officials and the TNIAMP implementing agencies who belongs to this sub basin. It is proposed to conduct one training for this sub basin.

5.ESMF application in Livelihood Support Interventions

Environmental and Social Management Framework for the interventions by WRD will be monitored by the respective Environmental Cell Division and a biannual report will be submitted to MDPU.ESMF monitoring for the line department activities will be monitored by the respective nodal officers.

Summary of the details of the livelihood support interventions planned in the sub basin and the applicable ESMF actions that would be implemented are as follows:

i. WRD Related:

Constraints and Challenges	Suggested Mitigation Measures
Disposal of construction debris on farmland, water courses etc. resulting in blocking natural drainage	The debris of the dismantled structures to be used for levelling borrow areas.
Accidents/disease incidents for workers and in labour camps and lack of amenities	Ensure first aid and medical support at labour camps and ensure hygiene by providing toilets, waste disposal system etc. For construction activities, refer to health and safety guidelines, and provide protective equipment (helmets, protective gloves and shoes, welding goggles etc.) as may be needed.
Impact of Covid-19	The labours should be tested frequently by using thermal scanning and pulse oximeter. Face masks should be given to the all labourers.
Possibility of engagement of child labour, unequal wages to women workers	Ensure compliance with national Act on child labour and minimum wage Act.
Risk of disposal of polluted silt on farmlands	Silt disposal on farmlands only after consultation reached with either individual farmer or with WUA/Gram Panchayat
Dumping of Iron and concrete debris within canal and/or near banks	Identify proper disposal sites/designated landfills and mechanism for debris and cost it as part of vendor contract.
Air pollution and noise pollution due to increased vehicular movement and construction equipment	Providing ear plugs and other safety equipment to protect workers.

II. Agriculture, Horticulture and TNAU Related:

Constraints and Challenges	Suggested Mitigation Measures
Low lying area. Mostly green gram, groundnut and conventional paddy crops are cultivated. Crop diversification to less water loving crops of higher value requires continuous persuasion of farmers	Farmers in the sub basin are to be suitably educated to change their mindset through training programs and exposure visits to consider planting crops like oilseeds and millets.
Problematic soil	To overcome this issue, farmers will be encouraged to take soil sample and test them at STL, Tirur.
Pest & diseases problems & Excess use of pesticides.	INM IPM measures.
Native varieties and low yield	Using certified high yielding seed varieties, seed soaking to enhance germination and promoting line sowing can help maintain optimum plant population.
Since the sub basin is near to Chennai metropolitan city, there is huge scarcity for farm labours and also demand more wages	Micro irrigation and other less labour intensive technologies to be introduced
Adverse climatic condition	Drought resistant and high yielding crops like chillies and other vegetable crops are to be suggested.
Improper irrigation practices like furrow and basin irrigation.	Drip irrigation with fertigation is to be introduced in this project.
Low price for produce especially for vegetables.	Staggered planting methods recommended to the farmers so as to maintain the price fall in vegetables especially during peak period of harvest. It is recommended to choose varieties suited for early and late sowings.
Limited planting materials available from Govt sources	Seed are supplied to the farmers by the department after procuring the HB seeds through tender system.
Inferior quality seeds and planting material are generally used by the farmers	Quality planting materials supplied through department of horticulture. The HB seeds are available from private sources and it will be procured and supplied to the farmers by following the WB procurement norms

III. Agricultural Marketing Related

Constraints and Challenges	Suggested Mitigation Measures
Generation of waste material-organic waste due to grading and sorting and plastic and other waste due to packaging and marketing	Plastic and other packaging wastes should be disposed as per existing state rules with proper tie up for disposal; these should be made part of standard operation procedures.
Risk of disturbance to natural areas (wetlands, streams, etc.,)	Sites chosen to establish any new markets are to be free from any such natural features.
Warehouse construction and increased use of energy/electricity including promotion of cold storage facilities.	Introduce warehouses with provision for adequate natural light, ventilation and solar power lighting (used in cold storages)
Lack of civic amenities in new markets developed for sellers and customers.	Market design shall have adequate public conveniences (toilets with septic tanks or connected with sewage system)
Issues pertaining to waste disposal	Vermi-composting pits are constructed to prepare good quality compost from organic wastes of the markets.

IV. Fisheries Related

Constraints and Challenges	Suggested Mitigation Measures
Clearing or converting coastal wetlands for constructing ponds	Examine ponds in areas of ecological significance.
Local depletion of larval and juvenile organisms for pond stocking	Larval population and juveniles in nurseries or hatcheries must be examined and maintained.
Restrictions imposed on fishing affects poor and marginalised people.	Fairness in contracting tanks for private vendors-access to fishing to be open to the poor and marginalized.

V. Livestock Related:

Constraints and Challenges	Suggested Mitigation Measures
Spread of contractable diseases	Ensure regular animal checkup through extension services and organize animal health camps in project supported sub-basins.
Poor and marginal farmers left out of project benefits.	Promote stall feeding and provide technical support for developing low cot animal sheds.
Increased possibility of greenhouse gases from livestock	Involvement of Tamil Nadu Veterinary University for various technical inputs.

VI Agricultural Engineering Related:

Constraints and Challenges	Suggested Mitigation Measures
Silt/sand deposition on agricultural fields, low lying seasonal wetlands, choking of natural draining/water courses to excess drain etc.,	Check quality of removed silt and tank bed material before allowing farmers to use it As far as possible, use silt (if suitable) in strengthening the tank bunds
Soil compaction on fields/ farms due to movement of heavy machinery	Plan heavy vehicle and machine movement route that avoid productive fields; and if soil compaction on farmers field is unavoidable plough field after construction phase is over
Incidence of local water logging and stagnation of water leading to increased mosquito breeding and spread of vector borne disease	Ensure that approved anti-mosquito methods are used in case of observance of breeding mosquito population near construction and rehabilitation sites.
Selection of construction sites across or near the electrical line	It should be avoided. In unavoidable situations, necessary precautions should be followed.

6.Beneficiary Targeting and Inclusion:

Beneficiaries for livelihood support interventions by the activities of Agriculture, TNAU, horticulture, Agri marketing, AED, Fisheries and Animal husbandry will be selected during project implementation and hence have not been discussed in their respective DPRs. However, orientation will be given to the IAs to select direct project beneficiaries in such a manner that landless, small and marginal landholders/farmers, SC/ST households will be benefitted and the same will be monitored by the nodal officers of respective line departments.

7.Key Gender Actions:

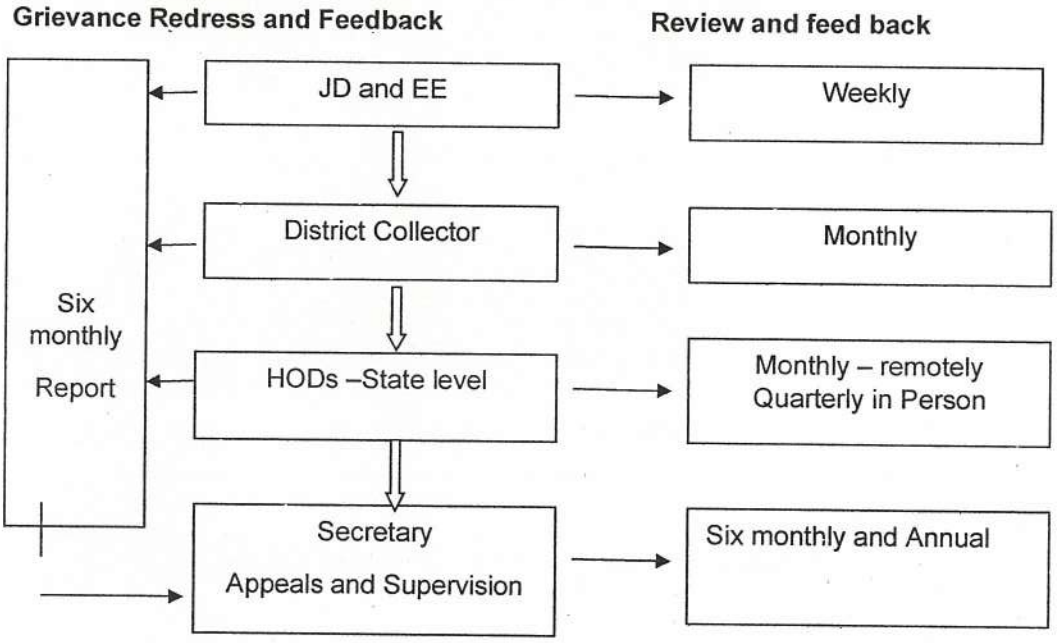
As per the socio economic profile, it can be inferred that the Gummidipoondi sub basin has an almost equal Male :Female ratio. It can also be inferred that in the Cultivators and Agricultural labourers segment, men are more predominant than the women. In lieu with the ESMF and Gender Action Plan, the line departments will be instructed to include more women in WUA, FPC, FPG membership and leadership and women farmers as beneficiaries of agriculture, irrigation, farm ponds, livestock, fisheries, agriculture and horticulture interventions. Also, it will be insisted that the line departments shall provide trainings to women on WUA and livelihood support activities. This shall ensure that a proper gender balance be maintained in the sub basin.

8.Labour Management:

Capacity training Programme for the Contractors and Officials on EHS and ESMF requirements and Safeguard Refresher Training for Line Department Officials will be conducted in the Gummidipoondi Sub basin. It is proposed to conduct one Capacity Training Programme and one Safeguard Refresher Training Programme in the sub basin.

9.Grievance Redressal Mechanism:

GRM will be monitored for all the packages of TNIAMP in the Gummidipoondi Sub Basin. Under GRM provisions, separate register for GRM and a box for receiving the Complaints and Grievances will be maintained at the O/o the Executive Engineer, Araniyar Basin Division. Chepauk, Chennai. In addition to the above, a Display board for GRM containing the address and phone number of the Executive Engineer to whom the Grievances and Complaints should be addressed will be provided in each tank in which the rehabilitation works are carried out under TNIAMP. A monthly report on the Grievances received and the action taken will be received at the respective Environmental Cell Division for review and submission to the MDPU. If any incompliance is found in the Grievance Redressal Mechanism, the same will be escalated to the MDPU.



Contact Details of Officers Responsible at Departmental level for GRM in Sub Basin

Sl. No	Department	Designation	Contact information (Office number and official email id)
1	**Water Resources Department**	Executive Engineer, WRD, Araniyar basin division, Chepauk,Chennai.	Ph. No : 9486421343 Email Id:eearaniyarpwd@gmail.com
2.	**Agriculture Engineering Department**	Executive Engineer	Ph. No : 044-27663843 Email Id: aedeetlr@gmail.com
3.	**Agri Marketing**	Deputy Director	Ph No:9843938301 Email Id:ddabtiruvallur@gmail.com
4.	**Agriculture Department**	Joint Director	Ph. No : 9245202762 Email Id: agritlr@gmail.com
5.	**Horticulture**	Deputy Director	Ph. No : 9994094030 Email Id: ddthiruvallur@yahoo.com
6.	**Animal Husbandry**	Regional Joint Director	Ph. No: 9445001133 Email Id:rjdtiruvallur@gmail.com
7.	**Fisheries**	Assistant Director of Fisheries.	Ph. No : 9384824246 Email Id: adfponnerimarine1@gmail.com
8.	**Tamil Nadu Agricultural University**	Director,WTC	Ph. No : 9842279351 Email Id:directorwtc@tnau.ac.in

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Assistant Executive Engineer, PWD, WRD,
Environmental Cell Sub Division- II(i/c),
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14/9/2020

Executive Engineer, PWD, WRD,
Environmental Cell Division,
Tharamani,Chennai-113.

Monitoring and Implementation of Environmental and Social Management Framework for Gummidipoondi sub basin in Thiruvallur District

Estimate amount: Rs.7.00 lakh

7-1 DETAILED ESTIMATE

Sl No	Description of work	No	Measurement			Contents
			L	B	D	
I.	**Environmental Social Monitoring of river basin including peroidical water quality testing and documentation.**					
1	**Collection and testing of water samples**					
i)	Testing Water samples collected from river & tanks for a period of **Two years** (Rs. 6200 + 18% GST, Rate as per Quotation)	24				24 Nos
2	**Monitoring of Implementation of ESMP & GRM**					
i)	Engaging Technical Assistant Grade II for assisting the Field officers for collecting the data, preparation of reports, documents and for other office work etc.,. (Rs 844+ (10%) 84= Rs 928) & (26days/ month i.e 928*26= Rs.24,128 per month)		1X6 Months			6 Months
ii)	Hiring jeep driver on service contract basis for department vehicle of the Sub Division (Rs 592+59(10%)=Rs 651 per day)&(26 days per month i.e 651*26=Rs 16,926 per month)		1x5 Months			5 Months
iii)	Hiring of Private Vehicle and conveyance charges for regular monitoring of sub basin	4000				4000 km
iv)	Labour charges for Collecting the water samples including all purchases like cans, bottles chemicals, Documentation of test results including labour charges.	LS				LS
v)	Documentation of the entire activities, Preparation of sub-basin maps of all size and preparation of inference reports / completion reports and Activities, reports & Upgradation of computer and accessories.	LS				LS
vi)	Propagation of Environmental awareness through Stickers, Pamphlets and paintings.	LS				LS

II	**Conducting Capacity Building Training on Implementation of ESMP and GRM for the WRD Engineers, Contractors and WUA Members - 30 NOS + 10 Organisers**					
i)	Conducting Capacity Building Trainings on Implementation of ESMP and GRM for WRD Engineers, Contractors and WUA members and Conducting Safeguard training to all implementing agencies	2				2 No
III	**GST @ 12% (for item 2 of I & for item II)**	LS				LS
IV	**Labour Welfare Fund @ 1%**	LS				LS
V	**Petty Supervision & Unforeseen items etc complete.**	LS				LS

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14/9/2020

Executive Engineer, PWD, WRD,

Environmental Cell Division,

Tharamani,Chennai-113.

Name of Work:

Monitoring and implementation of Environmental and Social Management Framework for Gummidipoondi sub basin of Thiruvallur District

Estimate amount: Rs.7.00 lakh

DATA SHEET

Sl. No	Qty		Description	Rate in Rs	Per		Amount in Rs
I	**Environmental Social Monitoring of river basin including periodical water quality testing and documentation.**						
1	**Collection and testing of water samples**						
i)	1	No	Testing charges for the following parameters in the water samples for a period of two years – Physical, Chemical, Biological, heavy metals and pesticides. (Rs. 6200 + 18% GST, Rate as per Quotation)	7316.00	1	No	7,316
2	**Monitoring of Implementation of ESMP & GRM**						
i)	1	Day	Engaging Technical Assistant Grade II for assisting the Field officers for collecting the data, preparation of reports, documents and for other office work etc.,. (Rs 844+ (10%) 84= Rs 928)	928	1	Day	928
ii)	1	Day	Hiring of Private and conveyance charges for regular monitoring of sub basin	16.00	1	km	16
iii)	LS		Labour charges for Collecting the water samples including all purchases like cans, bottles chemicals, Documentation of test results including labour charges.				LS
iv)	1	Day	Hiring jeep driver on service contract basis for department vehicle of the Sub Division (Rs 592+59(10%)=Rs 651 per day	651.00	1	Day	651

v)	LS		Documentation of the entire activities, Preparation of sub-basin maps of all size and preparation of inference reports / completion reports and Activities Reports & Upgradation of computer and accessories.				LS
vi)	LS		Propagation of Environmental awareness through Stickers, Pamphlets and paintings.				LS
II	**Conducting Capacity Building Training on Implementation of ESMP and GRM for the WRD Engineers, Contractors and WUA Members - 30 NOS + 10 Organisers**						
1	1	Event	Hall rent, Mike set arrangements, Chair arrangements, lighting arrangements and printing of Banners Etc.,	12000	1	Event	12000
2	LS		Labour charges for hall arrangements and cleaning works , meals serving to participants etc.	-	-	-	2000
3	1	Event	Documentation and Photographic Charges	4000	1	Event	4000
4	40	Persons	Resource materials, Files, Pens & Note Pad (Eco Friendly) for participants- 30 nos + 10 Nos organisers	300	1	Person	12,000
5	40	Persons	Refreshment Arrangements- 40 Nos	50	1	Person	2,000
6	40	Persons	Food arrangement-40 Nos	200	1	Person	8000
Rate for 1 program							**40,000**

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Executive Engineer,

Environmental Cell Division,

Tharamani,Chennai-113.

Name of Work :

Monitoring and implementation of Environmental and Social Management Framework for Gummidipoondi sub basin in Thiruvallur District

Estimate amount: Rs.7.00 lakh

7.20 **ABSTRACT ESTIMATE**

No	Qty	Description of work	Rate	Per	Amount
I.	**Environmental Social Monitoring of river basin including peroidical water quality testing and documentation.**				
1		**Collection and testing of water samples**			
i)	24	Testing Water samples collected from river & tanks for a period of Two years. (Rs. 6200 + 18% GST, Rate as per Quotation)	7316	Nos	1,75,584
2	**Monitoring of Implementation of ESMP & GRM**				
i)	6	Engaging Technical Assistant Grade II for assisting the Field officers for collecting the data, preparation of reports, documents and for other office work etc., (Rs 844+ (10%) 84= Rs 928) & (26days/ month i.e 928*26= Rs.24,128 per month)	24,128	Month	1,44,768
ii)	4000	Hiring of Private Vehicle and conveyance charges for regular monitoring of sub basin	16.00	per km	64,000
iii)	LS	Labour charges for Collecting the water samples including all and purchases like cans, bottles chemicals, Documentation of test results including labour charges.	LS		16,000
iv)	LS	Documentation of the entire activities, Preparation of sub-basin maps of all size and preparation of inference reports / completion reports and Activities reports & Upgradation of computer and accessories.	LS		40,000
v)	LS	Propagation of Environmental awareness through Stickers, Pamphlets and paintings.	LS		25,000
vi)	5	Hiring jeep driver on service contract basis for department vehicle of the Sub Division (Rs 592+59(10%) =Rs 651 per day) & (26 days per month i.e 651*26=Rs 16,926 per month)	16,926		84,630

II.	**Conducting Capacity Building Training on Implementation of ESMP and GRM for the WRD Engineers, Contractors and WUA Members - 30 NOS + 10 Organisers**				
i)	2	Conducting Capacity Building Trainings on Implementation of ESMP and GRM for WRD Engineers, Contractors and WUA members and Conducting Safeguard training to all implementing agencies	40000	No	80,000
III		**GST @ 12% (for item 2 of I & for item II)**	LS		54,528
IV		**Labour Welfare Fund @ 1%**	LS		7000
V	LS	Petty Supervision & Unforeseen items etc complete.	LS		8490
			Total		7,00,000

(Rupees Seven Lakh Only)

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Annexure II

7.3 WALK THROUGH SURVEY (WTS)-

1. Walk Through Survey in Gummidipoondi Sub Basin under Chennai Region conducted during 08.06.2020 and 09.06.2020
2. No. of Villages covered -23 villages
3. Category of Villagers participated :
   i. No. of farmers/ WUA Members participated : 176
   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 : WTS feedback is recorded in Chapter 4.12 of Gummidipoondi Sub basin WRD DPR

i. WRD Works:

Tanks (No's)	Anicuts (No's)	Supply Channel/Canal (km)
22	4	41 km

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

Soil Type	Existing Cropping Pattern	Major Crops	Major Issues	Farm Ponds	Others
Inceptisol, Alfisol, Entisol,	Perennial crops:, Mango, Annual Crop: Sugarcane Seasonal crops: Paddy, Pulses, Groundnut, Brinjal, Chillies, Bhendi, Fodder sorghum and Fodder cowpea	Mango, and Seasonal crops like paddy,Pulses Bhendi,Ground nut and Brinjal	1.Prevailing gap in irrigation 2.Water scarcity 3.Poor agricultural management practices 4.Less yield 5.Reduced soil fertility 6. Necessity for increased usage of Pesticides 7. Disposal of farm waste	To sustain water for crops by introducing farm ponds were requested by farmers.	

			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 cattle. 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 - Nil
   ii. Sensitive Crops :
      a) Water guzzling: Paddy, Sugarcane,
      b) Less Water :Oilseeds, Pulses
      c) Others: -
6. Gender Strategy:
   i. Percentage of Women expected to involve in
      a) WRD Activities - To be decided during Implementation
      b) Agri. related Activities - To be decided during Implementation
      c) Livelihood related - To be decided during Implementation
7. Environmental Interventions proposed based on Observations:
   - For WRD works, the following Environmental interventions are proposed. Monitoring of ESMP, GRM, Monitoring of Water quality for pre and post project period by collection and testing of water samples, Implementation of environmental Code of Practices and Creating Capacity Building Training Programme regarding Environmental awareness to WRD Engineers, Contractors, WUA Members and stake holders.
   - It is proposed to collect water sample from the field drains to study Pesticide concentration.
   - Regarding Animal Husbandry activity, safety measures should be provided to dispose the generated wastes such as Syringes, Gloves, Glass wares during artificial insemination, deworming programmes.
   - It is proposed to collect water samples in tanks & farm ponds where fisheries activities are proposed to be carried out in order to assess the water quality.

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Taramani, Chennai -113

Checklist

1. Walk through survey form attached : **Yes**
2. Environmental and Social Management Plan (ESMP) and Screening Checklist

No.of Packages/Tanks		
Total no of packages-1		
Total	Applicable	Not Applicable
Tank - 22 Anicuts – 4 Supply Channels – 41 km	Tank - 1 Anicuts – 0 Supply Channels - 0	Tank - 21 Anicuts – 4 Supply Channels – 41 km

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: **No**
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**

Submitted by

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Approved by

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Environmental Cell Division,
Tharamani, Chennai-113.

Reviewed by

Social Development Specialist &
Environment Specialist,
MDPU, Chennai.

			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 cattle. 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 - Nil
   ii. Sensitive Crops :
      a) Water guzzling: Paddy, Sugarcane,
      b) Less Water :Oilseeds, Pulses
      c) Others: -
6. Gender Strategy:
   i. Percentage of Women expected to involve in
      a) WRD Activities - To be decided during Implementation
      b) Agri. related Activities - To be decided during Implementation
      c) Livelihood related - To be decided during Implementation
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   - For WRD works, the following Environmental interventions are proposed. Monitoring of ESMP, GRM, Monitoring of Water quality for pre and post project period by collection and testing of water samples, Implementation of environmental Code of Practices and Creating Capacity Building Training Programme regarding Environmental awareness to WRD Engineers, Contractors, WUA Members and stake holders.
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   - It is proposed to collect water samples in tanks & farm ponds where fisheries activities are proposed to be carried out in order to assess the water quality.

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14/9/202

Executive Engineer, PWD, WRD,
Environmental Cell Division
Taramani, Chennai -113

Checklist

1. Walk through survey form attached : **Yes**
2. Environmental and Social Management Plan (ESMP) and Screening Checklist

No.of Packages/Tanks		
Total no of packages-1		
Total	Applicable	Not Applicable
Tank - 22 Anicuts – 4 Supply Channels – 41 km	Tank - 1 Anicuts – 0 Supply Channels - 0	Tank - 21 Anicuts – 4 Supply Channels – 41 km

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: **No**
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**

Submitted by

14.09.2020

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Approved by

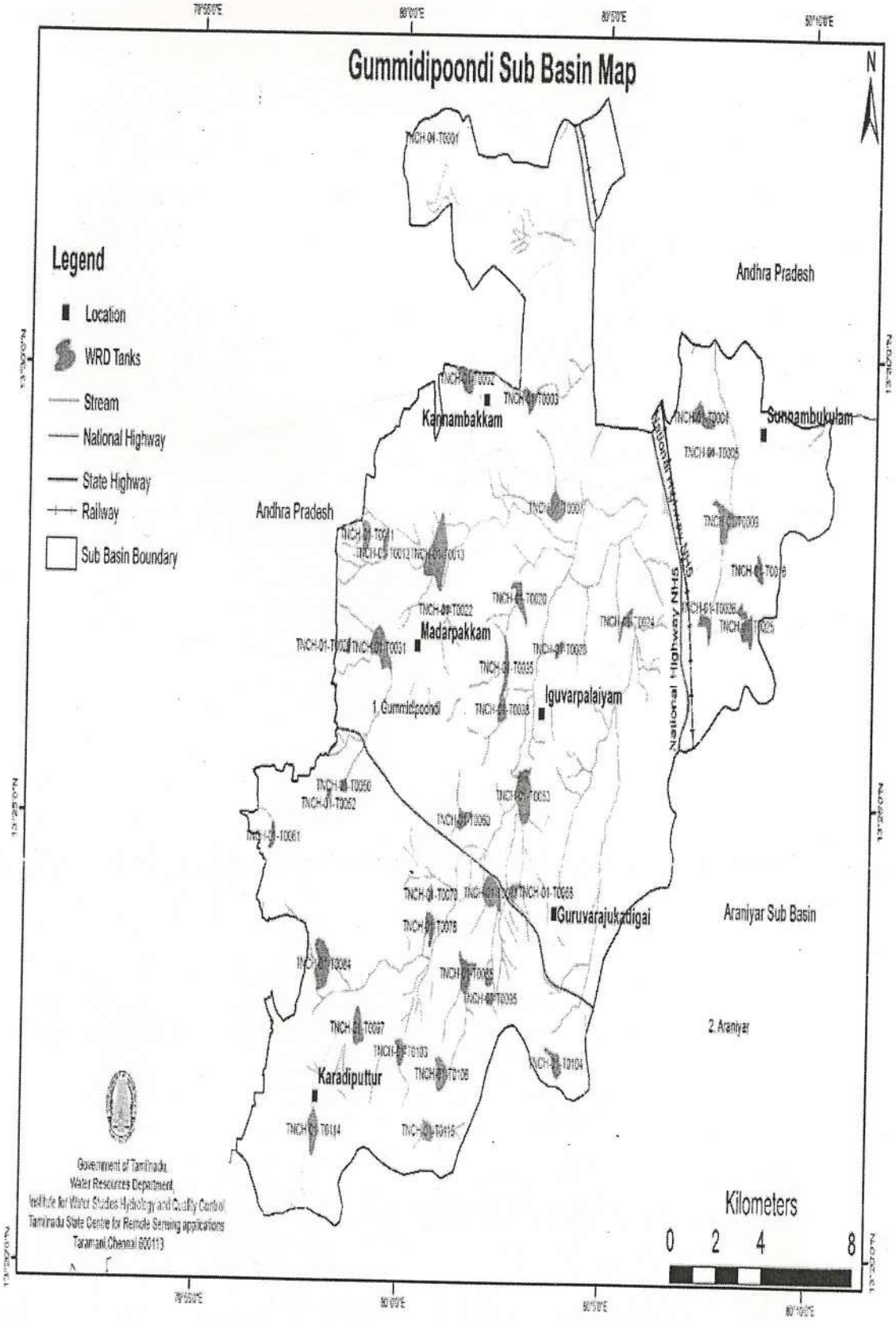
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Reviewed by

Social Development Specialist &
Environment Specialist,
MDPU, Chennai.

14/9/2020

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Gummidipoondi Sub Basin Map
N
Legend
Location
WRD Tanks
Stream
National Highway
State Highway
Railway
Sub Basin Boundary
Andhra Pradesh
Andhra Pradesh
Kannambakkam
Sunnambukulam
Madarpakkam
1. Gummidipoondi
Iguvarpalaiyam
Guruvarajukandigai
Araniyar Sub Basin
2. Araniyar
Karadiputtur
National Highway NH-5
Government of Tamilnadu
Water Resources Department
Institute for Water Studies Hydrology and Quality Control
Tamilnadu State Centre for Remote Sensing applications
Taramani Chennai 600113
Kilometers
0 2 4 8

Environmental and Social Screening Tool

Component A1: Irrigation systems modernization

1. GENERAL			
1.1. Sub-Basin: Gummidipoondi Sub Basin.			
1.2. Package no.: 01/TNIAMP / WRD / GPDSB / WORKS / PHASE-III / 2020-21.			
1.3. Name of Canals/Channels: ----			
1.4. Length (m) (min to max): 3000.00 m			
1.5. Name of Tank: Eguvarpalayam Odaperi			
1.6. Area of tank (hectares) (min to max): 24.00 (ha)			
1.7. Height of tank embankment (m) (min to max): 3.720 m			
1.8. Average annual rainfall in command area (mm)	980mm		
1.9. Soil type in command area	Clay soil		
	Category 1	***Category 2***	***Category 3***
1.10. Command area (Ha).	More than 10,000 Ha	100 – 10,000 Ha	Less than 100 Ha (100.030 Ha)
1.11. Command area under cultivation (Ha / %)			85.530 Ha 82%
1.12. Depth of ground water table in command area (m)	☐Deep aquifer (10-20m) ☐Very Deep aquifer (below 20m)	☐Shallow (0-5m) ☐Moderate (5-10m)	
1.13. Ground water zone classification as per CGWB	☐Over-exploited ☐Saline	☐Semi-critical ☐Critical	☐Safe
1.14. Command area of Canals/Tanks/Anicuts (list name of villages)	Name of Village: Eguvarpalayam	Ayacut: 100.030 Ha	
1.15. Status of Water User Associations (No's)	☐WRCP:	☐IAMWARM:	☐To be Formed:
1.16. Structures damaged during 2015 floods	☐Tank	☐ Canal	☐None
1.17. Is the proposed project likely to contaminate water due to use of heavy machinery, human waste discharge, solid waste dumping, use of agro chemicals (Fertilizers, pesticides etc?)	☐ Yes ☐No ☐NA		
1.18. If yes, whether appropriate safeguards are proposed? (write a note)	---		
1.19. Works to be undertaken	☐Desilting of Canals and Distributories ☐Reconstruction of Culverts and Retaining Wall		

	☐Reconstruction of Pipe Sluice ☐Tank Bund Strengthening ☐Repair and Reconstruction of Tank Sluice ☐Repair and Reconstruction of Weir ☐Fore Shore Bund ☐Rehabilitation of Tank Channels ☐Removal of Vegetation ☐Model sections for tank bund ☐Rehabilitation of Supply Channels and Surplus Coarse of Tanks and Anicuts ☐Repairs to Anicut ☐Rehabilitation of Canal ☐Revival of Tank ☐Rehabilitation of Regulators ☐Desilting of Channels
1.20. Is the proposed project likely to affect any natural habitats/conversion of natural habitats/ cultural properties/ wetlands/ wildlife/ migratory routes? 1.21. If yes, whether appropriate safeguards are proposed? (Write note)	☐ Yes ☐No
2. Rehabilitation of canal/channels:	
2.1. Desilting of canal/channels (i) Volume of silt to be dredged (cum) (ii) Volume of dredged silt to be used in embankment strengthening (cum) (iii) Volume of dredged silt to be disposed (cum)	6500.00 6500.00 ----
2.2. Identified burrow pits site(s) along with distance from the work site	----
2.3. Identified silt testing laboratory along with distance from the work site	----
2.4. Identified silt disposal site(s) along with distance from the work site	----
3. Tank – Revival and bund strengthening	
3.1. Is tank in an eco-sensitive area?	☐ Yes ☐ No
3.2. Identified disposal site for waste from tanks	Low Lying Area 500m from Tank

3.3. Earthwork: (i) Volume of silt to be dredged (cum) (ii) Volume of dredged silt to be used in embankment strengthening (cum) (iii) Volume of dredged silt to be disposed (cum)	6000.00 6000.00 ----
3.4. Identified burrow pits site(s) along with distance from the work site	Taken From water spread Area
3.5. Identified silt testing laboratory along with distance from the work site	40 Km, Quality control, Thiruvallur
3.6. Identified silt disposal site(s) along with distance from the work site	----
4. Rehabilitation of Anicuts	
4.1. Replacement of anicut proposed?	☐Yes ☐No
4.2. Identified site(s) for disposal of debris along with distance from work site 4.3. Identified site(s) for disposal of iron waste/scrap100m	---- ----
5. Equipment/machinery to be deployed	
5.1. Hydraulic Excavator:	☐Yes (No's) ☐ None ☐ NA
5.2. Power roller	☐Yes (No's) ☐ None ☐ NA
5.3. Vibrated Compactor	☐Yes (No's) ☐ None ☐ NA
5.4. Tipper/lorry	☐Yes (No's) ☐ None ☐ NA
5.5. Water lorry	☐Yes (No's) ☐ None ☐ NA
5.6. Concrete mixer machine	☐Yes (No's) ☐ None ☐ NA
5.7. Concrete vibrator	☐Yes (No's) ☐ None ☐ NA
5.8. Any other machinery/equipment (list with nos.)	----
6. Social Screening	
6.1. Will the proposed project result in physical displacement of any person/ family/ household in selecting the site for implementing the project?	☐ Yes ☐ No ☐ NA
6.2. Will the proposed project result in loss of land cultivated by encroachers	☐ Yes ☐ No ☐ NA

and others 6.3. If Yes, RAP prepared?	☐ Yes ☐ No ☐ NA
6.4. Have the beneficiaries been identified?	☐ Yes ☐ No ☐ NA
6.5. Are WUAs willing to take up activities under the project?	☐ Yes ☐ No ☐ NA
6.6. Gender Action Plan required?0 6.7. If Yes, is the Plan prepared?	☐ Yes ☐ No ☐ NA ☐ Yes ☐ No ☐ NA
6.8. Vulnerable group development plan required? 6.9. If Yes, is the Plan prepared?	☐ Yes ☐ No ☐ NA ☐ Yes ☐ No ☐ NA
6.10. Are the documents, books and accounts being maintained by WUA?	☐ Yes ☐ No ☐ NA
6.11. OFD works in each WUA including link drain construction reviewed?	☐ Yes ☐ No ☐ NA

Prepared by:

7/9/20

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Approved by:

7/9/20

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

7/9/20

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

Reviewed by:

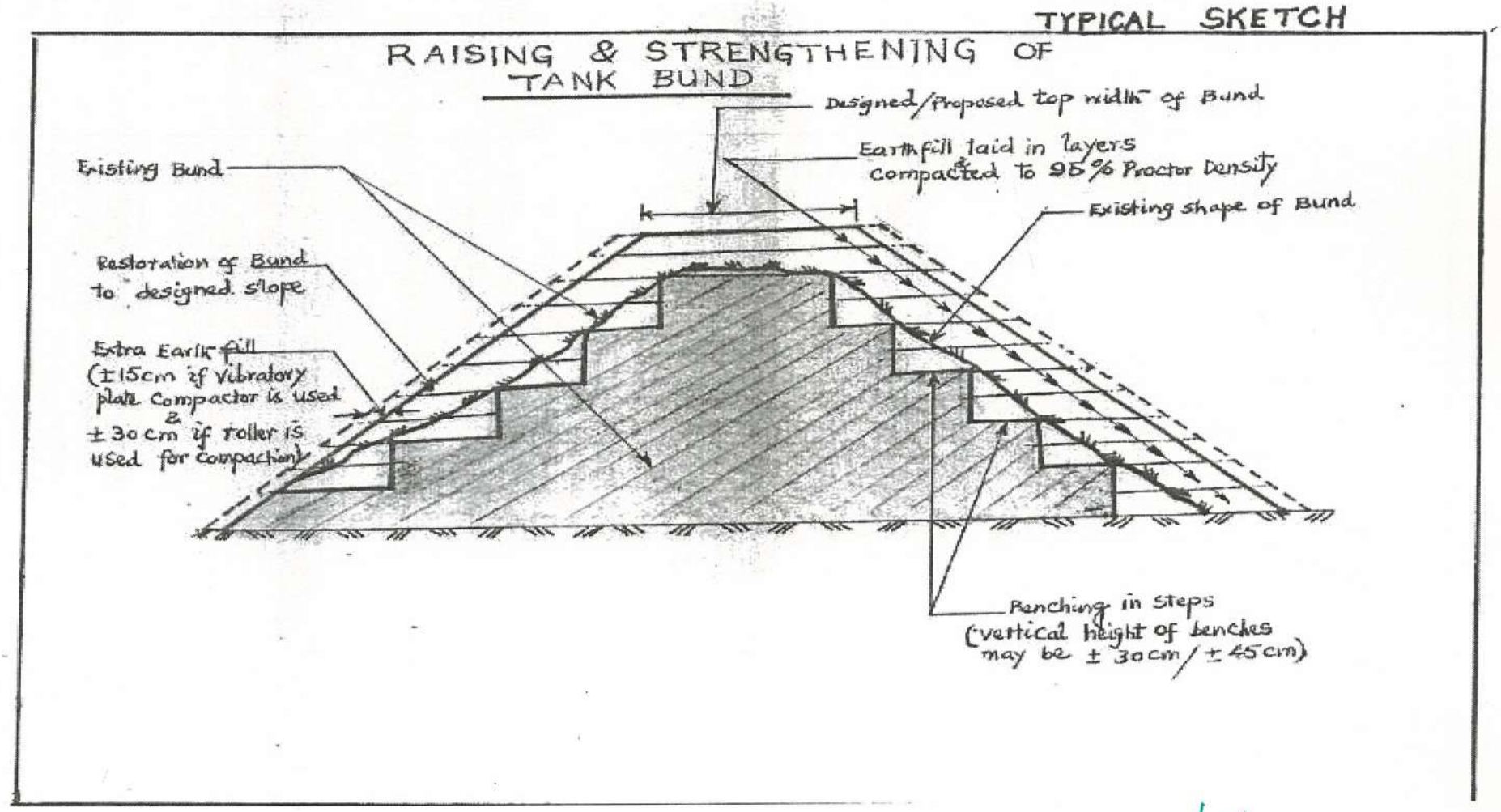
14/9/2020

Executive Engineer, PWD., WRO,
Environmental Cell Division,
Tharamani, Chennai-600 113.

CHAPTER 9

DRAWINGS

9.1 METHODOLOGY OF RAISING AND STRENGTHENING OF TANK BUND



Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

List of supply channel in which bed bar is provided

1.	Amarambedu Parikkeri
2.	Amarambedu Tank
3.	Amirthamangalam tank
4.	Aramani Tank
5.	Budur Anicut Thangal
6.	Chinna Bommanjikulam Tank
7.	Kanalur Pedu Eri
8.	Periya Bommanjikulam Tank
9.	Pondavakkam PuduTank
10.	Sedilpakkam Tank
11.	Edur Tank
12.	Thervoy Kandigai Chitteri
13.	Vanamalli Tank
14.	Elavoor Hissa Kattu Thangal
15.	Elavoor Katteri Tank
16.	Elavur Large Tank
17.	Eguvarpalayam Odaperi
18.	Narasingapuram Tank
19.	Peria Natham Thattan Tank
20.	Melapakkam Pettai Cheruvu
21.	Poovalai Large Tank
22.	Thervali Thamarai Tank

14/9/20

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

14/9/20

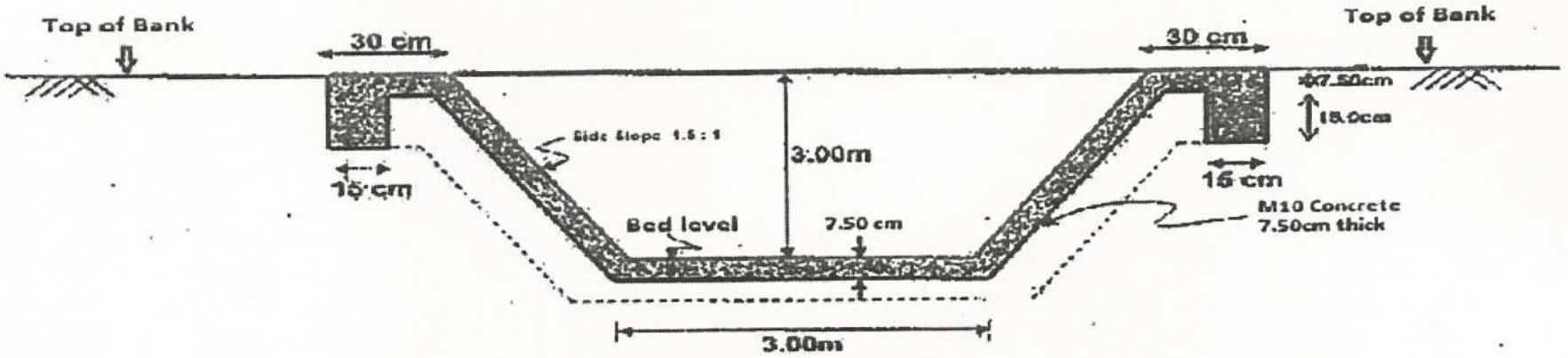
Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

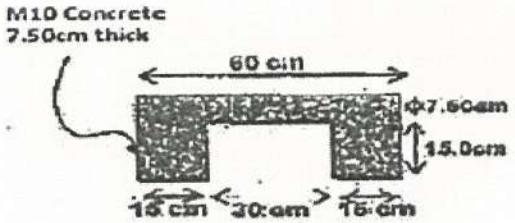
16/9/20

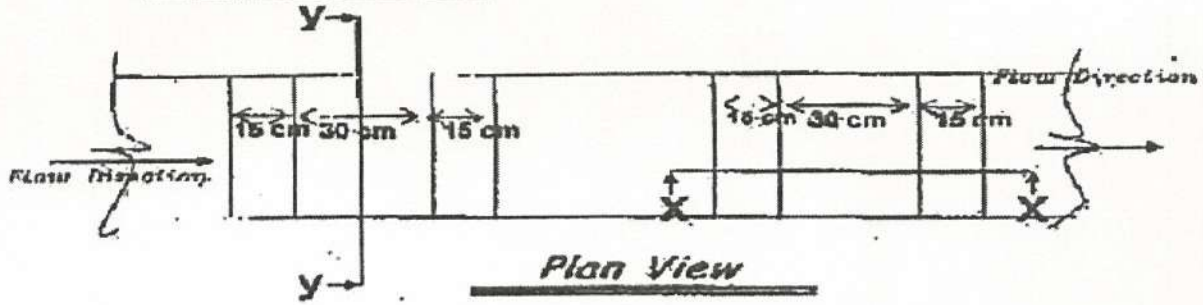
Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

9.2. BED BAR FOR SUPPLY CHANNEL

TYPICAL DRAWING OF BED BAR / MODEL SECTION







Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

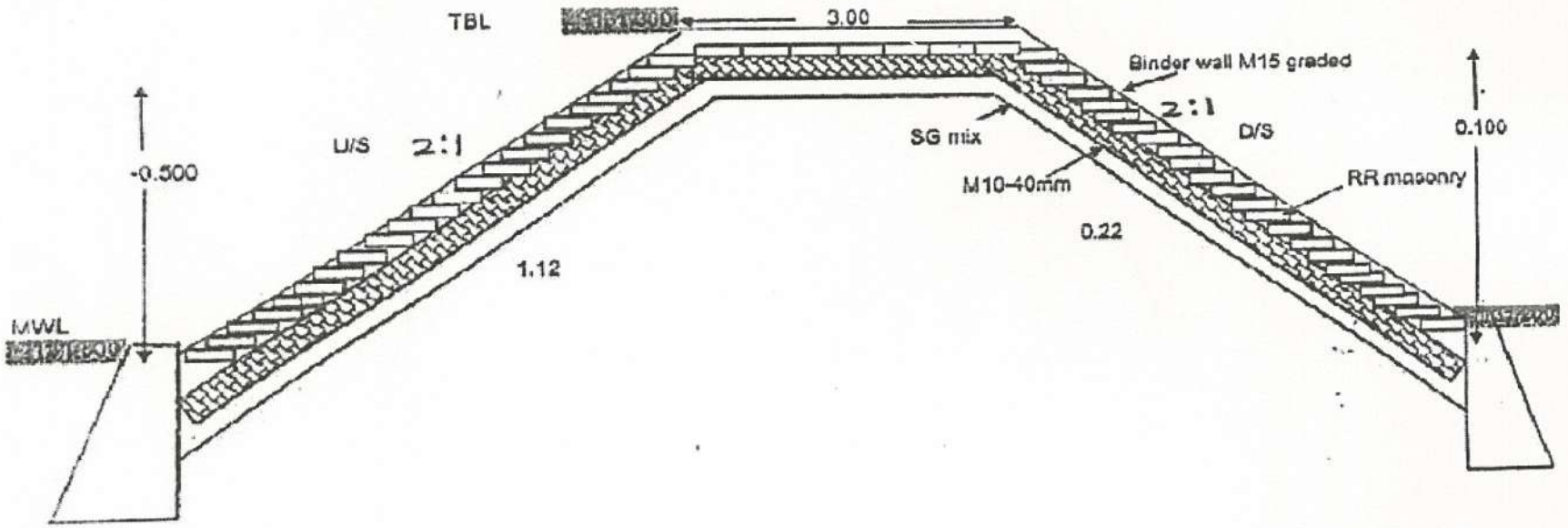
Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

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9.3. MODEL SECTION OF TANK BUND

Name of work: Rehabilitation and Modernisation of Non System tanks and its supply channels

Model section

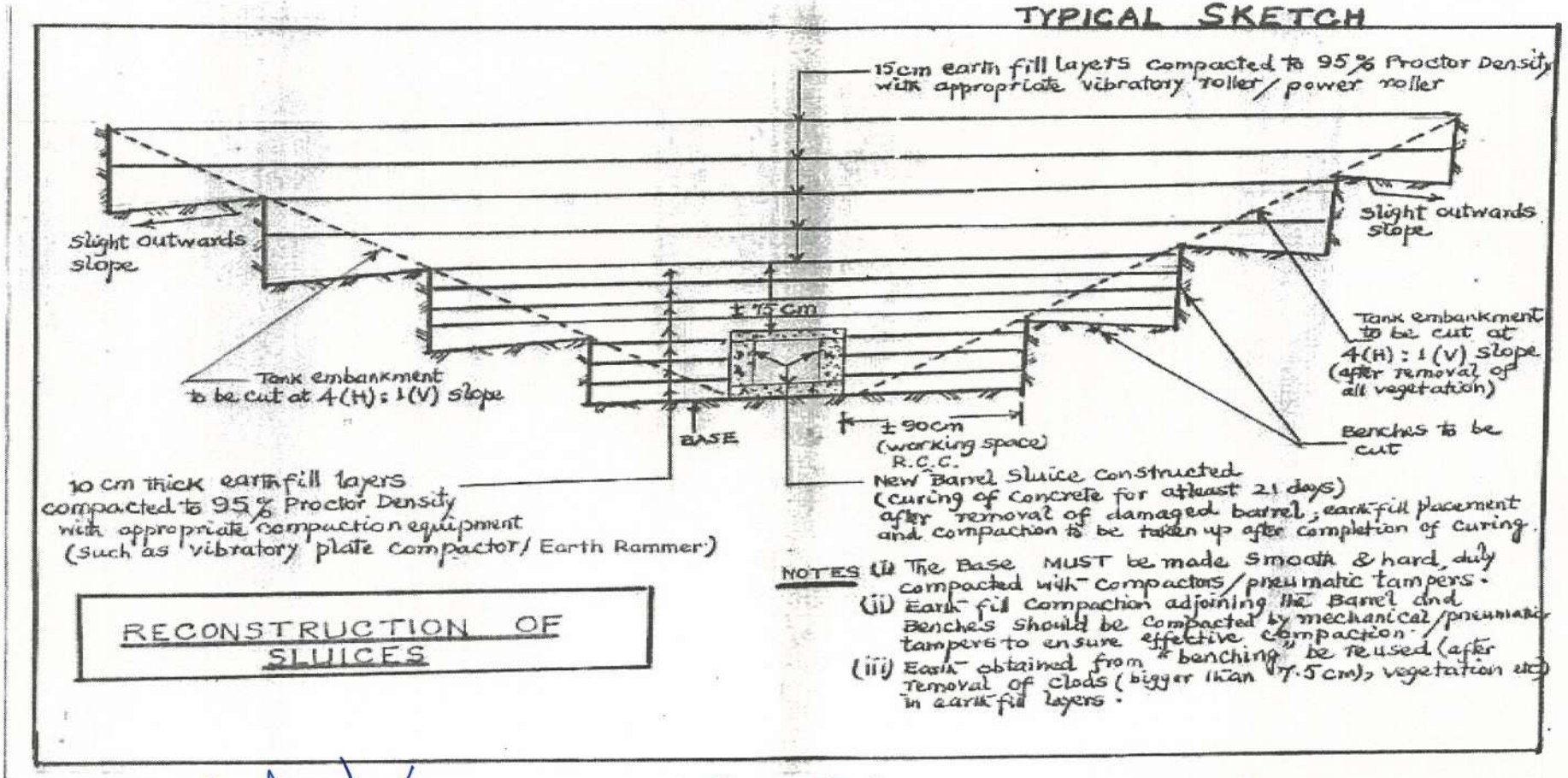


Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

9.4 CUTTING DETAILS OF EARTHERN BUND FOR RECONSTRUCTION OF SLUICE



14/9/20

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

14/9/20

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

16/9/20

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

Proposed Reconstruction of sluice in Tanks

Sl. No	Name of tank	Sluice No.
23.	Amarambedu Parikkeri	1
24.	Amirthamangalam tank	1
25.	Aramani Tank	1
26.	Chinna Bommanjikulam Tank	1
27.	Pondavakkam PuduTank	1
28.	Sedilpakkam Tank	1
29.	Edur Tank	1
30.	Vanamalli Tank	1
31.	Peria Natham Thattan Tank	1
32.	Melapakkam Pettai Cheruvu	1
	Total	**10 Nos**

14/9/20

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

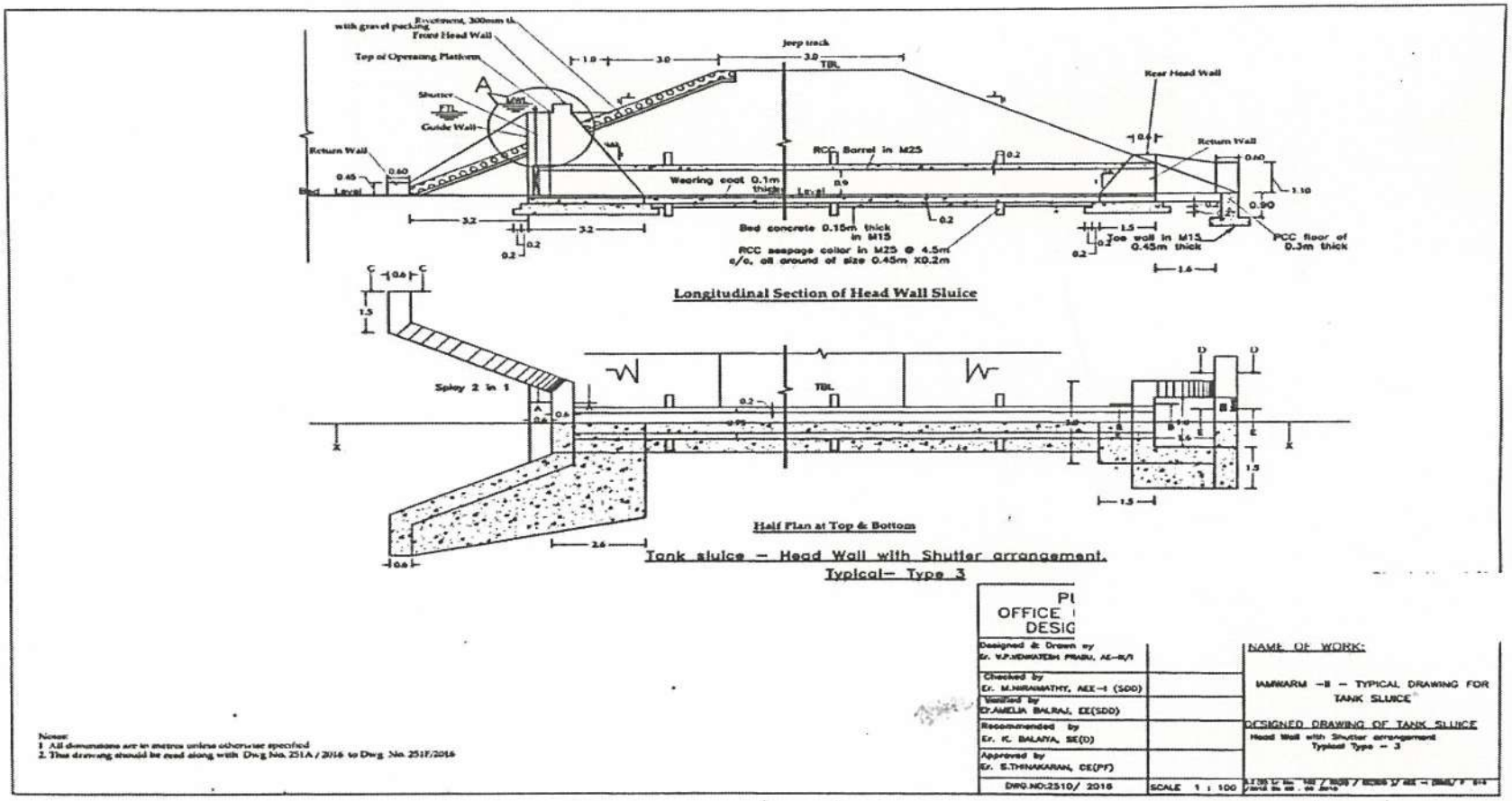
14/9/20

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

16/9/20

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

9.5 RECONSTRUCTION OF SLUICE



14/9/20

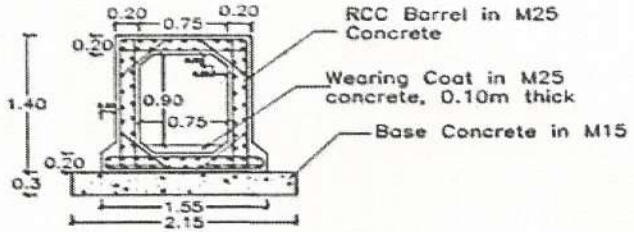
Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

14/9/20

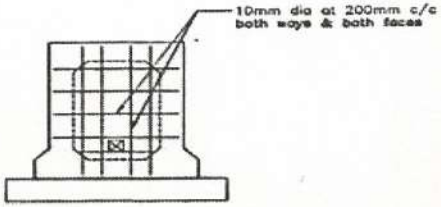
Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

16/9/20

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

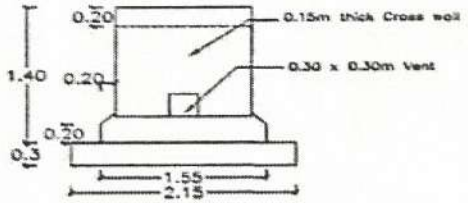


Details of RCC Barrel

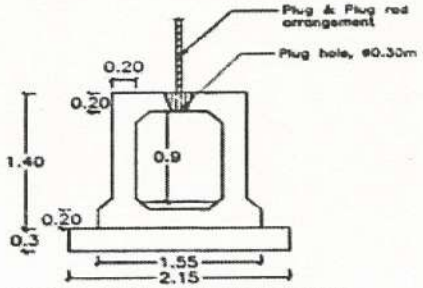


RCC detail of Cross wall

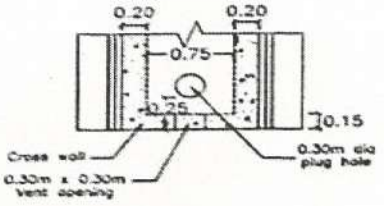
REINFORCEMENT DETAILS FOR SLUICE BARREL					
	Diameter	Spacing		Diameter	Spacing
Bottom Slab			Side Wall		
Main rod (Bottom thro)	12mm	200mm	Main rod (Earth face)	12mm	200mm
Main rod (Top thro)	12mm	200mm	Main rod (Water face)	12mm	200mm
Distributor	10mm	200mm	Distributor	10mm	200mm
Haunch Bar	12mm	200mm			
Top Slab					
Main rod (Bottom thro)	12mm	200mm			
Main rod (Top thro)	12mm	200mm			
Distributor	10mm	200mm			
Haunch Bar	10mm	200mm			



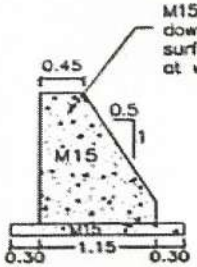
Details of sluice vent



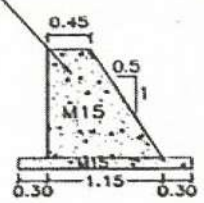
Details of Plug & Plug rod in sluice vent



Plan of Shutter arrangements in plug and plug rod type



Cross Section of Wing Wall and Returns



Cross Section of Rear Cistern Wall

Notes:
1. All dimensions are in metres unless otherwise specified
2. This drawing should be read along with Drg No 2514 / 2016 to Drg No.2513/2016

Sheet No. 3/6

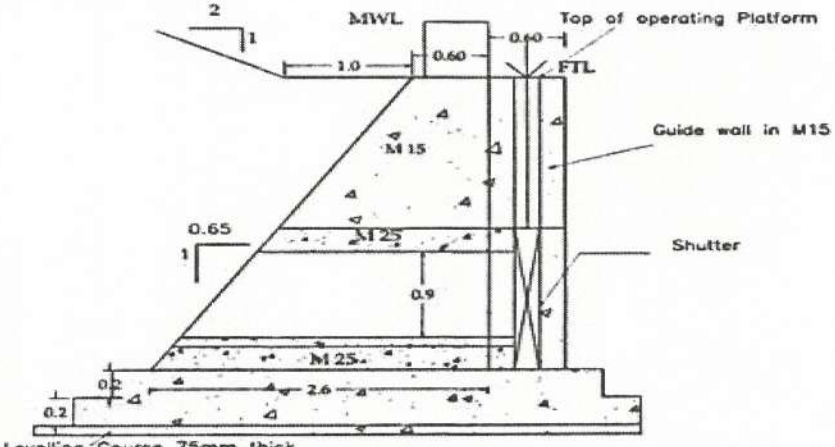
PUBLIC WORKS DEPARTMENT
OFFICE OF THE SUPERINTENDING ENGINEER, PWD,
DESIGNS CIRCLE, WRO, CHENNAI – 600 005

Designed & Drawn by Er. V.P.VENKATESH PRABU, AE-II/1		NAME OF WORK:
Checked by Er. M.NARAYANAN, AEE-I (SDO)		AMBARAM –II – TYPICAL DRAWING FOR TANK SLUICE
Verified by Er.AMELIA BALRAJ, EE(SDO)		
Recommended by Er. K. BALAMA, SE(D)		DESIGNED DRAWING OF TANK SLUICE Cross section of Barrel, Cistern & its Typical Type –I & II
Approved by Er. S.THANGARAJ, CE(PP)		
DRG.NO.2516/ 2016	SCALE 1 : 100	

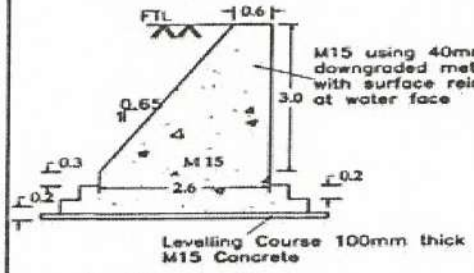
Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

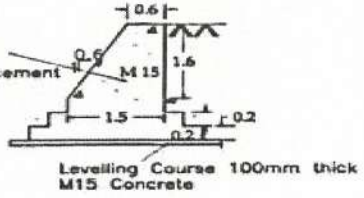
Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.



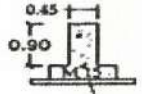
Detail @ A



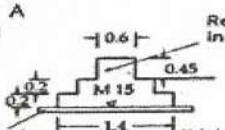
Section A– A
Face Wall



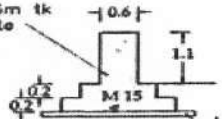
Section B– B



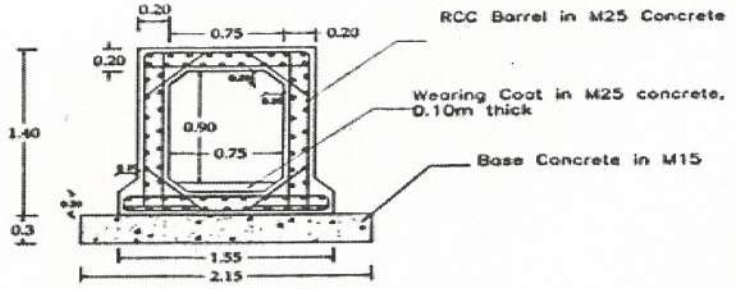
Section E–E



Section C–C



Section D–D



Details of RCC Barrel

REINFORCEMENT DETAILS FOR SLUICE BARREL								
	Diameter	Spacing					Diameter	Spacing
Bottom Slab			Top Slab			Side Wall		
Main rod (Bottom thro)	12mm	200mm	Main rod (Bottom thro)	12mm	200mm	Main rod (Earth face)	12mm	200mm
Main rod (Top thro)	12mm	200mm	Main rod (Top thro)	12mm	200mm	Main rod (Water face)	12mm	200mm
Distributor	10mm	200mm	Distributor	10mm	200mm	Distributor	10mm	200mm
Haunch Bar	12mm	200mm	Haunch Bar	10mm	200mm			

Notes:
1. All dimensions are in metres unless otherwise specified
2. This drawing should be read along with Dwg No. 251A/ 2016 to Dwg No. 251F /2016

Sheet No. 5/6

PUBLIC WORKS DEPARTMENT
OFFICE OF THE SUPERINTENDING ENGINEER, PWD.
DESIGNS CIRCLE, WRO, CHENNAI – 600 005

Designed & Drawn by Dr.K.P.VENKATESH PRABHU, AE-III/I		NAME OF WORK:
Checked by Dr.M.MURAMATHY, AEE-I (SDD)		MAMARM –II – TYPICAL DRAWING FOR TANK SLUICE
Verified by Dr.AMELIA BALRAJ, EE(SDD)		
Recommended by Dr.K.BALAIYA, SE(D)		DESIGNED DRAWING OF TANK SLUICE
Approved by Dr.S.THANGARAM, CE(PP)		CROSS SECTION OF BARREL
DWG.NO: 251E / 2018	SCALE 1 : 75	

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

GENERAL NOTES:

1. The design has been made based on IS 456–2000, Design Aids to IS 456–2000, IS 7563:1985.
2. The typical drawings for tanks with tower head and wing wall type have been prepared. It is suggested to have tower head for tank, where the depth of storage is more than 3.0m and wing wall type, where the depth of storage is less than 3.0m
3. Typical drawing for operating arrangement with (i) Plug and Plug rod & (ii) Shutter arrangement are prepared. When the diameter of the Plug hole is upto 0.3m for the required discharge plug and plug rod arrangement may be adopted. When the diameter of the Plug hole is more than 0.3m for the required discharge shutter arrangement may be resorted to. However, while deciding on the operation method, the convenience of operation may be considered and adopted.
4. Since this proposed vent can discharge more than the requirement even for the minimum head, the Vent opening shall be restricted suitably .
5. Backfilling of the trench should be done with impervious material manually compacted with moisture content of about 2% more than the optimum as per clause 6.2.4 of IS 12169–1987 to prevent the formation of transverse crack.
6. Compaction should be done manually and the material shall be CI type of soil or GC type as per IS1498.
7. The parameters of bund soil (casing soil) such as unit weight, angle of internal friction are assumed as 2.27 t/m³ and 24° respectively. This may be confirmed during execution.
8. Necessary approach channel as indicated in the drawing shall be formed to guide the flow towards the sluice barrel.
9. Necessary PCC wing wall with it top atleast 0.3m above barrel shall be provided at the entry to prevent sliding of the earth dam material into the barrel and its return wall should be properly keyed into the banks.
10. Necessary bank connections should be made to suit the site conditions.

TOWER HEAD TYPE :–

11. Top level of the well is proposed at 0.3m above MWL.
12. All round RCC seepage collars of size 0.45m x 0.20m in M25 concrete is proposed at every 4.5m interval along the circumference of barrel as shown in the drawing. The collar should be constructed monolithically with the barrel.
13. A Cistern of size 1.2m X 1.2m is proposed at the exit of the barrel.
14. A barrel of size 0.75m X 0.9m is proposed. The size of the barrel shall be modified according to the site condition.

Head Wall Type :–

15. The top of the guide wall shall be at FTL and the top of Front head wall shall be at 0.3m above FTL

Note:

1. This sheet should be read along with the sheets from T. No. 251A/ 2016 to T. No.251F/ 2016.

Sheet No. 6/6

PUBLIC WORKS DEPARTMENT
OFFICE OF THE SUPERINTENDING ENGINEER, PWD,
DESIGNS CIRCLE, WRO, CHENNAI – 600 005

Designed & Drawn by Er.V.P.VENKATESH PRABU, AE–II/I		NAME OF WORK:
Checked by Er.M.NIRAIMATHY, AEE–I (SDO)		IAMNARM –II – TYPICAL DRAWING FOR TANK SLUICE
Verified by Er.AMELIA BALRAJ, EE(SDO)		
Recommended by Er.K.BALAIYA, SE(D)		DESIGNED DRAWING OF TANK SLUICE
Approved by Er.S.THINAKARAN, CE(PF)		General Notes
DWG.NO: 251F / 2015		

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

Scanned with CamScanner

Proposed Repair to weir in Tanks

Sl. No	Name of tank	Weir No
1.	Amarambedu Parikkeri	1
2.	Amirthamangalam tank	1
3.	Aramani Tank	1
4.	Budur Anicut Thangal	1
5.	Chinna Bommanjikulam Tank	1
6.	Periya Bommanjikulam Tank	1
7.	Sedilpakkam Tank	2
8.	Elavoor Hissa Kattu Thangal	1
9.	Eguvarpalayam Odaperi	2
10.	Poovalai Large Tank	
11.	Thervali Thamarai Tank	
	Total	**13 Nos**

14/9/20

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

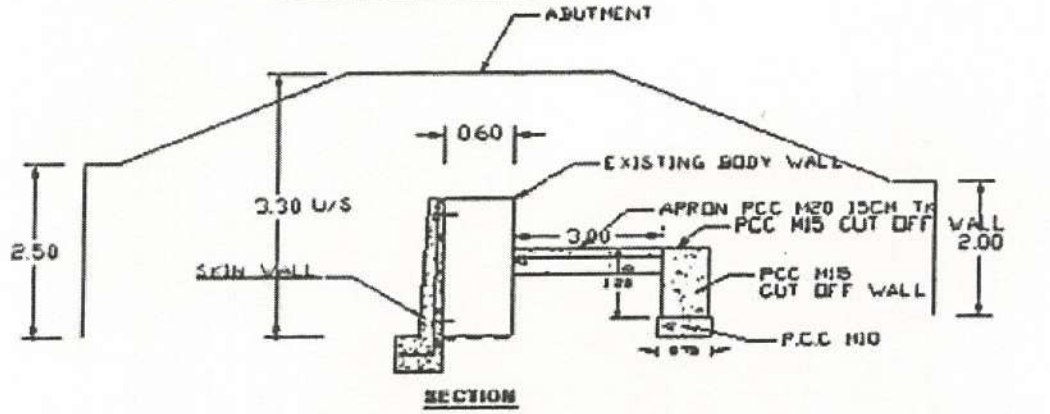
14/9/20

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

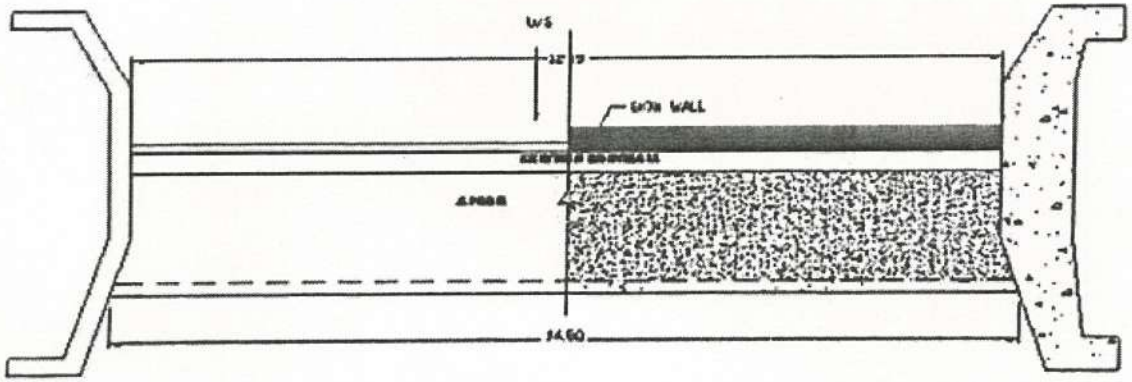
14/9/20

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

TANK WEIR



SECTION



HALF PLAN AT BOTTOM AND TOP

ALL DIMENSIONS ARE IN METER
SHEET 1/2

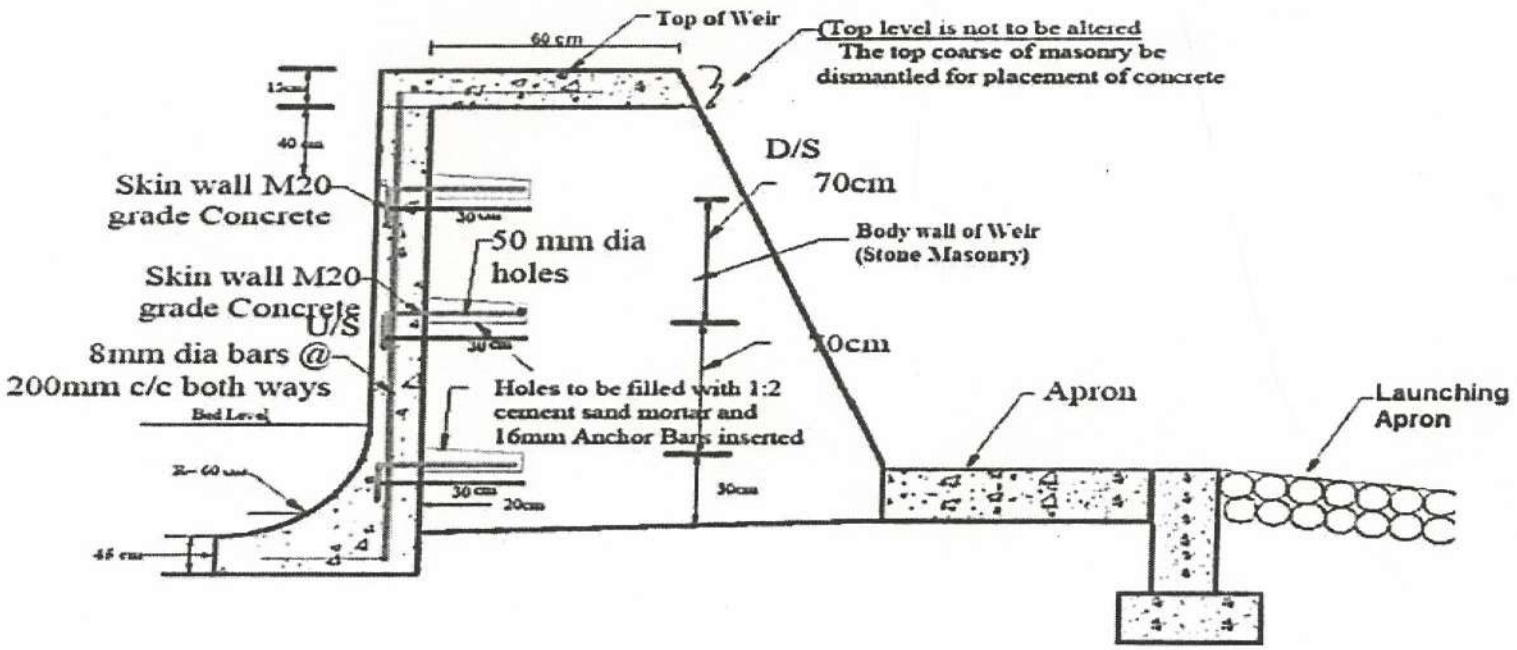
Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

9.6 REPAIRS TO WEIR ( ) - SKIN WALL CONCRETE

SKIN WALL CONCRETE

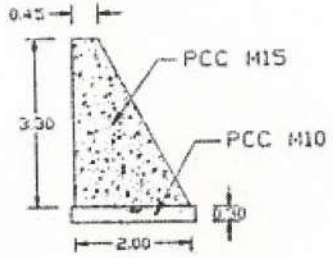


Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

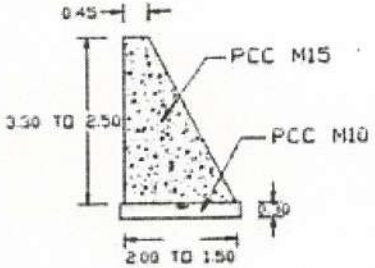
Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

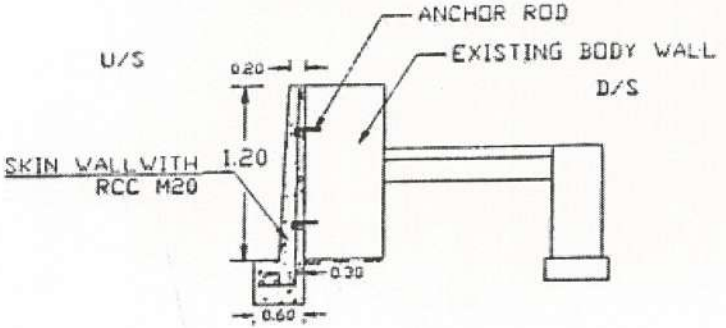
ABUTMENT



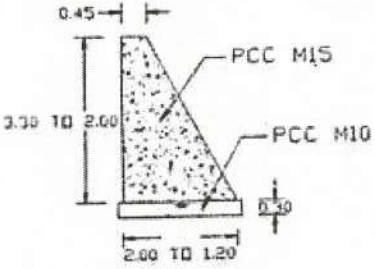
U/S WING WALL



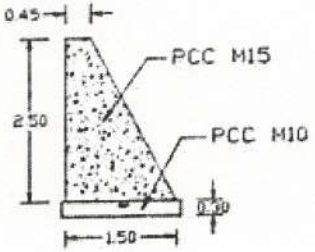
SKIN WALL



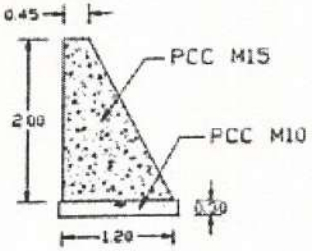
D/S WING WALL



U/S RETURN WALL



D/S RETURN WALL



CROSS SECTION

ALL DIMENSIONS ARE IN METER

SHEET 2/2

14/9/20

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

14/9/20

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

16/9/20

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

Proposed Repairs of Anicut

Sl. No	Name of tank	Sluice No.
1.	Panjalai Anicut	1
2.	Sedilpakkam Anicut	1
3.	Ralakalvoy Anicut	1
4.	Sanaputhur Anicut	1
	Total	**4 Nos**

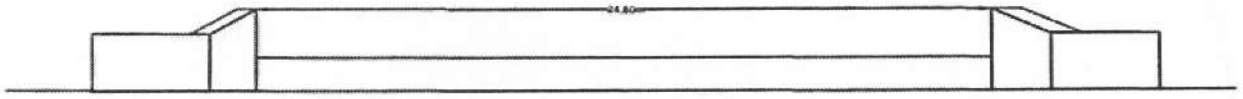
Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

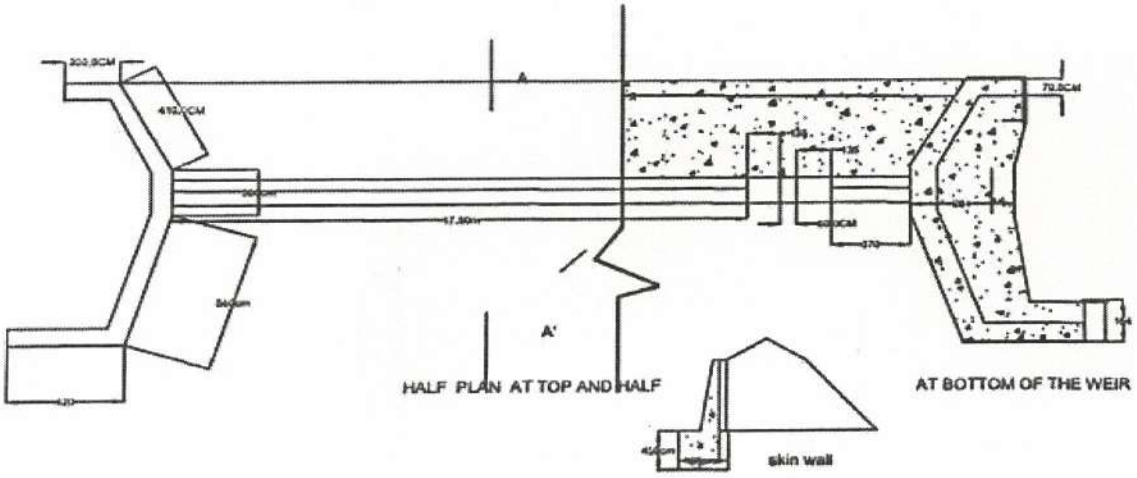
Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

PANAJALI ANICUT

PLAN SHOWING THE REPAIRS TO PANJALAI [illegible] IN GUMMIDIPOONDI TALUK OF TIRUVALLUR DISTRICT

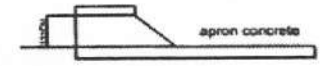


ELEVATION OF THE WEIR

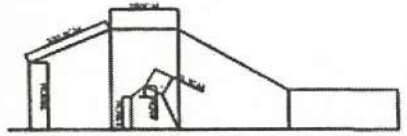


HALF PLAN AT TOP AND HALF AT BOTTOM OF THE WEIR

skin wall



SECTION AT A'B' VENT



EXISTING STRUCTURE

14/9/20

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

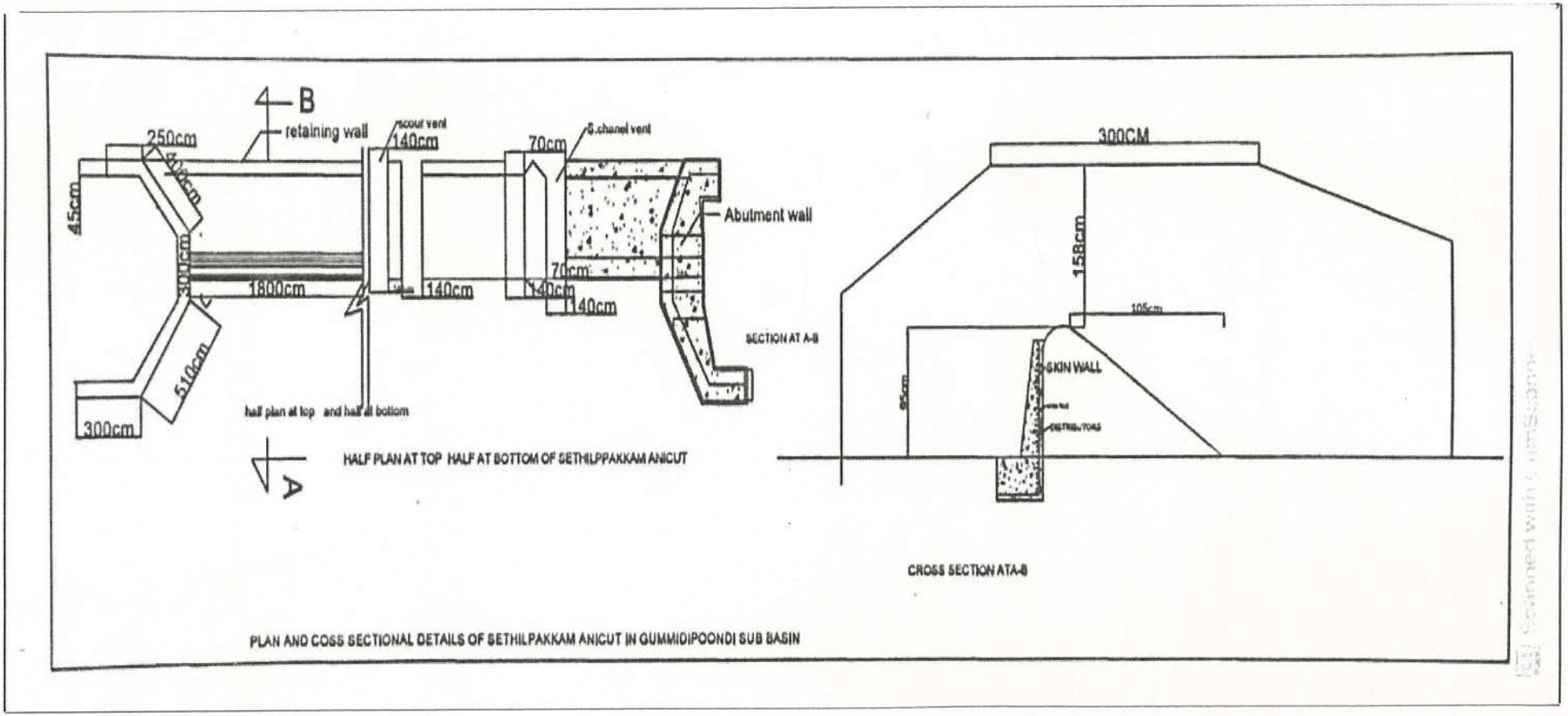
14/9/20

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

16/9/20

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

SEDILPAKKAM ANICUT

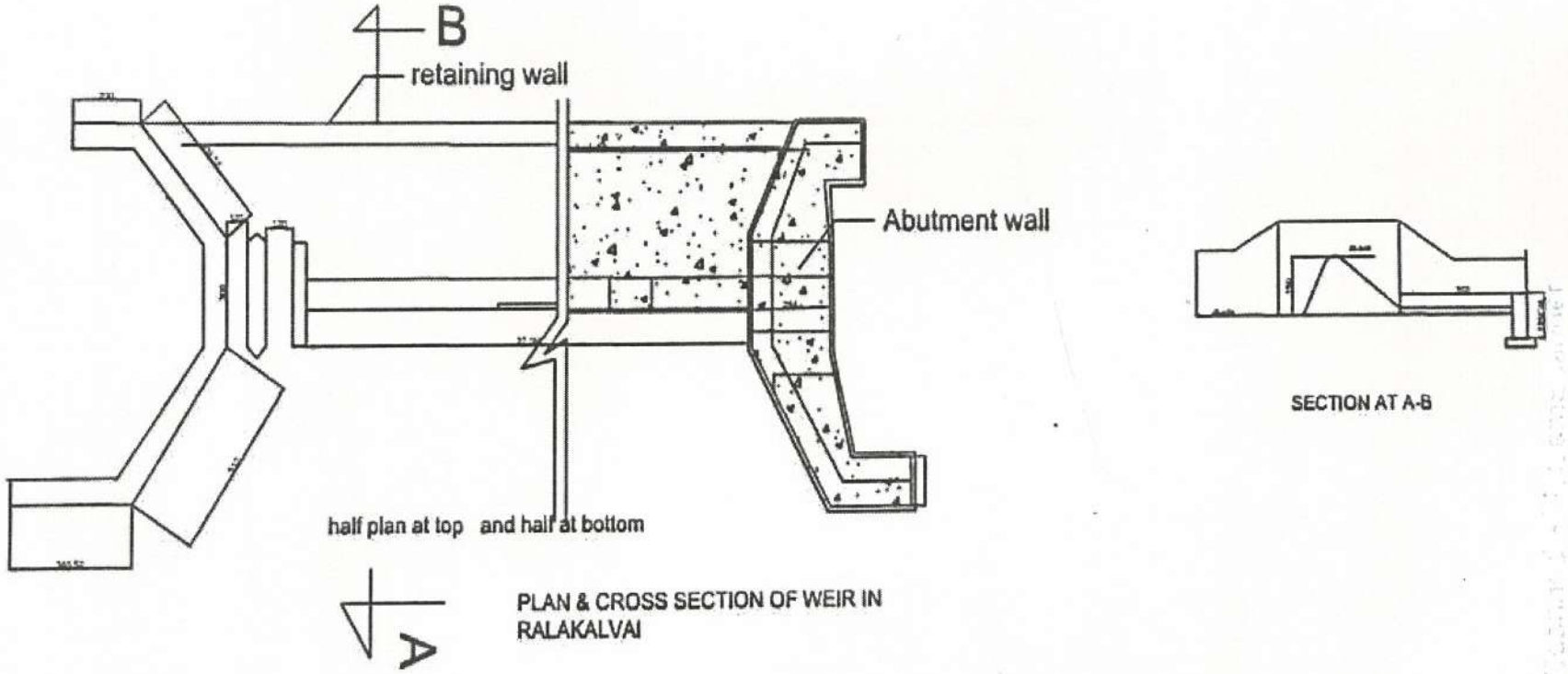


Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

RALAKALVAI ANICUT



PLAN & CROSS SECTION OF WEIR IN RALAKALVAI

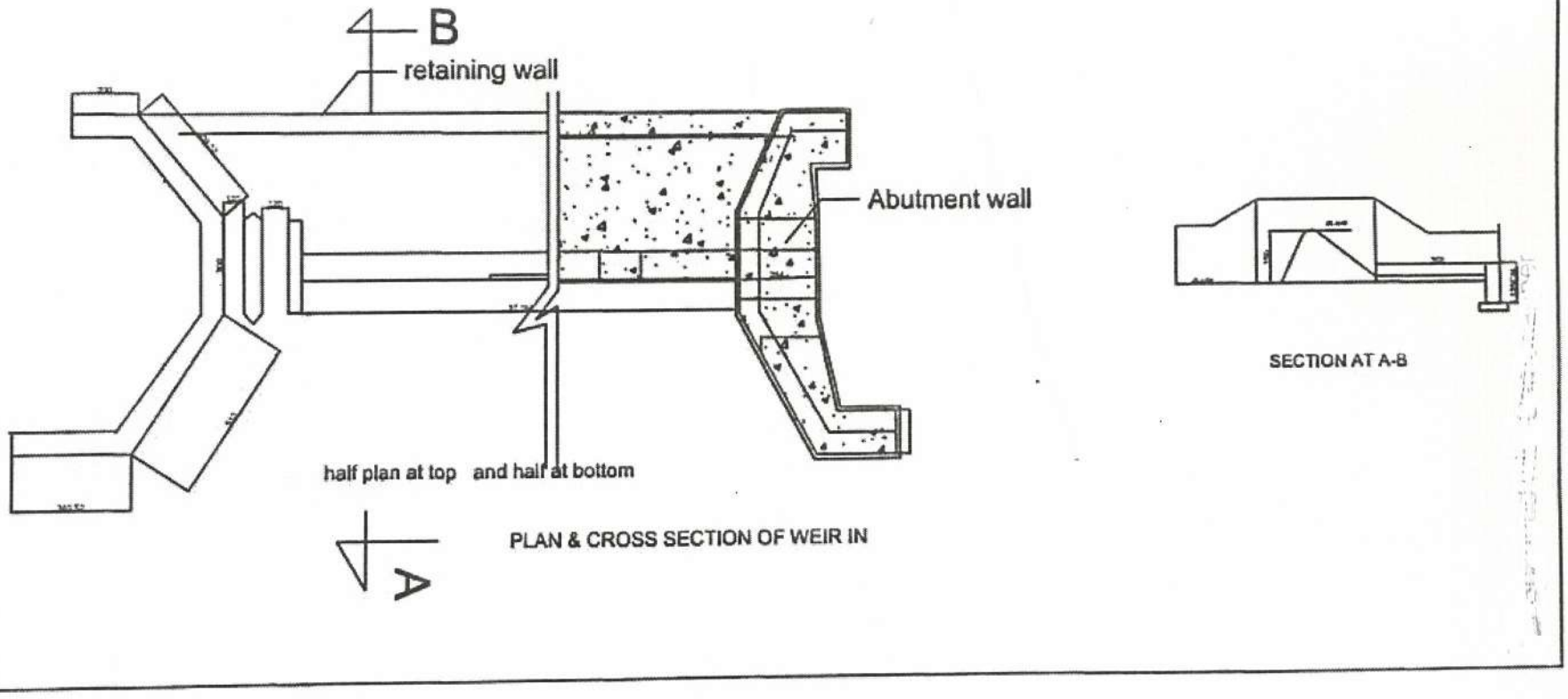
163

14/9/20
Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

14/9/20
Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

14/9/20
Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

SANAPUTHUR ANICUT



PLAN & CROSS SECTION OF WEIR IN

14/9/20
Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

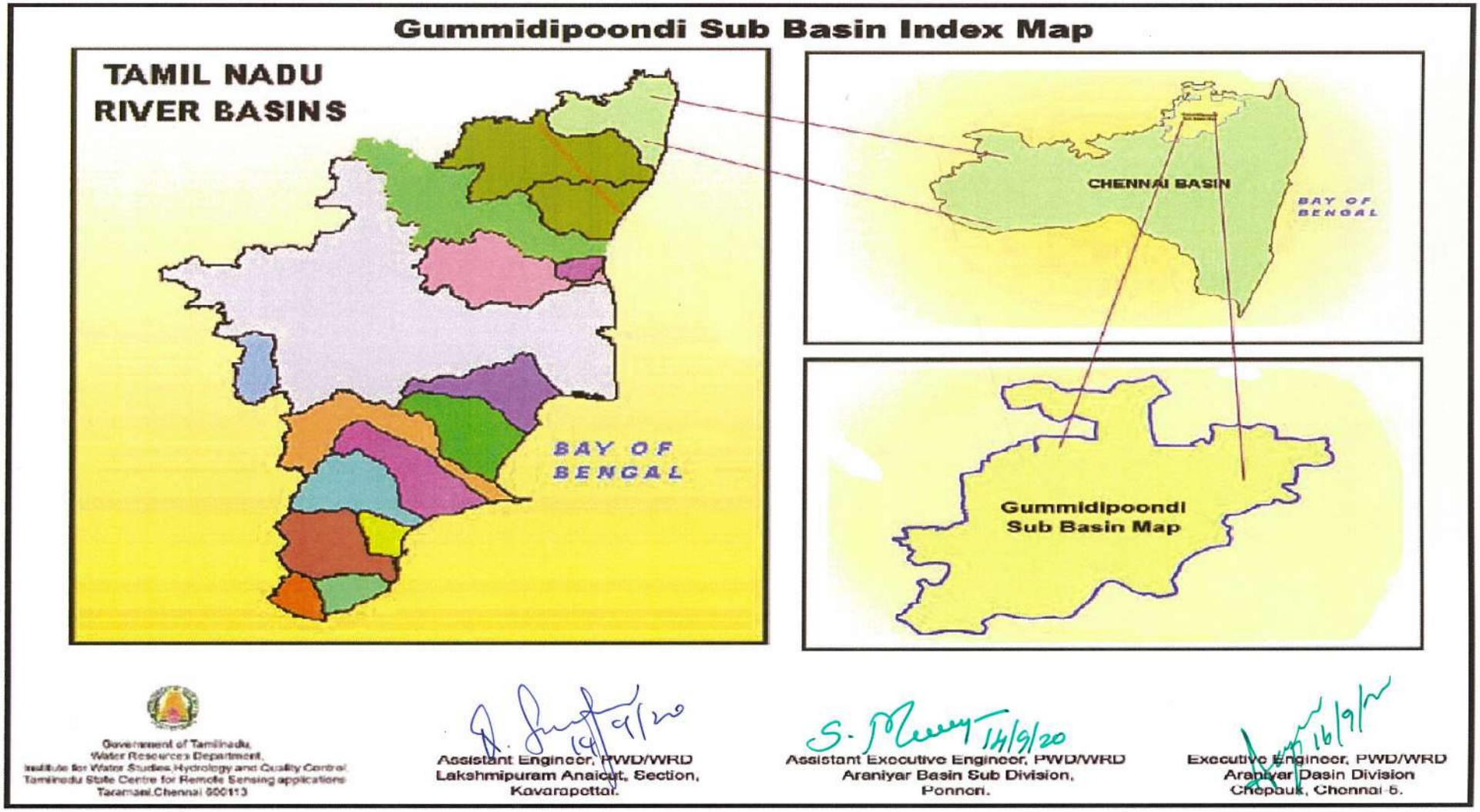
14/9/20
Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

16/9/20
Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

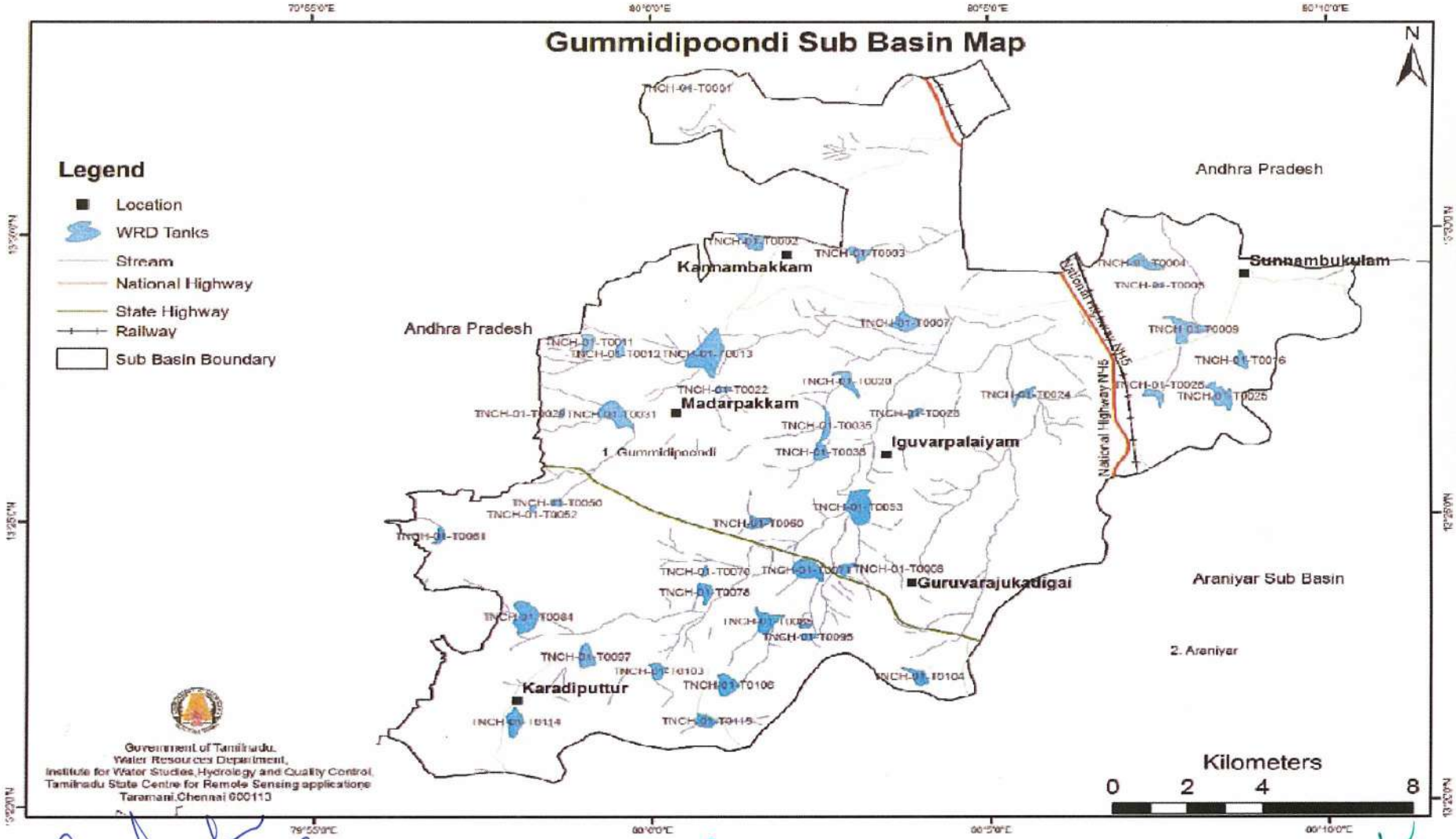
CHAPTER 10

MAPS

10.1 GUMMIDIPOONDI SUB BASIN INDEX MAP



10.2 GUMMIDIPOONDI SUBBASIN MAP

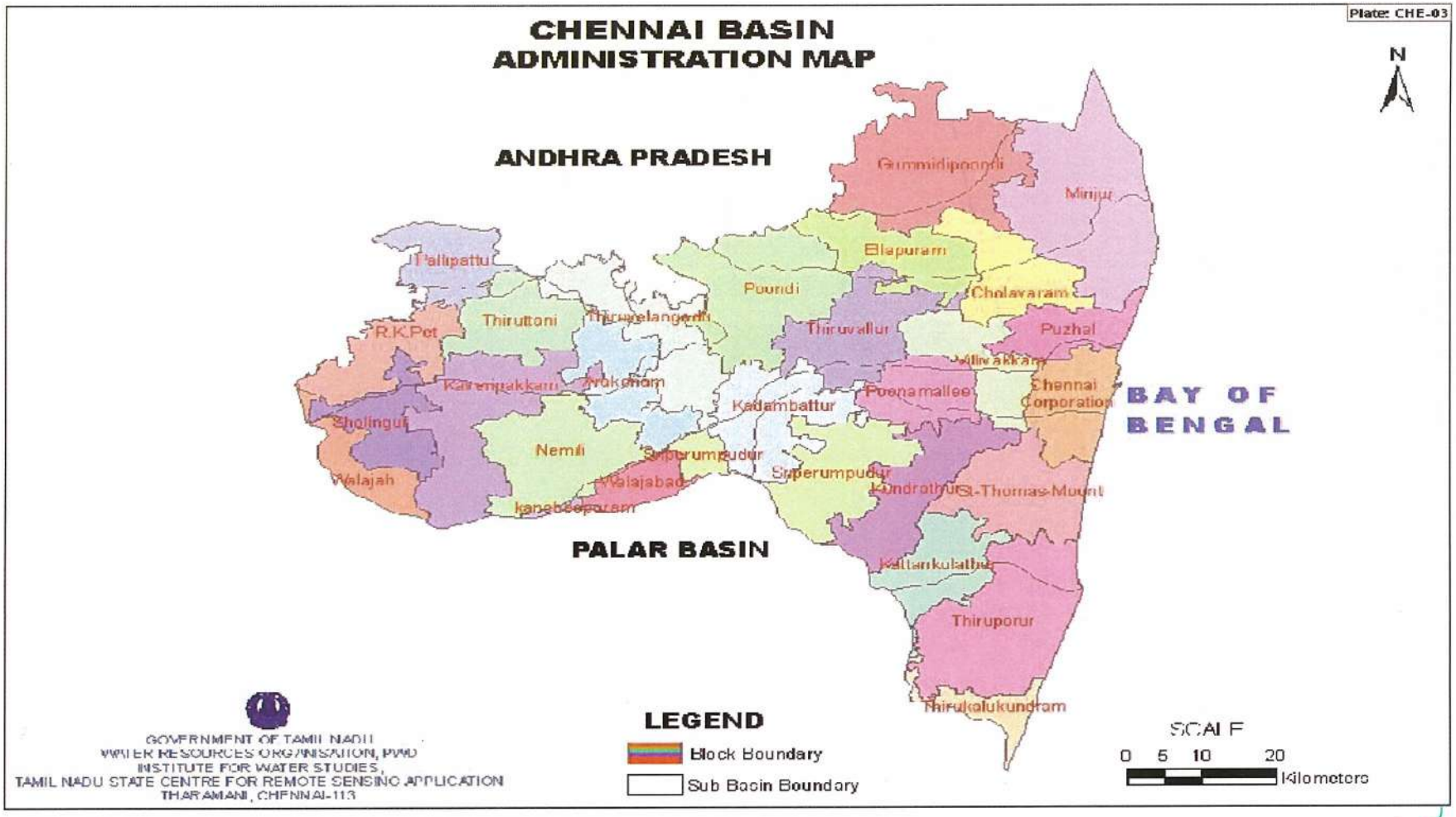


Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

10.3 GUMMIDIPOONDI SUB BASIN ADMINISTRATIVE BOUNDARY MAP



14/9/20

Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

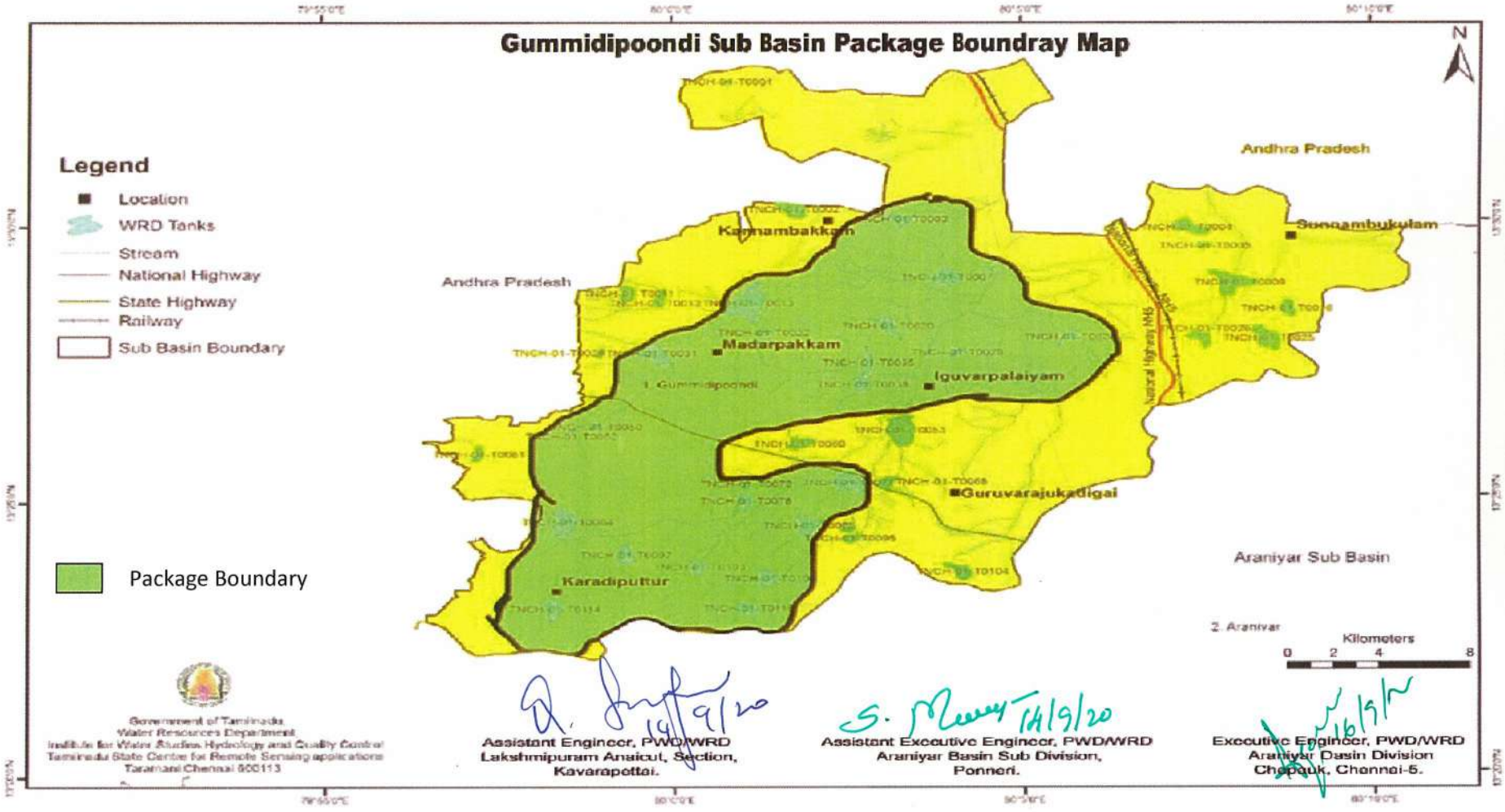
14/9/20

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

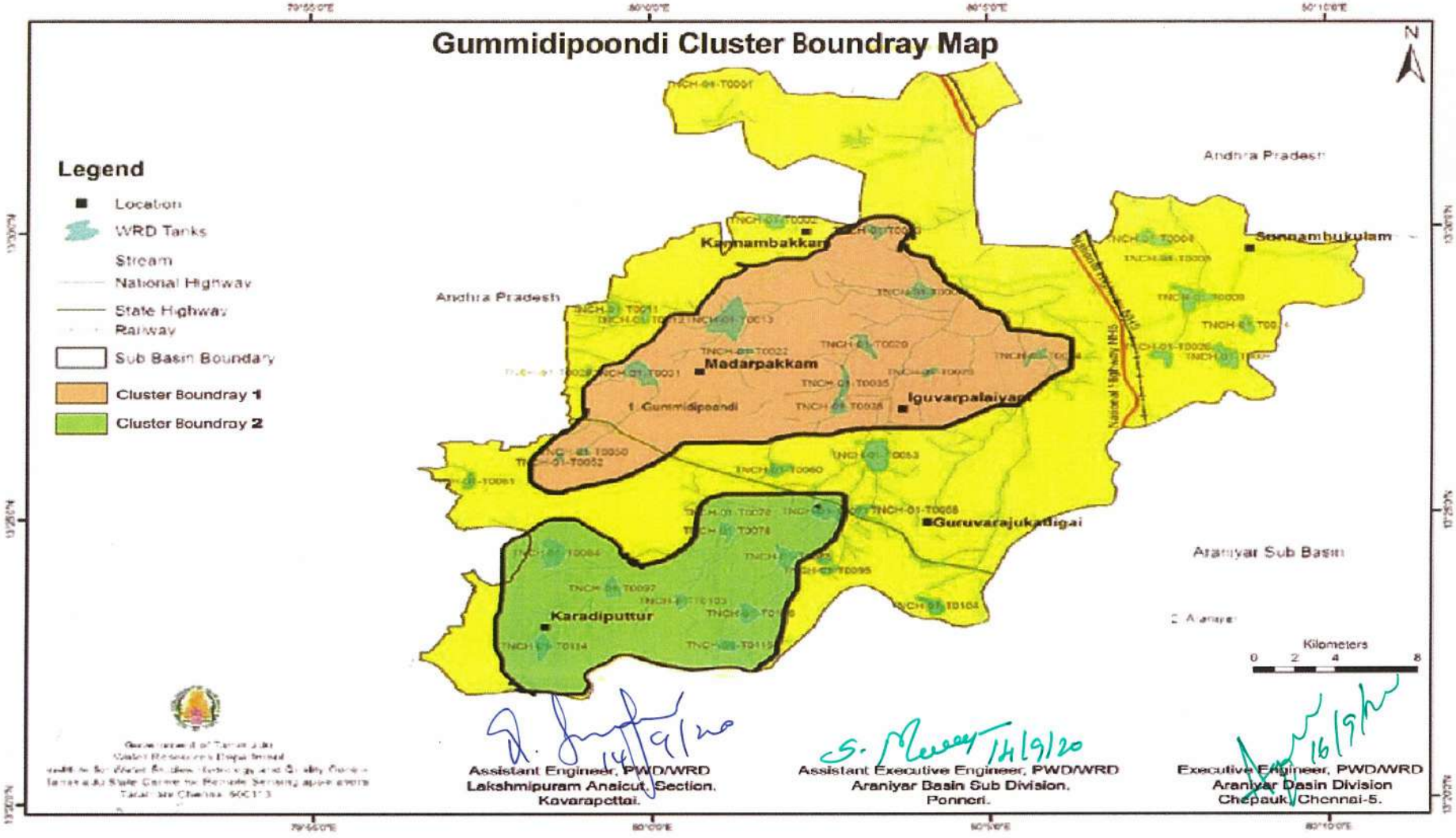
16/9/20

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

10.4 GUMMIDIPOONDI SUB BASIN PACKAGE BOUNDARY MAP



10.5 GUMMIDIPOONDI SUB BASIN CLUSTER BOUNDARY MAP

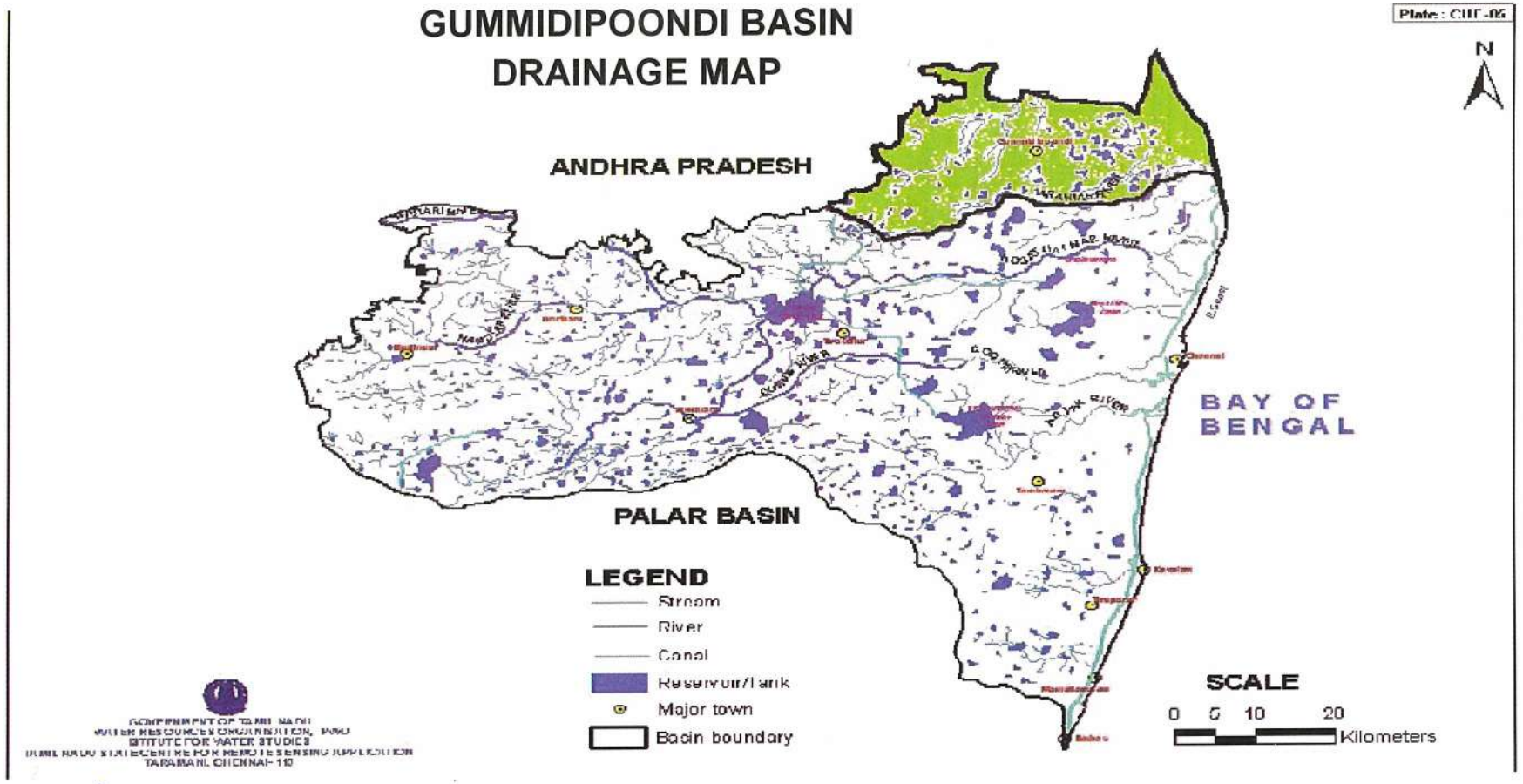


Assistant Engineer, PWD/WRD
Lakshmipuram Anaicut Section,
Kavarapettai.

Assistant Executive Engineer, PWD/WRD
Araniyar Basin Sub Division,
Ponneri.

Executive Engineer, PWD/WRD
Araniyar Basin Division
Chepauk, Chennai-5.

10.6 GUMMIDIPOONDI SUB BASIN DRAINAGE MAP

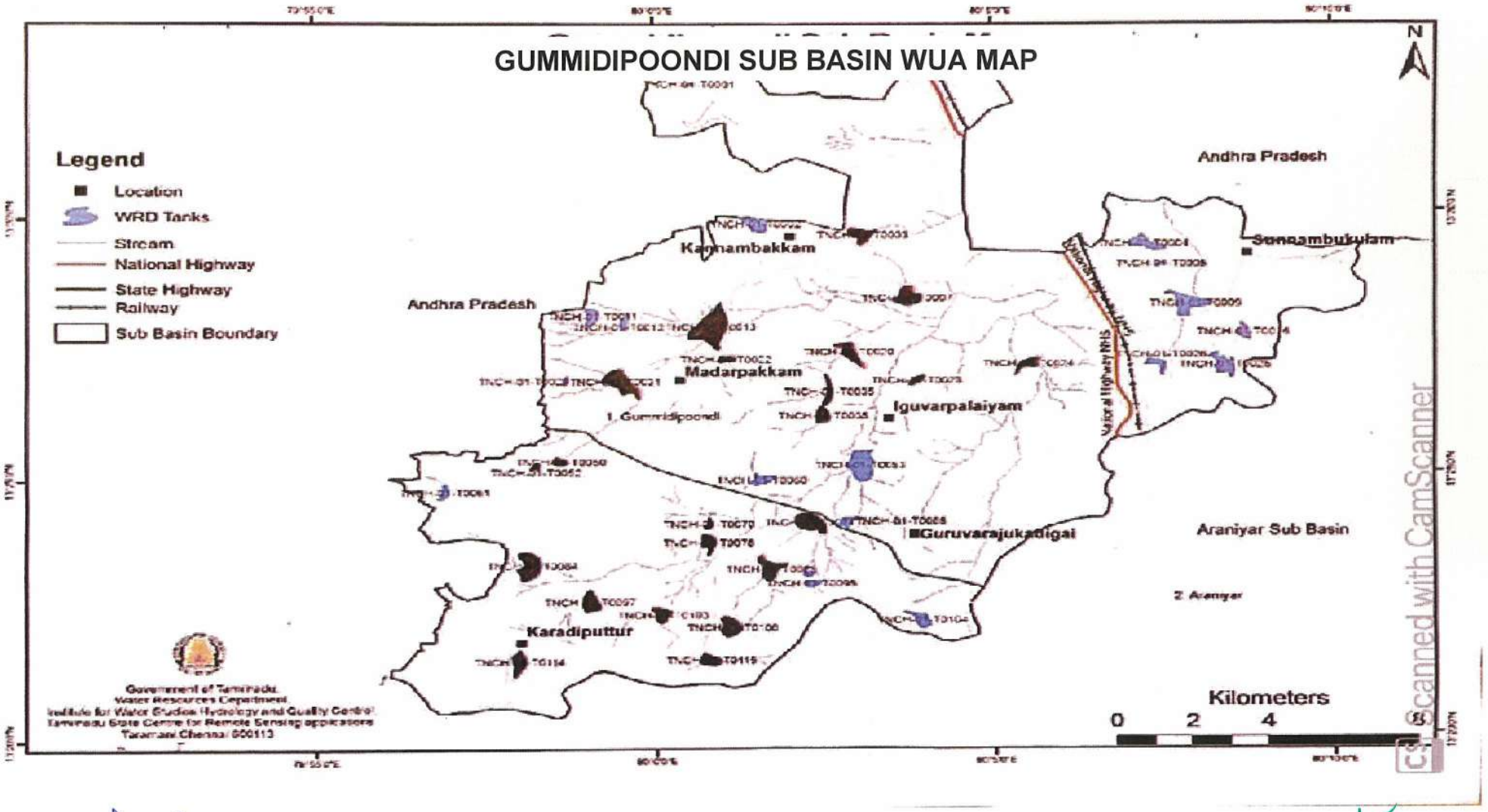


Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

10.7 GUMMIDIPOONDI SUB BASIN WUA MAP

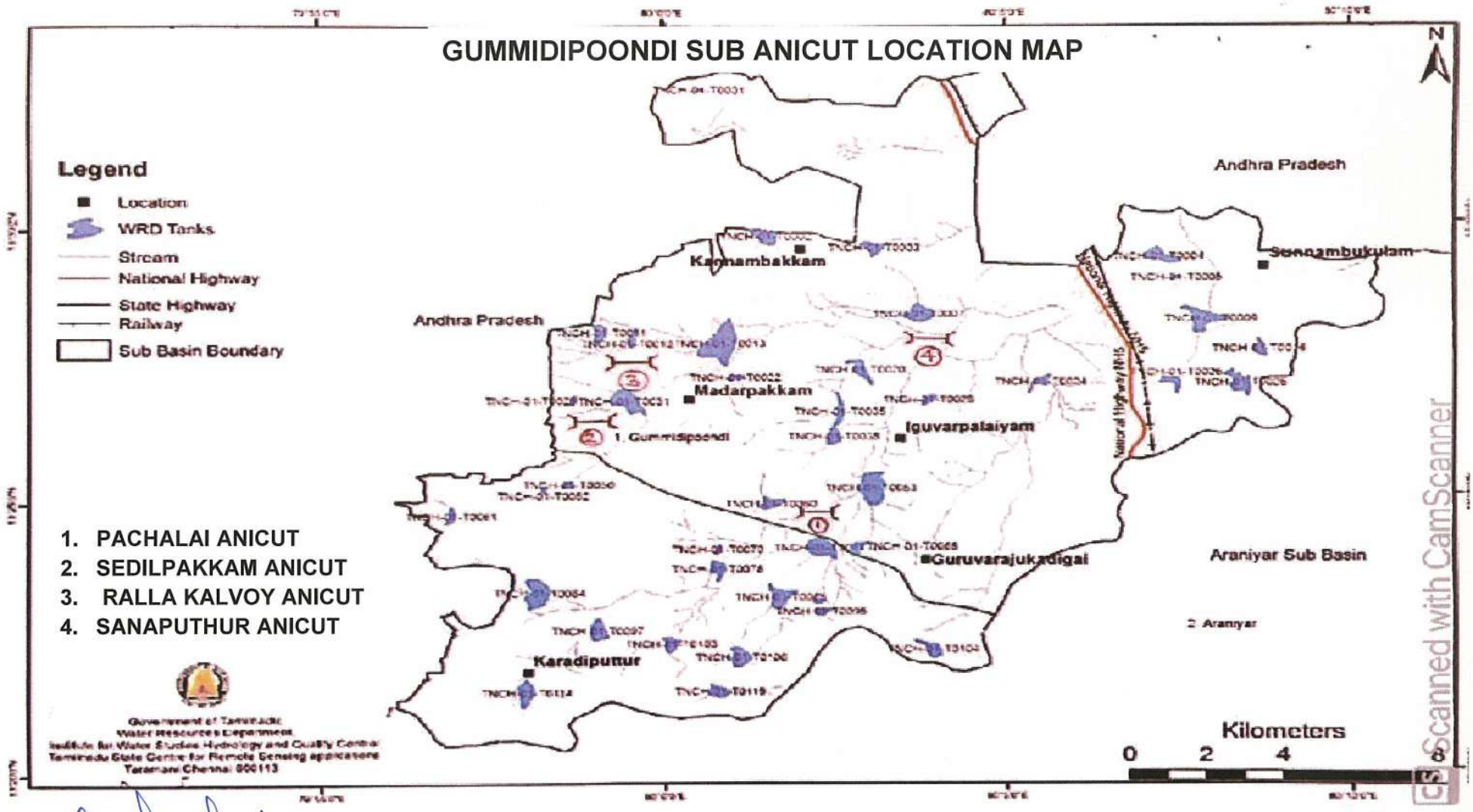


Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chenauk, Chennai-5

10.8 GUMMIDIPOONDI SUB BASIN ANICUT LOCATION MAP



Assistant Engineer, PWD, WRD.,
Lakshmipuram Anicut section,
Kavaripettai

Assistant Executive Engineer, PWD, WRD.,
Araniyar Basin sub Division,
Ponneri

Executive Engineer, PWD, WRD.,
Araniyar Basin Division,
Chepauk, Chennai-5.

Scanned with CamScanner

CHAPTER 11

PHOTOS

Meeting With Line Department



Walk Through Survey











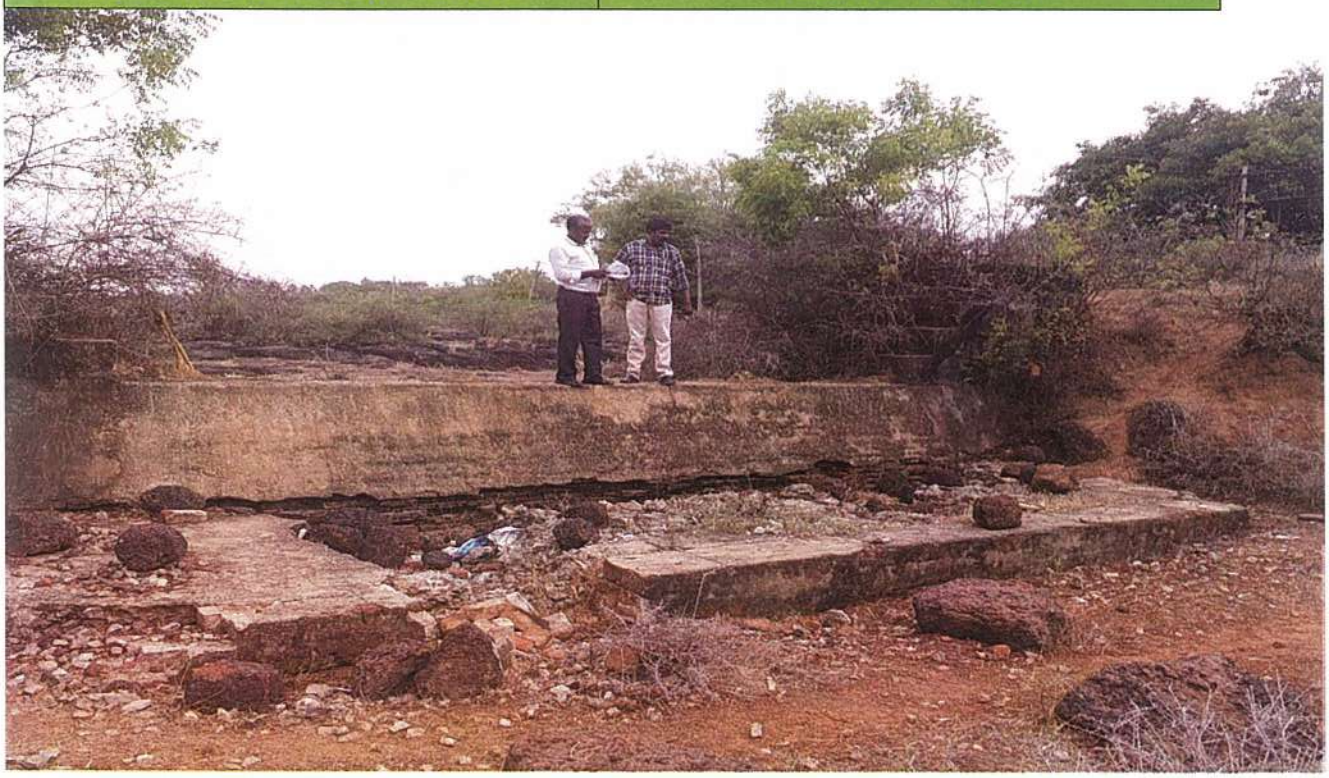
NAME OF WORK : ARAMANI	VILLAGE : ARAMANI
BLOCK : GUMMIDIPOONDI	REPAIRS TO WEIR



NAME OF WORK : ARAMANI	VILLAGE : ARAMANI
BLOCK : GUMMIDIPOONDI	RECONSTRUCTION TO SLUICE



NAME OF WORK : KANALUR PUDU TANK	VILLAGE : KANALUR
BLOCK : GUMMIDIPOONDI	REPAIRS TO WEIR



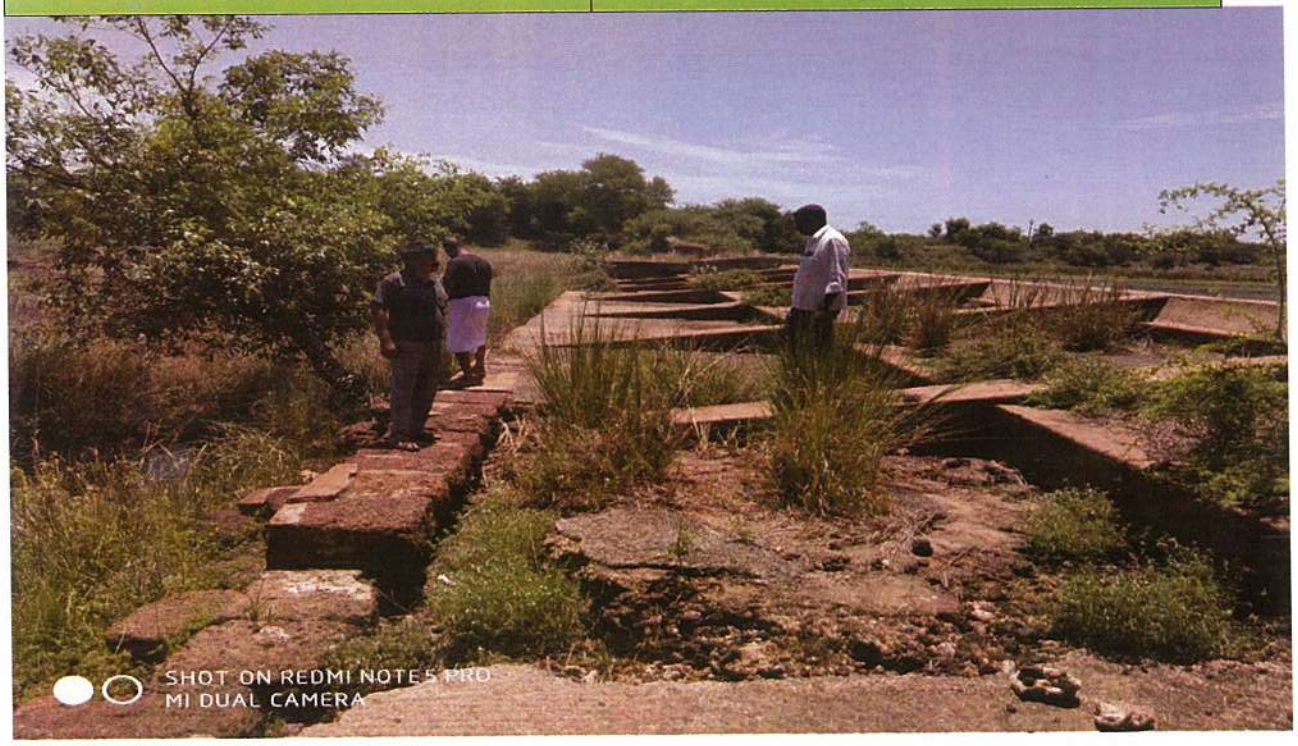
NAME OF WORK : KANALUR PUDU TANK	VILLAGE : KANALUR
BLOCK : GUMMIDIPOONDI	Strengthening of Tank Bund



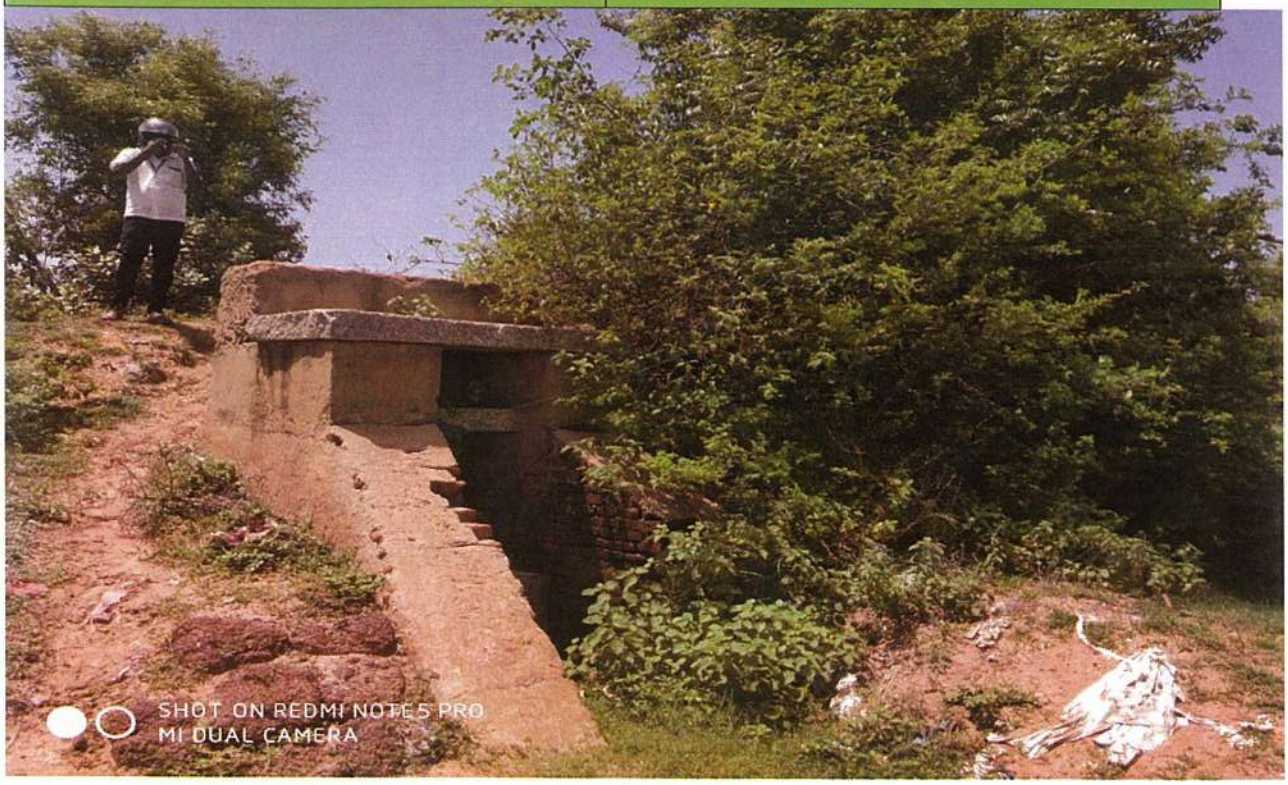
NAME OF WORK : EGUVARPALAM ODAPERI	VILLAGE : EGUVARPALAM
BLOCK : GUMMIDIPOONDI	REPAIRS TO WEIR



NAME OF WORK : EGUVARPALAM ODAPERI	VILLAGE : EGUVARPALAM
BLOCK : GUMMIDIPOONDI	REPAIRS TO WEIR 2



NAME OF WORK : PERIYA NATHAM	VILLAGE : NATHAM
BLOCK : GUMMIDIPOONDI	RECONSTRUCTION TO SLUICE



NAME OF WORK : AMARAMBEDU PARIKKERI	VILLAGE : AMARAMBEDU
BLOCK : GUMMIDIPOONDI	RECONSTRUCTION TO SLUICE



NAME OF WORK : EDUR TANK	VILLAGE : EDUR
BLOCK : GUMMIDIPOONDI	REPAIRS TO WEIR



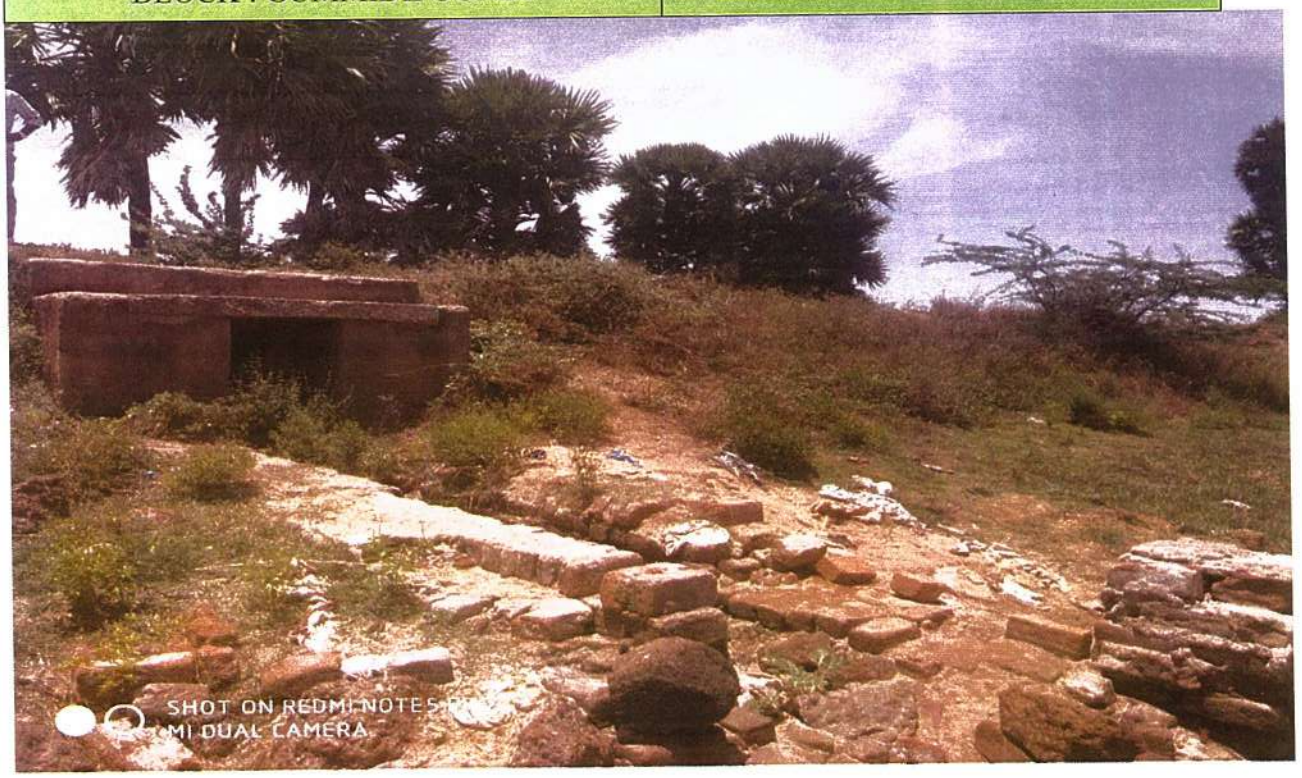
NAME OF WORK : VANIMALLI TANK	VILLAGE : VANIMALLI
BLOCK : GUMMIDIPOONDI	RECONSTRUCTION TO SLUICE



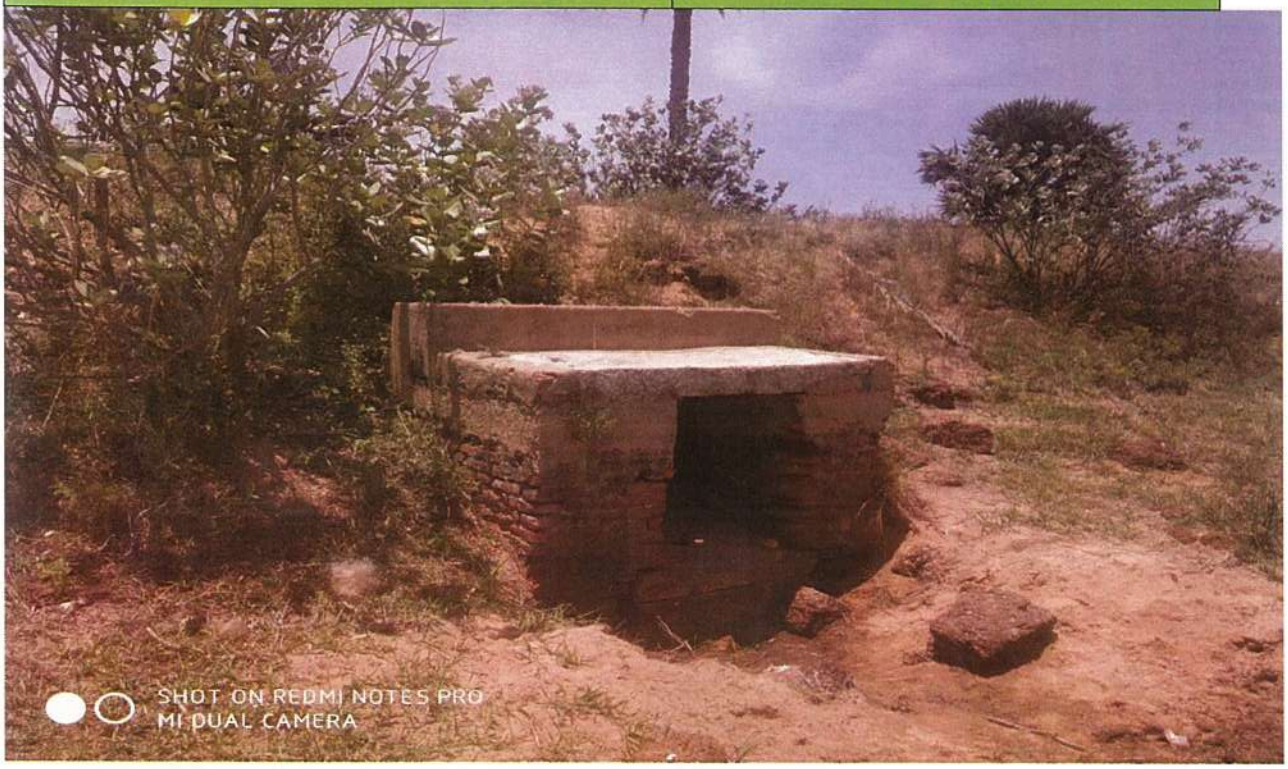
NAME OF WORK : NARASINGAPURAM TANK	VILLAGE : NARASINGAPURAM
BLOCK : GUMMIDIPOONDI	RECONSTRUCTION TO SLUICE



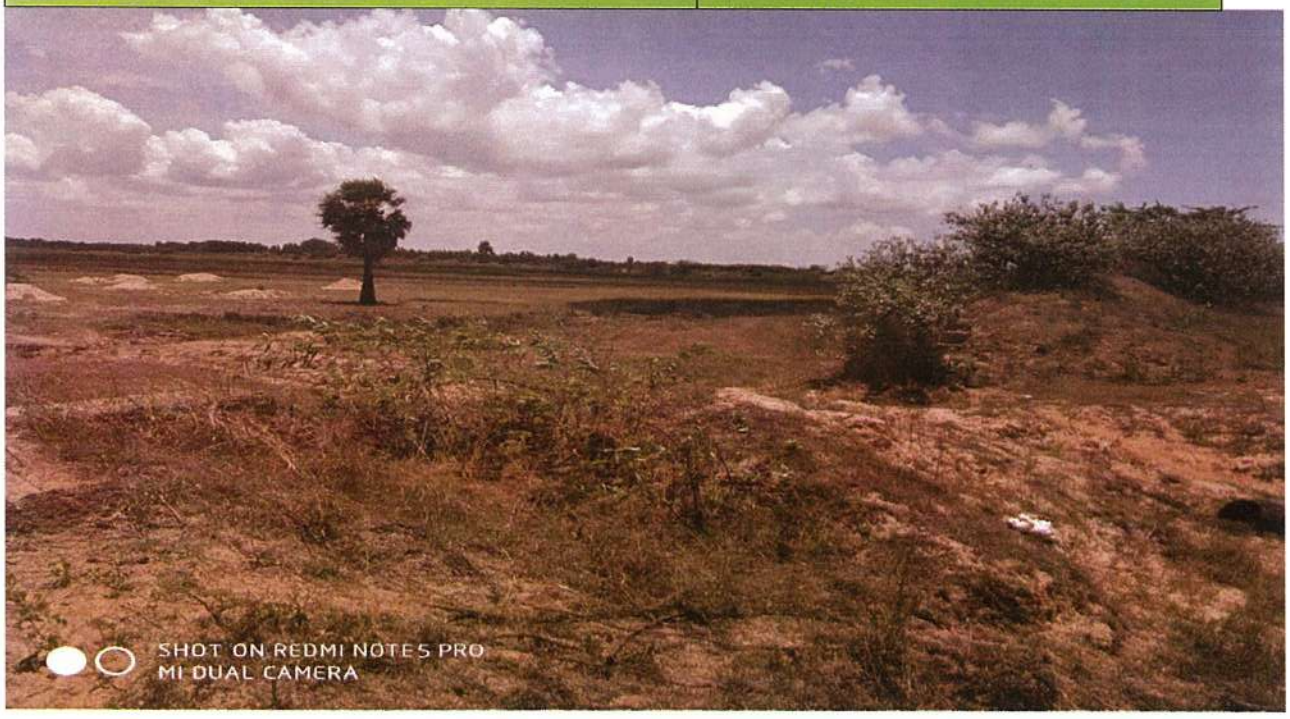
NAME OF WORK : ELAVOOR HISSA KATTU THANGAL TANK	VILLAGE : ELAVOOR
BLOCK : GUMMIDIPOONDI	RECONSTRUCTION TO SLUICE



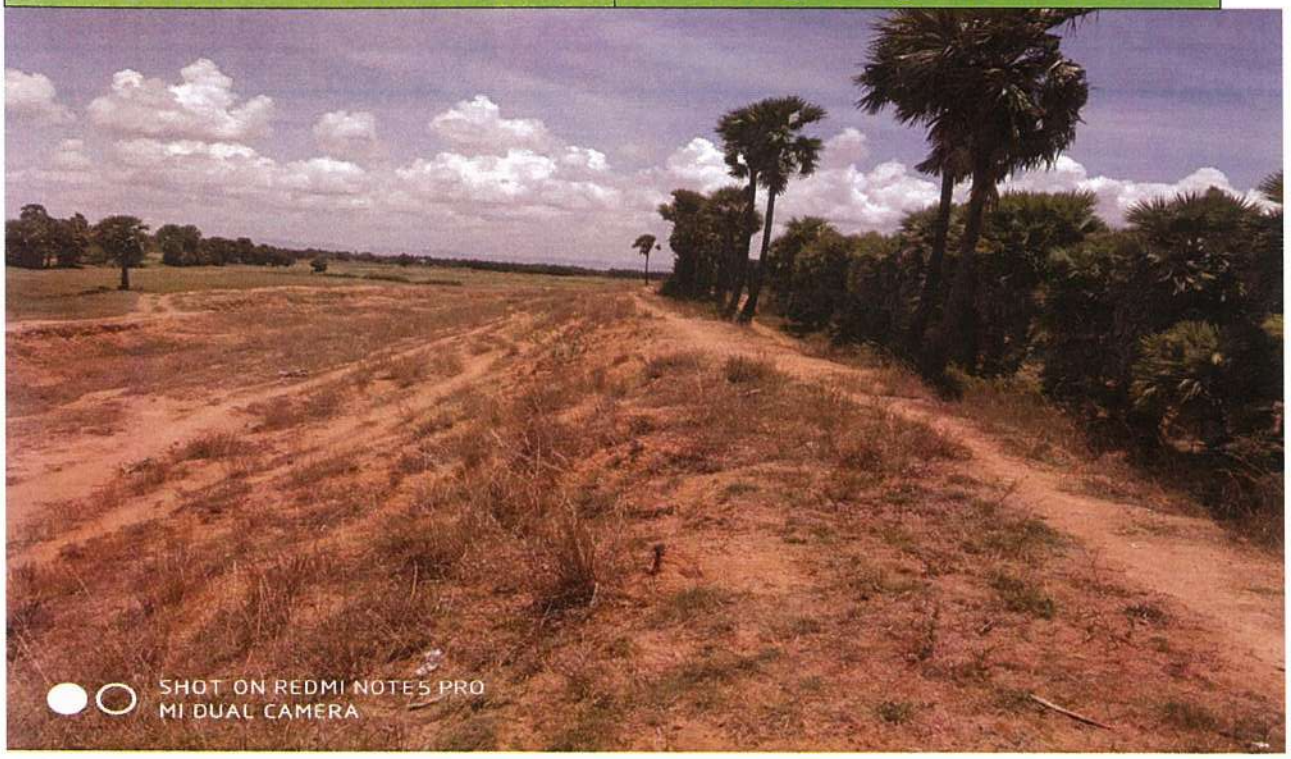
NAME OF WORK : ELAVOOR KATTERI TANK	VILLAGE : ELAVOOR
BLOCK : GUMMIDIPOONDI	RECONSTRUCTION TO SLUICE



NAME OF WORK : ELAVOOR HISSA KATTU THANGAL TANK	VILLAGE : ELAVOOR
BLOCK : GUMMIDIPOONDI	REPAIRS TO WEIR



NAME OF WORK : ELAVOOR HISSA KATTU THANGAL TANK	VILLAGE : ELAVOOR
BLOCK : GUMMIDIPOONDI	Strengthening of Tank Bund



NAME OF WORK : PONDAVAKKAM TANK	VILLAGE : PONDAVAKKAM
BLOCK : GUMMIDIPOONDI	REHABILITATION TO SLUICE



NAME OF WORK : PANJALI MADUVU	VILLAGE : PERIYAPULIYUR
BLOCK : GUMMIDIPOONDI	REPAIRS to ANICUT



NAME OF WORK : SANAPUTHUR MADUVU	VILLAGE : SANAPUTHUR
BLOCK : GUMMIDIPOONDI	REPAIRS to ANICUT



NAME OF WORK : RALAKALVAI MADUVU	VILLAGE : PONDAVAKKAM
BLOCK : GUMMIDIPOONDI	REPAIRS to ANICUT



NAME OF WORK : SEDILPAKKAM MADUVU	VILLAGE : SEDILPAKKAM
BLOCK : GUMMIDIPOONDI	REPAIRS to ANICUT

