

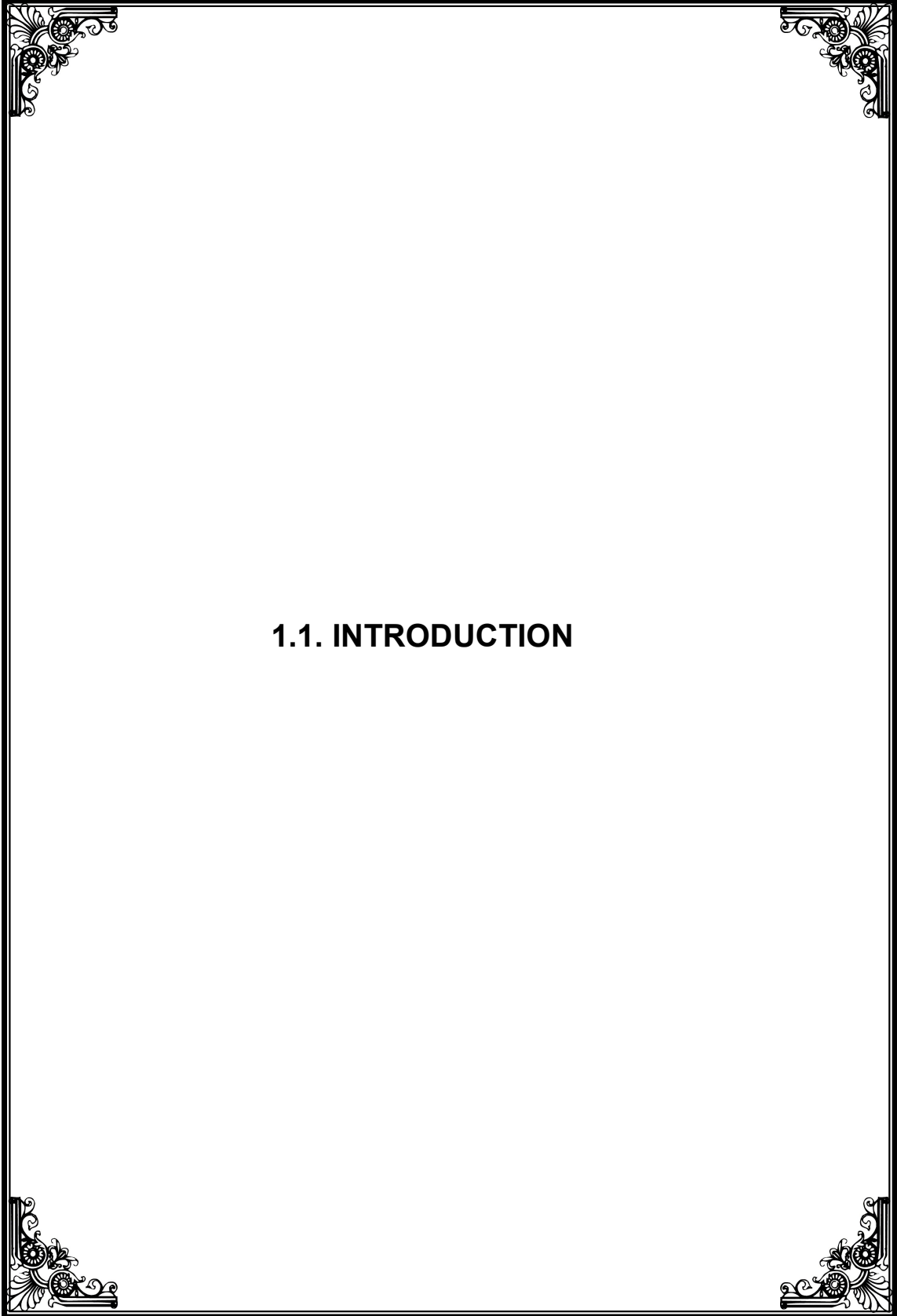


**TN – IAMWARM PROJECT**

**THURINJALAR SUB BASIN**

**DETAILED PROJECT REPORT**





## 1.1. INTRODUCTION

## **1.1. INTRODUCTION**

### **1.1.1. GENERAL :**

Agriculture is the heart beating of India and is the dominant sector in the Indian economy. Tamil Nadu depends largely on the surface and ground water potentials to the maximum limit and hence the future development and expansion depends only on the efficient and economical use of water potential and Resources.

The Government of Tamilnadu have taken a number of progressive actions on water resources and irrigation management, for the modernization of the Traditional Irrigation systems in Tamil Nadu with a loan assistance from World Bank. Under the World Bank funded project of "Irrigated Agriculture Modernization and Water Resources Management", River sub basins have been selected and proposed to be taken up under the control of Water Resources Organisation Wing of Public Works Department of Tamilnadu. The **THURINJALAR SUB BASIN** Project is one among them.

Accordingly a comprehensive program me has been proposed with a multi Disciplinary Approach. The modernization of the irrigation systems of THURINJALAR SUB BASIN. The very objective of this project is to attain maximum productivity from farm lands, for which serious attention is required to modernize the existing irrigation structures, amicus, canal systems and tanks in order to make them functionally more effective, conserve and utilize the available water from catchment area for optimum use.

The history of the sub basin, problems in the irrigational system and the proposals to overcome the problems have been dealt in depth in the following chapters. The highlighted benefits of the project are

- (i) 1208.97 Ha of registered gap ayacut will be bridged.
- (ii) There will be an additional food production of 14702 MT.  
(Annexure- A )
- (iii) On part of WRO about 8,20,000 man days for agriculture labors will be created in the successive every years.
- (iv) Depletion of ground water table will be improved and drinking water problem in the command area will be solved appreciably.

- (v) This project will promote water users participation in all aspects of water planning and management and also improve their socio economic status.

The project cost for water resources organization is worked out to a tune of Rs. 1097.90 Lakhs.

### **1.1.2. DESCRIPTION OF THE MAIN PENNAIYAR RIVER**

The main Pennaiyar Basin gets its name after the name of the river Pennaiyar. The Pennaiyar River has its origin in the South Eastern slopes of Chennakesava hills in Nandhidurg in Karnataka state and after traversing about 112km in Karnataka state it enters in Tamil Nadu in Hosur Taluk and flows through Hosur, Krishnagiri and Uthangarai Taluks of Krishnagiri District and Harur Taluk of Dharmapuri District for a length of 190.50km. After traversing in Dharmapuri District, the Pennaiyar river enters into Thiruvannamalai, Vilupuram, Cuddalore District and travels a distance of 139.50km. The Pennaiyar River finally empties into the Bay of Bengal near Cuddalore. The total drainage area of Pennaiyar including the area in Karnataka state is 15101 sq.km. The catchment area in Karnataka state itself is (931.06 sq.miles) 2384. sq.km. The total length of river is 432km. (i.e) 320km in Tamil Nadu and 112km in Karnataka state.

There are 7 major Anicuts across Pennaiyar. In the Pennaiyar main basin there are 8 Reservoirs,. Pennaiyar has 14 major Tributaries. The total actual dependable run –off is 45 T.Mcft. There is seasonal flow in the river during monsoon seasons. But there is flow through out the year upto Kelavarapalli Reservoir which is the drainages of Bangaluru City. The Maximum discharge of the river so far measured is 3,00,000 cusecs. The above basin having the following sub basin.

- 1)Chinnar 1-A
- 2) Chinnar 1-B
- 3) Marganda Nadhi
- 4) Pullampatti / Kambainallur
- 5) Pambar
- 6) Vaniar
- 7) Kovilar
- 8) Mottur
- 9) Valayar Odai

- 10) Ramakkal Odai
- 11) Pambanar Varattar
- 12) Musugunda Nadhi
- 13) Aliyar
- 14) Thurinjalar
- 15) Gadilam
- 16) Upto Krishnagiri Reservoir
- 17) Krishnagiri to Pambar
- 18) Pambar to Tirukoilur
- 19) Lower Pennaiyar

### **1.1.3 THURINJALAR SUB BASIN:-**

The Thurinjalar river is one of the Major Tributeries of Pennaiyar originates from Kauthimalai reserve forest in Chengam Taluk of Tiruvannamalai District. It flows in South-South east direction of the basin, crossing Thurinjapuram, Kilpennathur and Thiruvannamalai Block and Confluences with Pennaiyar River near Thirukkoilur after flowing a distance of about 44 km . The length of the river basin is about 48km and its width is about 22km. Area of minor basin is 835.53 SqKm . The length of Minor Basin is 44 Km Thurinjalar river Basin is Located in the Southeren Part of Tiruvannamalai District and Northern Part of Villupuram District. The Major Portion of the Basin is Located with in Thirukoilur and Gingee Block of Villupuram District There are 26 anicuts across Thurinjalar river. In the Thurinjalar Sub basin .This Minor basin rain fall both from N-E and S-W mon soons Runoff Received from Thurinjalar Catchment is 3886 Mcft Per Annum. The Surface Water Potential is worked out for the 75% of the Dependable Yield for South West and North east and Non monsoon period .

**1.1.4. INFRASTRUCTURE WISE CONVERGENT TABLE**

Sl.No.	Name of the cluster/ Village	Total ayacut(ha)			Total area(ha)			WRO		Agriculture		TNAU		Horticulture		Agricultural Marketing		Agricultural Engineering		Fisheries		Animal Husbandry	
		FI	PI	Gap	Wop	WP	GAP			Act	No/ ha	Act	No /ha	Act	No/ ha	Act	No/ ha	Act	No/ ha	Act	No/ ha	Act	No/ ha
<b>CLUSTER - I (Mallavadi village)</b>																							
1	Karundhuvambadi Tank	17.34	13.02	13	30.36	43.36	-	Stdn. Bund	1200M	PA	2			TC	2	IEC	1	DIS	2	FF	1	CO.3	1
								Weir Rep	1 No	PA	1			T	2			SIS	3	F.I.	1		
								Sluice Rep	1 No	VC	1			B	2			FM	1	F.R.	0		
										GM	2			C	2			FP	1				
										RFP	2												1
2	Mallavadi	15.235	13.925	13.92	29.16	43.08		Stdn. Bund	1285M	PA	3			TC	2	IEC	1	DIS	2	F.F.	1	CO.3	1
								Weir Rep	1 No	GN	1			T	2			SIS	3	F.I.	0		
								Sluice Reconst	1 No	PU	1			B	2			FM	1	F.R.	0		
										VC	1			C	2			FP	1				
										GM	3												
										RFP	3												
3	Madulampadi	23.715	17.78	17.77	41.495	59.265		Stdn. Bund	1000M	PA	4			TC	1	IEC	1	DIS	2	F.F.	1	CO.3	--
								Weir Rep	2 No	PU	2			T	4			SIS	3	F.I.	0		
							-	Sluice Rep	2 No	VC	1			B	3			FM	1	F.R.	1		
								Sluice Reconst	1 No	GM	4			C	3			FP	1				
										RFP	4												
4	Nookampadi	20.92	15.69	15.68	36.61	52.29		Stdn. Bund	1060M	PA	4			TC		IEC	1	DIS	2	F.F.	1	CO.3	1
								Weir Rep	1 No	GN	1			T	4			SIS	3	F.I.	1		
								Sluice Rep	1 No	VC	1			B	3			FM	1	F.R.	0		
								Sluice Reconst	1 No	GM	4			C	3			FP	1				







14	Kunnamurinji	4.03	2.01	2.01	6.04	8.05		Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel		GN	1			0	0	IEC	1	DIS	1			CO.3	--
																		SIS	1				
									1500M														
15	Kiliyapattu	18	9	8.99	27	35.99		Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel		PA	3			B	4	IEC	1	DIS	2	F.F.	1	CO.3	--
										GN	1			C	3			SIS	2	F.I.	0		
										PU	1							FM	1	F.R.	0		
										VC	1							FP	1				
										GM	3												
									830M	RFP	3												
	<b>Total</b>	<b>195.14</b>	<b>129.03</b>	<b>128.93</b>	<b>324.17</b>	<b>453.095</b>				PA	31			TC	5	IEC	1	DIS	20	FF	10	CO.3	5
										GN	4			T	26			SIS	27	F.I.	4		
										M	3			B	28			FM	9	F.R.	2		
										PU	13			C	25			FP	10				
										VC	7												
										GM	31												
										RFP	31												
	<b>Cluster No II (Vengikal Village)</b>						-																
1	Adayur	39.255	29.46	29.44	68.715	98.155		Std. Bund	1050M	PA	4			TC	2	IEC	1	DIS	4	F.F.	1	CO.3	1
								Weir Rep	1 No	M	1			T	6			SIS	4	F.I.	1		
								Sluice Rep	2 No	PU	1			B	5			FM	1	F.R.	0		
										RFP	4			C	5			FP	1				
										GM	4												
										VC	1												
2	Vengikal	26.135	19.60	19.60	45.735	65.335		Std. Bund	710M	PA	2			TC	2	IEC	1	DIS	3	F.F.	1	CO.3	1
								Weir Rep	1 No	PU	1			T	4			SIS	4	F.I.	1		
								Sluice Rep	1 No	RFP	2			B	3			FM	1	F.R.	1		
								SC Desilt	1500M	GM	2			C	3			FP	1				

										VC	1												
3	Nochimalai	19.52	14.64	14.63	34.16	48.79		Stdn. Bund	1150M	PA	2			TC	1	IEC	1	DIS	2	F.F.	1	CO.3	1
								Weir Rep	2 No	P	1			T	3			SIS	1	F.I.	1		
								Sluice Rep	1 No	RFP	2			B	3			FM	1	F.R.	1		
								SC Desilt	2800M	GM	2			C	2			FP	1				
4	Malapampadi	59.3	29.65	29.64	88.95	118.59		Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel		PA	5			T	8	IEC	1	DIS	4	F.F.	2	CO.3	1
										M	1			B	7			SIS	10	F.I.	1		
										GN	1			C	7			FM	1	F.R.	0		
										PU	1							FP	2				
										RFP	5												
										3230M	GM	5											
										VC	1												
5	Pallikondapattu	3.85	1.93	1.92	5.78	7.7		Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel		PA	1			C	1	IEC	1	0	0	F.F.	0	CO.3	1
										RFP	1									F.I.	1		
										GM	1									F.R.	0		
										2750M													
6	Sambandanur	17.6	8.8	8.79	26.4	35.19		Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel		PA	1			T	3	IEC	1	DIS	1	F.F.	1	CO.3	1
										PU	1			B	2			SIS	1	F.I.	1		
										RFP	1			C	2			FM	1	F.R.	0		
										6000M	GM	1						FP	1				
7	Chinnakangeyanur	43.96	21.98	21.98	65.94	87.92		Impts to Anicuts, Apron,		PA	3			T	4	IEC	1	DIS	2	F.F.	1	CO.3	1
										M	1			B	6			SIS	4	F.I.	0		







Cluster IV (Verayur Village)																							
1	Pavithram Tank	36.55	12.18	12.18	48.73	60.91		Stdn. Bund	1010M	RFP	1			TC	1	IEC	1	DIS	2	F.F.	1	CO.3	1
								Weir Rep	2 No	GM	1			T	4			SIS	4	F.I.	0		
								Sluice Reconst	1 No	PA	1			B	3			FM	1	F.R.	1		
								SC Desilt	1800M					C	3			FP	1				
2	Pavupattu Tank	13.29	4.43	4.43	17.72	22.15		Stdn. Bund	710M	RFP	3			TC	1	IEC	1	DIS	1	F.F.	0	CO.3	1
								Weir Rep	1 No	GM	3			T	1			SIS	2	F.I.	1		
								Sluice Reconst	1 No	PA	3			B	1					F.R.	0		
								SC Desilt	850M	M	1			C	1								
										GN	1												
										PU	1												
										VC	1												
3	Parayampattu Tank	9.83	3.28	3.27	13.11	16.38		Stdn. Bund	485M	RFP	1			TC	1	IEC	1	DIS	1	F.F.	0		
								Weir Rep	1 No	GM	1			T	1			SIS	1	F.I.	1		
								Sluice Reconst	1 No	PA	1			B	1					F.R.	0		
								SC Desilt	500M														
4	Kottampoondi Tank	37.275	12.425	12.42	49.7	62.12		Stdn. Bund	1050M	RFP	1			TC	1	IEC	1	DIS	2	F.F.	1		
								Weir Rep	2 No	GM	1			T	4			SIS	3	F.I.	1		
								Sluice Reconst	1 No	PA	1			B	4			FM	1	F.R.	0		
								SC Desilt	2500M					C	3			FP	1				
5	Nariapattu Tank	13.06	4.36	4.35	17.42	21.77		Stdn. Bund	550M	RFP	4			TC	1	IEC	1	DIS	1	F.F.	1	CO.3	1
								Weir Rep	1 No	GM	4			T	1			SIS	2	F.I.	1		
								Sluice Reconst	1 No	PA	4			B	1			FM	1	F.R.	0		

								SC Desilt	500M	M	1			C	1				FP	1								
										GN	1																	
										PU	1																	
										VC	1																	
6	Sakkarathan madai	6.63	2.21	2.21	8.84	11.05		Std. Bund	260M	RFP	1			T	2	IEC	1	0	0	F.F.	0							
								Weir Rep	1 No	GM	1									F.I.	0							
								Sluice Rep	1 No	PA	1									F.R.	0							
								SC Desilt	450M																			
7	Thyalayampallam Tank	14.31	4.77	4.76	19.08	23.84		Std. Bund	884M	RFP	1			T	2	IEC	1	DIS	1	F.F.	1							
								Weir Rep	2 No	GM	1			B	1			SIS	1	F.I.	0							
								Sluice Rep	2 No	PA	1			C	1			FM	1	F.R.	1							
								SC Desilt	1500M									FP	1									
8	Allikondapattu Tank	3.615	1.205	1.2	4.82	6.02		Std. Bund	435M	RFP	1			T	1	IEC	1	0	0	F.F.	0							
								Weir Rep	2 No	GM	1									F.I.	0							
								Sluice Reconst	1 No	PA	1									F.R.	0							
								SC Desilt	1500M																			
9	Thatchampattu Tank	5.025	2.035	1.67	7.06	8.73		Std. Bund	440M	RFP	1			B	2	IEC	1	0	0	F.F.	0	CO.3	1					
								Weir Rep	1 No	GM	1									F.I.	0							
								Sluice Reconst	1 No	PA	1									F.R.	0							
								SC Desilt	250M																			
10	Periakalapadi Tank	37.17	12.39	12.38	49.56	61.94		Std. Bund	1140M	RFP	2			T	4	IEC	1	DIS	3	F.F.	1							
								Weir Rep	2 No	GM	2			B	4			SIS	3	F.I.	0							
								Sluice Rep	2 No	VC	1			C	4			FM	1	F.R.	0							
								SC Desilt	2400M	PA	2							FP	1									
										GN	1																	
										PU	1																	
11	Su Nallur Tank	24.105	18.08	18.07	42.185	60.255		Std. Bund	701M	RFP	2			T	4	IEC	1	DIS	3	F.F.	1							
								Weir Rep	1 No	GM	2			B	4			SIS	3	F.I.	0							
								Sluice Rep	2 No	PA	2			C	4			FM		F.R.	0							

								SC Desilt	3000M	GN	2						FP	1					
										PU	1												
12	Verayur Tank	20.225	15.175	15.17	35.4	50.57		Stdn. Bund	1360M	RFP	1		T	3	IEC	1	DIS	2	F.F.	1			
								Weir Rep	3 No	GM	1		B	3			SIS	3	F.I.	0			
								Weir Reconst	1 No	PA	1		C	3			FM	1	F.R.	0			
								Sluice Rep	2 No	M	1						FP	1					
								SC Desilt	2000M	GN	1												
										PU	1												
13	Andampallam Tank	26.535	19.895	19.895	46.43	66.325		Stdn. Bund	515M	RFP	2		T	5	IEC	1	DIS	1	F.F.	1	CO.3	1	
								Weir Rep	1 No	GM	2		B	4			SIS	3	F.I.	0			
								Sluice Reconst	1 No	VC	1		C	4			FM	1	F.R.	0			
								SC Desilt	--	PA	2						FP	1					
										GN	2												
14	Su.Valavetty Tank	15.56	11.67	11.67	27.23	38.9		Stdn. Bund	1006M	RFP	1		B	3	IEC	1	DIS	1	F.F.	1			
								Weir Rep	2 No	GM	1		C	4			SIS	2	F.I.	0			
								Sluice Rep	1 No	PA	1						FM	1	F.R.	0			
								SC Desilt	--	GN	1						FP	1					
										PU	1												
15	Thandarai Anicut	-	-	-	-	-		Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel Culvert			0	0		0	0	IEC	1	0	0	F.F.	0		
																				F.I.	0		
									6000M											F.R.	0		
									3 Nos														
16	Kadagaman Anicut	-	-	--	-	-		Impts to Anicuts, Apron, Flood Bank,			0	0		0	0	IEC	1	0	0	F.F.	0		
																				F.I.	0		
									--											F.R.	0		
17	Su Valavetty Anicut	22.365	11.185	11.18	33.55	44.73		Impts to Anicuts,		RFP	2		B	2	IEC	1	DIS	1	F.F.	1			
										GM	2		C	6			SIS	2	F.I.	0			



							Apron, Skinwall, Flood Bank, Supply channel		PA	2						FM	1	F.R.	0			
								3000M	GN	1						FP	1					
18	Vasanthakrishnapuram Anicut	-	-	-	-	-	Impts to Anicuts, Apron, Skinwall, Flood Bank,			0	0			0	0	IEC	1	0	0	F.F.	0	
																			F.I.	0		
																			F.R.	0		
19	Aradapattu Tank	7.235	2.4	2.405	9.635	12.04	Std. Bund	870M	RFP	1			B	2	IEC	1	DIS	1	F.F.	0		
							Weir Rep	2 No	GM	1									F.I.	0		
							Sluice Reconst	1 No	PA	1									F.R.	0		
							SC Desilt	400M														
	<b>Total</b>	<b>292.78</b>	<b>137.69</b>	<b>137.26</b>	<b>430.47</b>	<b>567.73</b>			<b>RFP</b>	<b>25</b>			<b>TC</b>	<b>5</b>	IEC	1	<b>DIS</b>	<b>20</b>	<b>F.F.</b>	<b>10</b>	<b>CO.3</b>	<b>5</b>
									<b>GM</b>	<b>25</b>			<b>T</b>	<b>32</b>			<b>SIS</b>	<b>29</b>	<b>F.I.</b>	<b>4</b>		
									<b>VC</b>	<b>4</b>			<b>B</b>	<b>32</b>			<b>FM</b>	<b>9</b>	<b>F.R.</b>	<b>2</b>		
									<b>PA</b>	<b>25</b>			<b>C</b>	<b>34</b>			<b>FP</b>	<b>10</b>				
									<b>M</b>	<b>3</b>												
									<b>GN</b>	<b>10</b>												
									<b>PU</b>	<b>6</b>												
	<b>Cluster V (Konalur Village )</b>																					
1	Somasipadi Tank	19.37	14.525	14.52	33.895	48.415	Std. Bund	1025M	GM	4			TC	1	IEC	1	DIS	1	F.F.	1	CO.3	1
							Weir Rep	1 No	RFP	4			T	3			SIS	3	F.I.	1		
							Sluice Reconst	1 No	PA	4			B	3			FM	1	F.R.	1		
							Sluice Rep	2 No	M	1			C	2			FP	1				
							SC Desilt	1300M	P	1												
									VC	1												
2	Polakunam Tank	16.11	12.085	12.08	28.195	40.275	Std. Bund	--	GM	3			TC	1	IEC	1	DIS	1	F.F.	0	CO.3	1
							Weir Rep	1 No	RFP	3			T	2			SIS	3	F.I.	0		
							Sluice Reconst	1 No	PA	3			B	2			FM	1	F.R.	0		

								SC Desilt	1100M	M	1												
										PU	1			C	2								
3	Vedanatham Tank	17.295	12.965	12.96	30.26	43.22		Stdn. Bund	870M	GM	3			TC	1	IEC	1	DIS	1	F.F.	0		
								Weir Rep	1 No	RFP	3			T	3			SIS	3	F.I.	1		
								Sluice Rep	2 No	PA	3			B	2			FM	1	F.R.	0		
								SC Desilt	--	GN	1			C	2								
										VC	1												
4	Karikalampadi Tank	11.24	8.425	8.425	19.665	28.09		Stdn. Bund	810M	GM	3			TC	1	IEC	1	DIS	1	F.F.	0		
								Weir Rep	2 No	RFP	3			T	2			SIS	2	F.I.	0		
								Sluice Rep	--	PA	3			B	1			FM	1	F.R.	0		
								SC Desilt	--					C	1								
5	Kalingaleri	10.505	3.5	3.5	14.005	17.505		Stdn. Bund	860M	GM	2			TC	1	IEC	1	DIS	1	F.F.	1	CO.3	1
								Weir Rep	1 No	RFP	2			T	1			SIS	2	F.I.	1		
								Sluice Reconst	1 No	PA	2			B	1			FM	1	F.R.	0		
								Sluice Rep	1 No									FP	1				
								SC Desilt	1100M														
6	Kattumalayanur	22.02	7.34	7.34	29.36	36.7		Stdn. Bund	620M	GM	4			T	3	IEC	1	DIS	1	F.F.	1		
								Weir Rep	2 No	RFP	4			B	2			SIS	2	F.I.	0		
								Sluice Reconst	1 No	PA	4			C	2			FP	1	F.R.	0		
								SC Desilt	2000M	PU	1												
										VC	1												
7	Konalur	39.11	13.035	13.035	52.145	65.18		Stdn. Bund	840M	GM	6			T	4	IEC	1	DIS	1	F.F.	1		
								Weir Rep	2 No	RFP	6			B	4			SIS	2	F.I.	0		
								Sluice Rep	3 No	PA	6			C	4			FP	1	F.R.	0		
								SC Desilt	--	GN	1												
										PU	1												
										VC	1												
8	Nadazhaganandal Tank	5.885	4.415	4.41	10.3	14.71		Stdn. Bund	570M	GM	1			T	1	IEC	1	DIS	1	F.F.	1	CO.3	1

								Weir Rep	--	RFP	1			B	1			SIS	1	F.I.	1			
								Sluice Reconst	--	PA	1			C	1			FM	1	F.R.	0			
								SC Desilt	--									FP	1					
9	Chellanguppam Tank	10.02	7.51	7.51	17.53	25.04		Std. Bund	913M	GM	3			T	2	IEC	1	DIS	1	F.F.	0			
								Weir Rep	1 No	RFP	3			B	2			SIS	1	F.I.	0			
								Sluice Reconst	1 No	PA	3			C	1			FM	1	F.R.	0			
								SC Desilt	--															
10	Keeranur Anicut	0	0	0	0	0	0	Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel			0	0			0	0	IEC	1	0	0	F.F.	0		
																					F.I.	0		
																					F.R.	0		
11	Sorpanandal Anicut	7.43	5.57	5.58	13	18.58		Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel		GM	1			B	2	IEC	1	DIS	1	F.F.	1	CO.3	1	
										RFP	1			C	1			SIS	1	F.I.	0			
										PA	1							FP	1	F.R.	0			
										GN	1													
									1340M															
12	Arumbakkam Anicut	9.38	4.69	4.69	14.07	18.76		Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel		GM	1			B	2	IEC	1	DIS	1	F.F.	1			
										RFP	1			C	1			SIS	1	F.I.	0			
										PA	1							FM	1	F.R.	0			
										PU	1							FP	1					
									2580M															
13	Konalur Anicut	13.73	6.865	6.865	20.595	27.46		Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel		GM	2			B	2	IEC	1	DIS	1	F.F.	1			
										RFP	2			C	3			SIS	2	F.I.	0			
										PA	2							FP	1	F.R.	0			
										M	1													
									2970M															
14	Neikuppam Anicut	7.405	3.705	3.7	11.11	14.81		Impts to Anicuts, Apron, Skinwall,		GM	1			B	3	IEC	1	DIS	1	F.F.	1			
										RFP	1							SIS	1	F.I.	0			
										PA	1							FP	1	F.R.	0			









													Cr	1									
2	Veerapandi Tank	67.79	50.840	50.84	118.63	169.47		Stdn. Bund	900M	DSRI	8		M	1	IEC	1	F.P	12	F.F.	12	CO.3	1	
								Weir Rep	1 No	DGN	3		C	5			D	3	F.I.	2			
								Sluice Rep	--	DME	3		B	1			S	6	F.R.	1			
								Sluice Reconst	1 No	DPE	0		Br	1			A.M	1					
								SC Desilt	4200M				Bh	1									
													Ch	1									
													Cr	1									
3	Kottamarudur Tank	42.195	32.91	32.185	75.105	107.29		Stdn. Bund	1700M	DSRI	8		M	2	IEC	1	F.P	8	F.F.	8	CO.3	1	
								Weir Rep	1 No	DGN	3		C	6			D	3	F.I.	2			
								Sluice Rep	--	DME	3		B	1			S	6	F.R.	0			
								Sluice Reconst	2 No	DPE	0		Br	2			A.M	1					
								SC Desilt	6300M				Ch	1									
4	Manampoondi Tank	28.05	21.04	21.04	49.09	70.13		Stdn. Bund	1680M	DSRI	8		M	2	IEC	1	F.P	4	F.F.	4	CO.3	1	
								Weir Rep	1 No	DGN	3		C	5			D	3	F.I.	1			
								Sluice Rep	--	DME	3		Ch	2			S	7	F.R.	1			
								Sluice Reconst	1 No	DPE	0		Cr	1			A.M	1					
5	Vedakarathazhyanur Tank	22.38	16.78	16.78	39.16	55.94		Stdn. Bund	1280M	DSRI	8		M	3	IEC	1	F.P	4	F.F.	3	CO.3	1	
								Weir Rep	1 No	DGN	3		C	6			D	6	F.I.	1			
								Sluice Rep	--	DME	3		Ch	3			S	7	F.R.	0			
								Sluice Reconst	--	DPE	0		Cr	1			A.M	1					
								SC Desilt	--				Br	1									
6	Devanur Anicut	58.4	43.8	43.8	102.2	146		Impts to Anicuts, Apron, Skinwall, Flood Bank, Supply channel		DSRI	8		C	7	IEC	1	F.P	3	F.F.	9			
										DGN	2		B	1			D	6	F.I.	2			
										DME	3		Br	2			S	12	F.R.	0			
										DPE	0		Cr	1			A.M	1					
									3800M														
7	Madapoondi	21.47	16.1	16.19	37.57	53.76		Stdn.	--				C	5	IEC	1	S	3	F.F.	0			







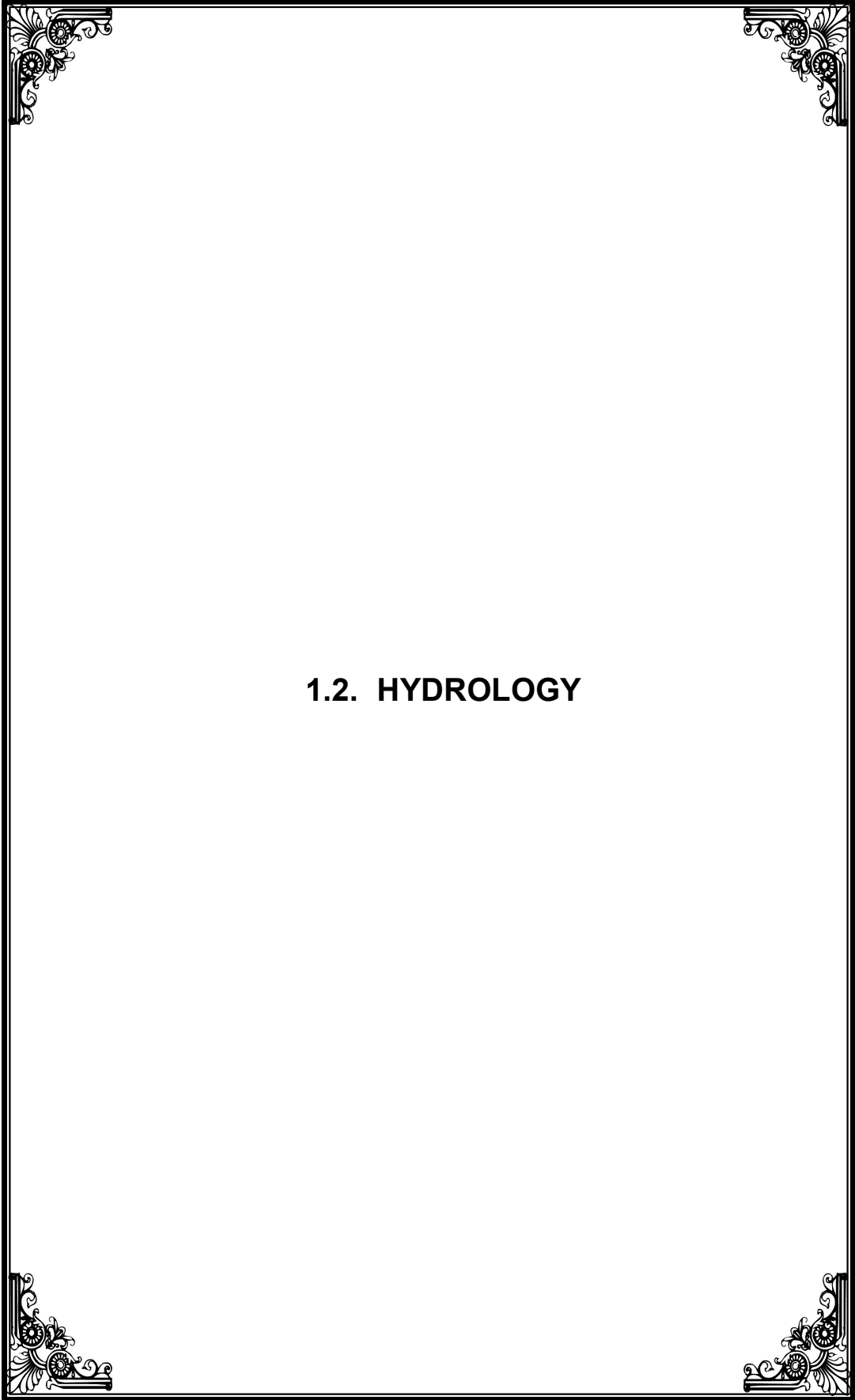


									<b>GM</b>	<b>31</b>												
									<b>RFP</b>	<b>31</b>												
2	<b>Cluster No II (Vengikal Village)</b>	<b>229.79</b>	<b>136.16</b>	<b>136.08</b>	<b>366</b>	<b>502.03</b>			<b>PA</b>	<b>21</b>			<b>TC</b>	<b>5</b>	<b>IEC</b>	<b>1</b>	<b>DIS</b>	<b>16</b>	<b>F.F.</b>	<b>9</b>	<b>CO.3</b>	<b>10</b>
									<b>M</b>	<b>3</b>			<b>T</b>	<b>28</b>			<b>SIS</b>	<b>28</b>	<b>F.I.</b>	<b>6</b>		
									<b>GN</b>	<b>2</b>			<b>B</b>	<b>30</b>			<b>FM</b>	<b>8</b>	<b>F.R.</b>	<b>2</b>		
									<b>PU</b>	<b>6</b>			<b>C</b>	<b>30</b>			<b>FP</b>	<b>9</b>				
									<b>RFP</b>	<b>21</b>												
									<b>GN</b>	<b>21</b>												
									<b>VC</b>	<b>4</b>												
3	<b>Cluster No III (Samudram village)</b>	<b>232.14</b>	<b>148.47</b>	<b>148.4</b>	<b>380.6</b>	<b>529.01</b>			<b>RFP</b>	<b>14</b>			<b>TC</b>	<b>5</b>	<b>IEC</b>	<b>1</b>	<b>DIS</b>	<b>18</b>	<b>F.F.</b>	<b>9</b>	<b>CO.3</b>	<b>5</b>
									<b>GM</b>	<b>14</b>			<b>T</b>	<b>32</b>			<b>SIS</b>	<b>25</b>	<b>F.I.</b>	<b>5</b>		
									<b>VC</b>	<b>3</b>			<b>B</b>	<b>32</b>			<b>FM</b>	<b>8</b>	<b>F.R.</b>	<b>2</b>		
									<b>PA</b>	<b>14</b>			<b>C</b>	<b>30</b>			<b>FP</b>	<b>9</b>				
									<b>M</b>	<b>2</b>												
									<b>GN</b>	<b>3</b>												
									<b>PU</b>	<b>7</b>												
4	<b>Cluster IV (Verayur Village)</b>	<b>292.78</b>	<b>137.69</b>	<b>137.26</b>	<b>430.5</b>	<b>567.73</b>			<b>PU</b>	<b>25</b>			<b>TC</b>	<b>5</b>	<b>IEC</b>	<b>1</b>	<b>DIS</b>	<b>20</b>	<b>F.F.</b>	<b>10</b>	<b>CO.3</b>	<b>5</b>
									<b>GM</b>	<b>25</b>			<b>T</b>	<b>32</b>			<b>SIS</b>	<b>29</b>	<b>F.I.</b>	<b>4</b>		
									<b>VC</b>	<b>4</b>			<b>B</b>	<b>35</b>			<b>FM</b>	<b>9</b>	<b>F.R.</b>	<b>2</b>		
									<b>PA</b>	<b>25</b>			<b>C</b>	<b>34</b>			<b>FP</b>	<b>10</b>				
									<b>M</b>	<b>3</b>												
									<b>GN</b>	<b>10</b>												
									<b>PU</b>	<b>6</b>												
5	<b>Cluster V (Konalur Village )</b>	<b>189.5</b>	<b>104.63</b>	<b>104.62</b>	<b>294.1</b>	<b>398.75</b>			<b>GM</b>	<b>34</b>			<b>TC</b>	<b>5</b>	<b>IEC</b>	<b>1</b>	<b>DIS</b>	<b>13</b>	<b>F.F.</b>	<b>9</b>	<b>CO.3</b>	<b>5</b>
									<b>RFP</b>	<b>34</b>			<b>T</b>	<b>21</b>			<b>SIS</b>	<b>24</b>	<b>F.I.</b>	<b>4</b>		
									<b>VC</b>	<b>5</b>			<b>B</b>	<b>27</b>			<b>FM</b>	<b>18</b>	<b>F.R.</b>	<b>1</b>		
									<b>PA</b>	<b>34</b>			<b>C</b>	<b>20</b>			<b>FP</b>	<b>9</b>				
									<b>M</b>	<b>4</b>												

Rehabilitation of Anicuts, Flood Banks, Desilting supply channels, Strengthening bund, Repairs to sluices, weirs and reconstruction of sluices etc.,

								<b>GN</b>	<b>3</b>												
								<b>P</b>	<b>5</b>												
6	Cluster VI (Vettavalam village)	400.25	192.52	193.18	592.8	785.95		<b>RFP</b>	<b>89</b>			<b>TC</b>	<b>5</b>	<b>IEC</b>	<b>1</b>	<b>DIS</b>	17	<b>F.F.</b>	<b>14</b>	<b>CO.3</b>	<b>5</b>
								<b>GM</b>	<b>89</b>			<b>T</b>	23			<b>SIS</b>	32	<b>F.I.</b>	<b>6</b>		
								<b>VC</b>	<b>11</b>			<b>B</b>	30			<b>FM</b>	8	<b>F.R.</b>	<b>1</b>		
								<b>PA</b>	<b>89</b>			<b>C</b>	30			<b>FP</b>	13				
								<b>M</b>	<b>7</b>			<b>Ra</b>	28								
								<b>GN</b>	<b>8</b>			<b>BR</b>	30								
								<b>PU</b>	<b>14</b>												
7	Cluster VII (Kottamarudur village)	261.03	197.03	196.39	458.1	654.45		<b>DSRI</b>	<b>27</b>			<b>TC</b>	<b>44</b>	<b>IEC</b>	<b>1</b>	<b>FP</b>	<b>35</b>	<b>F.F.</b>	<b>44</b>	<b>CO.3</b>	<b>5</b>
								<b>DGN</b>	<b>9</b>			<b>M</b>	10			<b>D</b>	<b>28</b>	<b>F.I.</b>	<b>12</b>		
								<b>DME</b>	<b>18</b>			<b>C</b>	21			<b>S</b>	<b>48</b>	<b>F.R.</b>	<b>3</b>		
								<b>DPE</b>	<b>16</b>			<b>B</b>	5			<b>AM</b>	<b>7</b>				
								<b>DGI</b>	<b>10</b>			<b>Br</b>	8								
								<b>DRA</b>	<b>7</b>			<b>Bh</b>	2								
												<b>C</b>	8								
												<b>Cr</b>	5								
8	Cluster VIII (Villandai village)	220.66	165.49	165.48	386.1	551.62		<b>DSRI</b>	<b>23</b>			<b>M</b>	10	<b>IEC</b>	<b>1</b>	<b>FP</b>	<b>34</b>	<b>F.F.</b>	<b>37</b>	<b>CO.3</b>	<b>5</b>
								<b>DGN</b>	<b>9</b>			<b>C</b>	64			<b>D</b>	<b>34</b>	<b>F.I.</b>	<b>8</b>		
								<b>DME</b>	<b>19</b>			<b>B</b>	5			<b>SP</b>	<b>62</b>	<b>F.R.</b>	<b>2</b>		
								<b>DPE</b>	<b>13</b>			<b>Br</b>	5			<b>AM</b>	<b>6</b>				
								<b>DGI</b>	<b>10</b>			<b>Bh</b>	3								
								<b>DRA</b>	<b>7</b>			<b>C</b>	5								
												<b>Cr</b>	2								
	<b>Total</b>	<b>2021.28</b>	<b>1211.02</b>	<b>1210.33</b>	<b>3232.30</b>	<b>4442.63</b>															

Rehabilitation of Anicuts, Flood Banks, Desilting supply channels, Strengthening bund,  
Repairs to sluices, weirs and reconstruction of sluices etc.,



**1.2. HYDROLOGY**

### **1.2.1. Introduction**

The River Thuringalar originates in Kauthi hills in Chengam Taluk and runs for a distance of 44 km and finally empties into Pennaiyar River after traversing 2 districts in Tamil Nadu state. The Thuringalar basin is having an area of 835.53 Sq.Km.

The Thuringalar Basin has 26 Anicut system and seventy tanks.

Thuringalar sub basin has a drainage area of 835.53 Sq.Km. The Taluks covered in the sub basin are Tiruvannamalai, Thandarampet and Chengam Taluk in Tiruvannamalai District. It receives an annual average rainfall of 943mm.

### **1.2.2. DETAILS OF AYACUT**

The Ayacut area is classified as Direct Ayacut and Indirect Ayacut , which are furnished below

#### **(a) ANAICUT (Direct Ayacut)**

SINo	Name of Taluk	Name of Block	No.of Anicut	Ayacut Area in Ha
1	Tiruvannamalai	Thuringapuram	9	158.96
2	Tiruvannamalai	Thiruvannamalai	11	334.48
3	Tiruvannamalai	Kilpennathur	5	79.61
4	Thirukoilur	Mugayur	1	146.00
		<b>Total</b>	<b>26</b>	<b>719.06</b>

#### **(b) SYSTEM TANK - Ayacut**

SINo	Name of Taluk	Name of Block	No.of Tank	Ayacut Area in Ha
1	Tiruvannamalai	Tiruvannamalai	17	490.785
2	Tiruvannamalai	Kilpennathur	11	467.405
		<b>Total</b>	<b>28</b>	<b>958.190</b>

**(c) NON SYSTEM TANK - Ayacut**

SINo	Name of Taluk	Name of Block	No.of Tank	Ayacut Area in Ha
1.	Tiruvannamalai	Thurinjapuram	6	294.135
2.	Tiruvannamalai	Thiruvannamalai	12	806.410
3.	Tiruvannamalai	Kilpennathur	10	481.55
4.	Chengam	Chengam	1	53.475
5.	Thandarampet	Thandarampet	1	69.745
6.	Gingee	Gingee	1	53.760
7.	Tirukoilur	Mugaiyur	11	1006.310
		<b>Total</b>	<b>42</b>	<b>2765.385</b>

**Total Ayacut Area under the Sub basin : 4442.62.5Ha**

**1.2.3. SOIL CLASSIFICATION**

Soil is one of the natural resources, which has the most direct impact on agricultural development. The Types of soils along with their sub groups are described as below.

**Entisoils**

They are found distributed on steep, actively eroding slopes and on flood plains which receive new deposits of alluvium. Erosion is active in these soils. Resistant nature of the parent material like quartzite, baserock etc prolongs the period of undistinguished horizons. The following are the 4 sub groups identified under Entisols.



#### **a) Typic Ustorthents**

These are reddish brown to red, light to medium textured and mostly non calcareous soils. They are well draped externally and the permeability is moderate to rapid. Soil erosion is the major concern in these soils. Dry cultivation with millets, pulses and groundnut is quite common.

#### **b) Lithic Ustorthents**

These soils resemble Typic Ustorthents but their depth is within 50 cm followed by bedrock.

#### **c) Typic Ustifluvents**

These soils are dark brown to dark grey soils of fluvial (alluvial) origin with rapid permeability and are well drained. Stratification of layers on account of fluvials deposition with irregular decrease in organic matter with depth is common. These are confined to river systems. Intensive agriculture is being followed on these soils both irrigated and rainfed.

#### **d) Typic Ustipsamments**

These soils are very deep, freely drained sands and have low water holding capacity.

#### **Inceptisols.**

This comprises of immature soils having profile features more weakly expressed. All the pedogenic processes are active to some extent but none predominates in these soils. They are poorly drained to well drained with moderate to rapid permeability. Most of them are cultivated under irrigated or rainfed conditions.

#### **Vertisols**

This order includes dark brownish grey, very deep, calcareous, heavy clayey and self churning soils that have deep wide cracks. The surface shows a complex microtopography of mounds and depressions. Slickenside feature is common in the sub surface and the mineralogy is dominantly montmorillonitic which is an expanding clay. They are moderately well drained with slow permeability except in the cracks.

The following two sub groups are identified under Vertisols.

### **a) Typic Chromusterts**

These have a chroma, moist of 1.50 or more and colour value, moist less than 3.50 and a value dry less than 5.50 throughout the 30 cm of the pedon i.e. surface soils are gray in colour. The cracks remain open more than 150 cumulative days in most year.

### **b) Udorthentic chromusterts.**

The cracks of these soils remain open from 90 to 150 cumulative days in most years with higher colour values.

### **Alfisols.**

This consists of deep, matured soils with alluvial concentration of clay in the sub-horizon. The surface horizon is massive and hard. Cultivation is extensive on these soils. They have moderate to high base saturation. The following sub groups are identified.

Crops grown in this sub basin area are Coconut, Banana, Amla, Mango as annual crops, besides Paddy, Vegetables, pulses, Maize are grown during first season and Paddy, Vegetables, Pulses etc., as second season crops.

### **1.2.4. RAIN FALL**

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

Sl No	Name of Rain gauge Station	North East Monsoon	Summer	Winter	South west monsoon	Annual
1.	Tiruvannamalai	380	107	22	420	929
2.	Kilnachipattu	400	62	19	433	913
3.	Vanapuram	398	97	22	430	947
4	Tirukoilur	432	88	24	439	984
5	Tirukoilur Anicut	463	68	21	470	1022

### **1.2.5. CLIMATE**

Generally semi arid climate prevails over the Thuringalar Minor river basin area without any sharp variation. The climate of the area is characterized by four distinct seasons, namely southwest monsoon (Jun – Sep), Northeast

Monsoon (Oct – Dec), winter season (Jan – Feb) and hot summer season (Mar – May). Hydrometeorological data were collected from Kilnachipattu weather station maintained by State Ground & Surface water Resources Data Centre, W.R.O., P.W.D.

### **1.2.6. Temperature**

The maximum and minimum temperature varies between 41°C and 21.6° C in general.

### **1.2.7. Relative Humidity**

Average relative humidity was recorded as 72.4 % during southwest monsoon, 78.4% during northeast monsoon, 75.2% during winter and 70.6% during summer seasons.

### **1.2.8. Wind Speed**

In 2003, daily average wind velocity was recorded as 5.60 kmph and the maximum wind velocity as 16.25 kmph in June 2003. Increase in wind speed occurs only during cyclones, mostly in November. From May to September wind flow is generally from south west direction. During October to December the wind blows from northeast direction.

### **1.2.9. Water Potential**

Surface Water Potential	98.48 Mcum
Ground Water Potential	191.26Mcum
Total Water Potential	289.74Mcum

### **1.2.10. Present Water Demand**

Domestic	15.65 Mcum
Live Stock	13.97 Mcum
Industrial	34.50 Mcum
Irrigation PWD/WRO Surface Water	26.17 Mcum

Ground Water	147.59 Mcum
Total	237.88 Mcum

There is thus **51.86 Mcum (289.74-237.88)** in excess of current demand

In spite of the surplus scenario, the reasons for substantial gap in area coverage are

- i. The system is a very old system, existing for more than 80 years; It therefore requires wide spread rehabilitation
- ii. Lack of adequate control of regulating structures like Anicuts, Head Sluices, Sand vents etc.,
- iii. Thick vegetation growth in the canals obstructing free flow of water.
- iv. Encroachment on Tank banks, Supply channel and water spread area and consequently water spreads through man made damages to prevent inundation in the upper reaches, (i.e.) the canal sections need re grading.
- v. The cross masonry works need repairs.
- vi. Micro irrigation needs to be propagated in the application of water to the fields.
- vii. Most of the lands are in fragmented condition, consequently there is a lot of water loss in field to field irrigation.
- viii. Farmers are not aware of modern techniques of irrigation and hybrid varieties of crops.
- ix. Lack of efficient farm management.

#### **1.2.11. Potential Evaporation**

Mean potential evaporation is found to be more (189 mm) during May and less (99.8mm) in December. Generally it ranges from 100 to 170mm.

## **Sunshine**

The hours of day light during summer is more and less in winter and monsoon periods. During a period of recent 5 years from 1999-2003, the maximum sunshine hours of 11.05 was recorded in 1999 and minimum of 6.29 hours of sunshine was recorded in the year 2000 in the climate station at Kilnachimattu (Five years data of Kilnachimattu station is appended in Tables 2 to 6)

### **1.2.12. LAND HOLDINGS**

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

Category	Size of holdings	Numbers	Percentage
Marginal	Below 1.00 Ha	9765	
Small	1.00 – 2.00 Ha	612	
Medium	2.00 – 5.00 Ha	160	
Big	5.0 ha & above	37	
Total		10574	

Above table revealed that the marginal farmers alone accounted for 65.5 percent in the sub basin followed by small farmers. Developmental initiatives will need to take the fact into account

### **1.2.13. DEMOGRAPHY**

Name of Sub Basin	Total No. of Blocks	Total No. of Villages	Population in, Million		
			2004	2010	2025
Thuringalar Sub basin	7	99	0.498	0.544	0.632

### CROPPING PATTERN

Name of the sub-basin	: <b>Thurinjar</b>	Fully Irrigated	:	2022.03	Ha
Nodal District	: T V malai & Villupuram	Partially Irrigated	:	1210.32	Ha
Registered Ayacut Area	4442.63 Ha.	Gap	:	1210.28	Ha
		Total Ayacut Area	:	<b>4442.63</b>	Ha

S.No.	Crop	Without Project				With Project				Increasing
		FI	PI	RF/G	TOTAL	FI	PI	RF/G	TOTAL	
<b>I</b>	<b>Perennial crop</b>									
1	Tube Rose	0	20.00	0	<b>20.00</b>	20.00	0	0	<b>20.00</b>	0.00
2	Coconut	0	15.00	0	<b>15.00</b>	15.00	0	0	<b>15.00</b>	0.00
3	Oilpalm	10.00	0	0	<b>10.00</b>	25.00	0	0	<b>25.00</b>	15.00
4	Fodder	5.00	3.00	0	<b>8.00</b>	25.00	0	0	<b>25.00</b>	17.00
5	Casurina	0	10.00	15.00	<b>25.00</b>	125.00	0	0	<b>125.00</b>	100.00
6	Mango	0	10.00	0	<b>10.00</b>	30.00	0	0	<b>30.00</b>	20.00
	<b>Total</b>	<b>15.00</b>	<b>58.00</b>	<b>15.00</b>	<b>88.00</b>	<b>240.00</b>	<b>0.00</b>	<b>0.00</b>	<b>240.00</b>	152.00
<b>II</b>	<b>Annual Crop</b>									
1	Sugarcane	420.00	321.00	96.00	<b>837.00</b>	943.00	0	0	<b>943.00</b>	106.00
2	T.C. Banana	15.00	0	0	<b>15.00</b>	65.00	0	0	<b>65.00</b>	50.00
	<b>Total</b>	<b>435.00</b>	<b>321.00</b>	<b>96.00</b>	<b>852.00</b>	<b>1008.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1008.00</b>	156.00
<b>III</b>	<b>1<sup>st</sup> crop</b>									
1. a	Paddy	1394.60	0	0	<b>1394.60</b>	0	0	0	<b>0.00</b>	-
b	Paddy - SRI	0	0	0	<b>0.00</b>	1260.00	0	0	<b>1260.00</b>	1260.00
2	Maize	100.00	87.00	101.00	<b>288.00</b>	176.00	0	0	<b>176.00</b>	-112.00
3	Pulses	0	192.50	50.00	<b>242.50</b>	407.00	0	0	<b>407.00</b>	164.50
4	Groundnut	0	98.82	99.82	<b>198.64</b>	270.00	0	0	<b>270.00</b>	71.36
5	Ragi	0	12.00	0	<b>12.00</b>	0	0	0	<b>0.00</b>	-12.00
6	Cumbu	0	70.00	0	<b>70.00</b>	50.00	0	0	<b>50.00</b>	-20.00
7	Fodder Cholan	0	60.00	0	<b>60.00</b>	120.00	0	0	<b>120.00</b>	60.00
8	Tomato	0	60.00	0	<b>60.00</b>	160.00	0	0	<b>160.00</b>	100.00
9	Bhendi	15.00	81.00	0	<b>96.00</b>	301.00	0	0	<b>301.00</b>	205.00
10	Brinjal	20.00	50.00	0	<b>70.00</b>	145.00	0	0	<b>145.00</b>	75.00
11	Beans	0	40.00	0	<b>40.00</b>	90.00	0	0	<b>90.00</b>	50.00
12	Tapiaco	0	20.00	0	<b>20.00</b>	20.00	0	0	<b>20.00</b>	0.00
13	Radish	0	10.00	0	<b>10.00</b>	20.00	0	0	<b>20.00</b>	10.00
14	Mariegold	0	10.00	0	<b>10.00</b>	10.00	0	0	<b>10.00</b>	0.00
15	Chrysanthamam	0	10.00	0	<b>10.00</b>	10.00	0	0	<b>10.00</b>	0.00

16	Chillies	40.00	30.00	0	<b>70.00</b>	145.56	0	0	<b>145.56</b>	75.56
17	Crossandra	2.43	0	0	<b>2.43</b>	10.07	0	0	<b>10.07</b>	7.64
18	Fallow	0	0	848.46	<b>848.46</b>	0	0	0	<b>0.00</b>	-848.46
	<b>Total</b>	<b>1572.03</b>	<b>831.32</b>	<b>1099.28</b>	<b>3502.63</b>	<b>3194.63</b>	<b>0.00</b>	<b>0.00</b>	<b>3194.63</b>	-308.00
	<b>Grand Total (I+II+III)</b>	<b>2022.03</b>	<b>1210.32</b>	<b>1210.28</b>	<b>4442.63</b>	<b>4442.63</b>	<b>0.00</b>	<b>0.00</b>	<b>4442.63</b>	0.00
<b>IV</b>	<b>2<sup>nd</sup> crop</b>									
1. a	Paddy	459.00	0	0	<b>459.00</b>	0	0	0	<b>0.00</b>	-459.00
b	Paddy - SRI	0	0	0	<b>0.00</b>	553.00	0	0	<b>553.00</b>	553.00
2	Maize	0	30.00	25.00	<b>55.00</b>	200.00	0	0	<b>200.00</b>	145.00
3	Pulses	0	83.00	0	<b>83.00</b>	358.00	0	0	<b>358.00</b>	275.00
4	Groundnut	0	98.00	0	<b>98.00</b>	155.00	0	0	<b>155.00</b>	57.00
5	Ragi	0	0	22.00	<b>22.00</b>	100.00	0	0	<b>100.00</b>	78.00
6	Gingelly	0	0	40.00	<b>40.00</b>	141.00	0	0	<b>141.00</b>	101.00
7	Bhendi	20.00	0	0	<b>20.00</b>	25.00	0	0	<b>25.00</b>	5.00
8	Chillies	5.00	0	0	<b>5.00</b>	8.00	0	0	<b>8.00</b>	3.00
9	Sunflower	0	30.00	0	<b>30.00</b>	70.00	0	0	<b>70.00</b>	40.00
	<b>Total</b>	<b>484.00</b>	<b>241.00</b>	<b>87.00</b>	<b>812.00</b>	<b>1610.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1610.00</b>	798.00
<b>V</b>	<b>3rd crop</b>									
	<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	0.00
	<b>Great Grand Total</b>	<b>2506.03</b>	<b>1451.32</b>	<b>1297.28</b>	<b>5254.63</b>	<b>6052.63</b>	<b>0.00</b>	<b>0.00</b>	<b>6052.63</b>	798.00
	<b>Cropping Intensity</b>				<b>99.18%</b>				<b>136.24%</b>	

**Crop water requirement without Project**

Sl.No.	Name of Crop	Area in Ha	Crop water requirement in mm	Total Crop water requirement in Mcm	Irrigation water requirement at source Eff=53%	Total Irrigation requirement in Mcm
<b>I</b>	<b>Perennial Crops</b>					
1	Tube Rose	20.00	509	0.102	0.19	0.19
2	Coconut	15.00	1001	0.150	0.28	0.28
3	Oilpalm	10.00	290	0.029	0.05	0.05
4	Fodder	8.00	138	0.011	0.02	0.02
5	Mango	10.00	402	0.040	0.08	0.08
6	Casurina	10.00	402	0.040	0.08	0.08
	<b>Sub Total</b>	<b>73.00</b>		<b>0.37</b>	<b>0.70</b>	<b>0.70</b>
<b>II</b>	<b>Annual Crops</b>					
1	Sugarcane	741.00	951	7.047	13.30	13.30
2	T.C.Banana	15.00	811	0.122	0.23	0.23
	<b>Sub Total</b>	<b>756.00</b>		<b>7.17</b>	<b>13.53</b>	<b>13.53</b>
<b>III</b>	<b>1st Crop</b>					
1.a	Paddy	1394.65	612	8.535	16.10	16.10
1.b	Paddy SRI	0.00	428	0.000	0.00	0.00
2	Maize	187.00	329	0.615	1.16	1.16
3	Ragi	12.00	342	0.041	0.08	0.08
4	Cumbu	70.00	340	0.238	0.45	0.45
5	Pulses	192.50	300	0.578	1.09	1.09
6	Groundnut	98.82	467	0.461	0.87	0.87
7	Fodder Cholam	60.00	300	0.180	0.34	0.34
8	Vegetables	0.00		0.000	0.00	0.00
	Tomoto	60.00	315	0.189	0.36	0.36
	Bhendi	96.00	462	0.444	0.84	0.84
	Brinjal	70.00	464	0.325	0.61	0.61
	Beans	40.00	465	0.186	0.35	0.35
	Tapiaco	20.00	538	0.108	0.20	0.20
	Radish	10.00	300	0.030	0.06	0.06
	Marriegold	10.00	402	0.040	0.08	0.08
	Chrysanthamam	10.00	438	0.044	0.08	0.08
	Chillies	70.00	370	0.259	0.49	0.49
9	Fallow	0.00	0	0.000	0.00	0.00
10	Crossandra	2.43	350	0.009	0.02	0.02
	<b>Sub Total</b>	<b>2403.40</b>		<b>12.28</b>	<b>23.17</b>	<b>23.17</b>
	<b>Grand Total (I+II+III)</b>	<b>3232.400</b>		<b>19.822</b>	<b>37.400</b>	<b>37.400</b>



IV	2nd Crop					
1.a	Paddy	459.00	231	1.060	2.00	2.00
1.b	Paddy SRI	0.00	162	0.000	0.00	0.00
2	Maize	30.00	382	0.115	0.22	0.22
3	Groundnut	98.00	467	0.458	0.86	0.86
4	Pulses	83.00	382	0.317	0.60	0.60
5	Sunflower	30.00	440	0.132	0.25	0.25
6	Ragi	0.00	375	0.000	0.00	0.00
7	Gingelly	0.00	64	0.000	0.00	0.00
8	Bhendi	20.00	462	0.092	0.17	0.17
9	Chillies	5.00	370	0.019	0.03	0.03
	<b>Total</b>	<b>725.00</b>		<b>2.19</b>	<b>4.14</b>	<b>4.14</b>
	<b>Great Grand Total</b>	<b>3957.400</b>		<b>22.014</b>	<b>41.537</b>	<b>41.537</b>

**Water Potential without Project**

Surface Water Potential	=	98.48	Mcm
Ground Water Potential	=	191.26	Mcm
<b>Total Potential</b>	=	<b>289.74</b>	Mcm

**Water Demand without Project**

Domestic	=	15.65	Mcm
Livestock	=	13.97	Mcm
Industrial	=	34.50	Mcm
Irrigation WRO	=	41.54	Mcm
PU & GW	=	56.03	Mcm
<b>Total Water Demand</b>	=	<b>161.69</b>	Mcm

<b><u>Water Balance</u></b>	=	<b>128.05</b>	Mcm
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**Crop water requirement with Project**

Sl.No.	Name of Crop	Area in Ha	Crop water requirement in mm	Total Crop water requirement in Mcm	Irrigation water requirement at source Eff=56%	Total Irrigation requirement in Mcm
<b>I</b>	<b>Perennial Crops</b>					
1	Tube Rose	20.00	509	0.102	0.18	0.18
2	Coconut	15.00	1001	0.150	0.27	0.27
3	Oilpalm	25.00	290	0.073	0.13	0.13
4	Fodder	25.00	138	0.035	0.06	0.06
5	Mango	30.00	402	0.121	0.22	0.22
6	Casurina	125.00	402	0.503	0.90	0.90
	<b>Sub Total</b>	<b>240.00</b>		<b>0.98</b>	<b>1.75</b>	<b>1.75</b>
<b>II</b>	<b>Annual Crops</b>					
1	Sugarcane	943.00	951	8.968	16.01	16.01
2	T.C.Banana	65.00	811	0.527	0.94	0.94
	<b>Sub Total</b>	<b>1008.00</b>		<b>9.50</b>	<b>16.96</b>	<b>16.96</b>
<b>III</b>	<b>1st Crop</b>					
1.a	Paddy	0.00	612	0.000	0.00	0.00
1.b	Paddy SRI	1260.00	428	5.393	9.63	9.63
2	Maize	176.00	329	0.579	1.03	1.03
3	Ragi	0.00	342	0.000	0.00	0.00
4	Cumbu	50.00	340	0.170	0.30	0.30
5	Pulses	407.00	300	1.221	2.18	2.18
6	Groundnut	270.00	467	1.261	2.25	2.25
7	Fodder Cholam	120.00	300	0.360	0.64	0.64
8	Vegetables	0.00				
	Tomoto	160.00	315	0.504	0.90	0.90
	Bhendi	301.00	462	1.391	2.48	2.48
	Brinjal	145.00	464	0.673	1.20	1.20
	Beans	90.00	465	0.419	0.75	0.75
	Tapiaco	20.00	538	0.108	0.19	0.19
	Radish	20.00	300	0.060	0.11	0.11
	Marriegold	10.00	402	0.040	0.07	0.07
	Chrysanthamam	10.00	438	0.044	0.08	0.08
	Chillies	145.56	370	0.539	0.96	0.96
9	Fallow	0.00	0	0.000	0.00	0.00
10	Crossandra	10.87	350	0.038	0.07	0.07
	<b>Sub Total</b>	<b>3195.43</b>		<b>12.80</b>	<b>22.85</b>	<b>22.85</b>
	<b>Grand Total (I+II+III)</b>	<b>4443.430</b>		<b>23.275</b>	<b>41.563</b>	<b>41.563</b>

IV	2nd Crop					
1.a	Paddy	0.00	231	0.000	0.00	0.00
1.b	Paddy SRI	553.00	162	0.896	1.60	1.60
2	Maize	200.00	382	0.764	1.36	1.36
3	Groundnut	155.00	467	0.724	1.29	1.29
4	Pulses	358.00	382	1.368	2.44	2.44
5	Sunflower	70.00	440	0.308	0.55	0.55
6	Ragi	100.00	375	0.375	0.67	0.67
7	Gingelly	141.00	64	0.090	0.16	0.16
8	Bhendi	25.00	462	0.116	0.21	0.21
9	Chillies	8.00	370	0.030	0.05	0.05
	<b>Total</b>	<b>1610.00</b>		<b>4.67</b>	<b>8.34</b>	<b>8.34</b>
	<b>Great Grand Total</b>	<b>6053.430</b>		<b>27.945</b>	<b>49.901</b>	<b>49.901</b>

### Water Potential with Project

Surface Water Potential	=	98.48	Mcm
Ground Water Potential	=	191.26	Mcm
<b>Total Potential</b>	=	<b>289.74</b>	<b>Mcm</b>

### Water Demand with Project

Domestic	=	15.65	Mcm
Livestock	=	13.97	Mcm
Industrial	=	34.50	Mcm
Irrigation WRO	=	49.90	Mcm
PU & GW	=	56.03	Mcm
<b><u>Total Water Demand</u></b>	=	<b>170.05</b>	<b>Mcm</b>
<b><u>Water Balance</u></b>	=	<b>119.69</b>	<b>Mcm</b>



### **1.3. HYDRAULICS OF THE COMPONENT**

**1.3.1. HYDRAULIC PARTICULARS - ANICUTS**

SI No	Name of Anicut	Village	Ayacut	Length of Anicut (M)	Crest Level of Anicut (M)	Front (M)	Free Sqm	Combined Sqm	Flood Discharge Cumecs/Cuse	Head Sluice Location	Vent (m)	Sill Level Sluice (M)	Discharge Cumecs	Supply Channel					Remark
														Length (M)	Bed Width (M)	FSD (M)	Bed Slope	Sluice	
1	Mannai Anicut	Mannai	0	76.20	100	100.72	7.39	7.39	2762	Left	open	99.70	0.10	500	1.50	0.60	1 1n 1000	1 No.	
2	Seelapandal Anicut I	Seelapandal	0	30.50	100	100.73	0.84	8.22		do	0.6x1.2	99.70	0.20	690	1.80	0.60	do	1 No.	
3	Seelapandal Anicut II	do	12.98	32.92	100	101.30	0.45	8.67	3074	do	open	99.10	0.05	1800	3.00	0.60	do	1 No.	
4	Vilakkanandal Anicut	Uoosampadi	38.11	30.40	100	101.95	0.66	3.57	5157	Left	0.3x0.3	99.24	0.08	1800	1.40	0.30	do	1 No.	
5	Munianandal Anicut	Inam Karianthal	10.59	58.00	100	101.61	2.90	32.31	7387	Right	open	99.40	0.04	3000	2.00	0.60	do	1 No.	
6	Sadayanodai Anicut	Sadayanodai	23.41	54.00	100	101.90	0.35	41.75	8766	Left	Open	98.30	0.16	725	1.20	0.30	do	1 No.	
7	Andapattu Anicut	Nammiandal Village	29.83	110.00	100	101.19	0.45	41.40	8716	Right	0.5x1.5	98.50	0.10	3000	2.20	0.75	do	1 No.	
8	Kunnamurinji Anicut	Kunnamurinji Village	8.05	45.30	100	101.18	0.63	44.05	9084	Left	open	99.10	0.03	2800	1.20	0.60	do	1 No.	
9	Killiyapattu Anicut	Killiapattu Village	35.99	80.00	100	101.75	1.71	64.92	11760	Right	0.9X1.2 1.4X1.4	99.00	0.14	3120	2.00	0.60	do	2 Nos	
10	Malapampadi Anicut	Nellimedu	118.59	24.30	100	104.00	4.73	69.65	12330	Left	0.45x0.3	98.00	0.42	1500	0.90	0.60	do	1 No.	
11	Pallikondapattu Anicut	Malappampadi	7.70	39.70	100	103.21	1.22	86.76	14280	Right	open	99.40	0.13	630	2.40	0.60	do	1 No.	
12	Sambandanur Anicut	Malappampadi	35.19	15.40	100	106.08	0.92	87.67	14370	Left	open	99.10	0.12	3230	2.00	0.60	do	1 No.	
13	Chinnakangayanur Anicut	Chinnakangayanur	87.92	56.40	100	102.10	0.58	56.07	10760	Right	0.2X0.2	99.40	0.24	2750	1.50	0.60	do	1 No.	
14	Thandarai Anicut	Thandarai	0	206.00	100	101.68	4.74	273.23	77900	Left	open	99.40	0.59	6000	3.00	0.60	do	1 No.	
15	Su Valavetti Anicut	Su Val;avetti	44.73	71.00	100	103.47	2.56	242.33	28310	Right	open	98.70	0.16	3000	1.50	0.30	do	1 No.	
16	Kadagaman Anicut	Kadagaman	0	74.00	100	103.89	3.44	335.65	35180	Right	1.2X0.6	92.87	0.14	4000	1.50	0.75	do	1 No.	
17	Vasanthakrishnapuram Anicut	Vasanthakrishnapuram	0	186.00	100	102.29	7.10	460.48	40330	Left	0.6x0.7	99.10	0.42	3000	2.00	0.70	do	1 No.	
18	Melanakkarai Anicut	Anakkarai	21.17	91.60	100	101.28	1.05	41.85	8772	Left	open	98.63	0.06	900	1.00	0.60	do	1 No.	
19	Kilanakkarai Anicut	Anakkarai	20.18															1 No.	



**1.3.2 HYDRAULIC PARTICULARS - System Tank**

S/No	District	Taluk	Name of Work	Ayacut in Ha	Capacity in Mcft	Number of Filling	Free catchment in SqKm	Combined Catchment in SqKm	Water Spread Area(SqKm)	FTL IN M	MWL inM	No of Sluices	Nos and Length of Weir(m)		Discharge in Cusecs	Length of Bund(M)	Length of Supply Channel(M)	Upper Tank	Lower Tank
													Nos	Length in M					
1	Thiruvannamalai	Thiruvannamalai	Kallanai Tank	30.690	6.75	2	3.02	3.02	0.071	100	100.6	1	1	49	460	900	750	Vayalur	Madurampattu
2			Madurampattu Tank	46.050	8.46	2	1.6	1.6	0.3	100	100.6	3	2	37.00 20.00	380 270	1100	1000	Ariyampallam	Thurinjar River
3			Karian Thangal Tank	6.640	1.77	2	0.95	0.95	0.208	100	100.6	1	1	16	150	360	750	Kalanai	Madurampattu
4			Sakkarathan Madal Tank	12.670	3.50	2	1.658	1.66	0.125	152.570	153.05	1	1	15.7	103.07	260	450m	Nil	Thalayampallam, Tank
5			Nariyampattu Tank	19.340	2.51	2	1.77	12.43	0.103	133.045	133.645	1	1	23.3	1533.61	550	600	Melvanakkam padi	Thalayampallam, Tank
6			Parayampattu Tank	17.490	3.00	2	3.097	3.10	0.099	152.575	153.025	1	1	34.5	693.04	485	500	Nil	Kattampoondi
7			Pavupattu Tank	19.750	12.05	2	3.515	3.52	0.328	148.910	149.51	1	2	41.3	1278.34	710	850	Elikutti Eri	Kattampoondi
8			Kattampoondi Tank	65.670	17.84	2	4.249	4.25	0.401	143.235	143.835	1	1	64.15	2666.82	1050	2500	Nil	Periakalapadi Tank
9			Thalayampallam Tank	61.700	7.49	2	2.305	9.94	0.253	140.770	141.24	2	2	25,15	1144.59	884	1500	Nariampattu	Thatchampattu Tank
10			Thatchampattu Tank	13.195	2.08	2	1.778	1.78	0.069	135.025	Dam	1	1	10.8	341.343	440	250	Nil	Chinnakalapadi
11			Periakalapadi Tank	56.850	13.96	2	7.77	7.77	0.427	130.150	Dam	2	1	29.4+18.6+20.6+16.75	2618.834	1140	2400	Thalayampallam	Veraiyur
12			Aradapattu Tank	14.325	3.39	2	2.873	2.87	0.125	139.710	140.01	1	2	50m	476.71	870	400	Nil	Aradapattu Tank
13			Su Andapattu Tank	32.690	29.72	2	3.022	33.19	0.071	134.420	135.03	1	2	27.7,21	2449.26	540	3500	Nadupattu	Pavithram Tank
14			Kolakkudi Tank	42.550	5.35	2	5.024	5.02	0.305	150.115	Dam	1	2	32,7.8	626.50	1230	3500	Nil	Nadupattu
15			Nadupattu Tank	27.340	2.70	2	4.563	29.73	0.208	138.245	Dam	1	3	20.5,26.5,36	633.92	660	3000	Kolakudi Tank	Andapattu Tank
16			Pavithram Tank	68.000	19.12	2	3.551	41.04	0.44	128.100	Dam	2	2	33,42.5	5312.37	1010	450	Pavithram Tank	Valavetti Tank
17			Allikondapattu Tank	6.250	1.80	2	1.537	1.54	0.057	139.855	Dam	1	2	10.7,9,	439.22	435	1800	Nil	Thatchampattu Tank
18			Konalur Tank	65.180	15.36	2	3.443	11.91	0.404	133.675	134.125	3	2	15.85 ,16.18	1432 ,1500	975	3,500	Kattumalayanur Putheri,, Konalur Anicut	Thurinjar River
19			Kolathur Tank	74.380	26.79	2	4.919	9.74	23.12	100.000	100.6	2	1	28.55	2200	1380	3500	Nil	Neelanthangal Tank

20	Tiruvannamalai	Tiruvannamalai	Gudalur Pappanthalangal	49.530	3.68	2	3.495	3.50	4.22	100.000	100.6	1	1	58	2939	750	1200	Neelanthangal Tank, Erpakkam Tank	Vayalur Tank
21			Vayalur Tank	54.820	32.16	2	4.615	16.50	11.65	100.000	100.6	2	2	84.6,14	3589, 600	1320	1700	Gudalur Pappan thangal,	Kallanai
22			Angunam Tank	48.795	6.82	2	2.977	5.54	14.5	184.890	185.45	2	1	16	740	1130	2800	Edaiveli Tank	Ariampallam Tank
23			Kalingelari	17.505	3.53	2	KIL	3.42	9.485	141.190	141.64	2	1	15.3	1019	860	60	Puravadai Eri	Thurinjalur River
24			Kattu Malayanur Putheri	36.700	5.3	2	1.502	7.22	0.172	140.875	141.225	2	2	13.2, 12.6	958	732	500 ,600	Anneri, Agaram Eri	Konalur Eri
25			Edaivelli Tank	38.850	11.58	1	2.725	4.89	0.675	100.000	100.6	1	1	76.5	2550	1285	2000	Kallanai Eri	Panniyur, Angunam, Ariampallam Tank
26			Neelanthangal Tank	24.045	8.65	1	1.295	2.48	0.486	100.000	100.6	2	1	64	2400	480	1500	Kolathur, Madarpoondi, Neelanthangal	Goodalur papanthangal
27			Panniyur Tank	35.460	12.57	2	2.857	4.35	0.785	170.015	170.885	2	1	30	1375	726	1200	Edaiveli Tank	Angunam Tank
28			Ariampallam Tank	22.140	6.82	2	1.235	2.29	0.215	100.000	100.6	1	1	99	3500	515	3000	Panniyur	Madurampattu
				Total	1008.605													44210	



**1.3.3. HYDRAULIC PARTICULARS - Non System Tank**

S.No	District	Taluk	Name of Work	Ayacut in Ha	Capacity in Mcft	Number of Filling	Free catchment in SqKm	Combined Catchment in SqKm	Water Spread Area(SqKm)	FTL IN M	MWL inM	No of Sluices	Nos and Length of Weir(m)		Discharge in Cusecs	Length of Bund(M)	Length of Supply Channel(M)		Upper Tank	Lower Tank	Remark
													Nos	Length in M							
1	Thiruvannamalai	Thiruvannamalai	Karuthuvampadi Tank	43.660	15.41	2	5.048	5.048	13.28	100	100.6	2	1	30	802	1200		1500	Forest	Karuthuvampadi Chitheri	
2			Mallavadi Tank	41.720	14.72	2	3.159	5.074	12.87	100	100.6	2	1	28	785	1285	800	1,500	Forest	Uoosampadi	
3			Nukkampadi Tank	52.745	18.15	2	6.136	6.136	7.25	100	100.6	2	2	31		1060	1200	2000	Nil	Kalasthampadi	
4			Vallivagai Tank	53.755	18.64	2	4.401	4.40	10.18	100	100.6	3	2	28.6, 38.0	320, 220	715	1000	2300	Nil	Kunniandal	
5			Madulampadi Tank	62.000	21.87	2	8.777	8.78	8.80	100	100.6	3	1	22.25	980	1000	2000	2000,	Nil	P.U .Tank	
6			Kalasthampadi tank	44.480	15.69	2	3.184	3.18	13.54	100	100.6	3	1	25	790	720	1000	2000	P.U .Tank	P.U .Tank	
7			Adayur Tank	97.160	35.43	2	2.82	35.43	3.12	168.5	171.3	2	2	21, 15.7	1209	1050		2000	Forest	Vengical	
8			Vengikal Tank	49.840	24.72	2	6.80	8.80	0.59	173.4	174	1	2	16.3 9.25	2423	710		1500	Adayur	Nochimalai	
9			Nochimalai Tank	52.870	13.97	2	8.10	13.97	1.60	100.0	100.6	2	3	38 27.5 10.7	385	1150	1300	1500	Vengikal	P.U .Tank	
10			Meyyur Tank	71.220	15.54	2	1.735	15.22	1.55	179.8	177.2	1	2	54.5 15	1410	1550		2000	Sirupakkam Tank	Thenmathu , Alaganandal	
11			Thenmathur Tank	58.395	22.25	2	2.40	11.40	2.10	100	100.6	2	1	30	94	940		2000	Meyyur Tank	Alaganandal	
12			Alaganandal Tank	41.030	14.13	2	2.36	8.39	0.88	100	100.6	1	2	53.1 7.6	712	915		2000	Thenmathur Tank	Nadupattu	
13			Verayur Tank	47.105	24.72	2	7.89	7.89	2.25	100	100.6	3	3	12.2 30.1	957	1360		2000	Periyakalla padi Tank	--	
14			Su.Valavetti Tank	44.395	15.89	2	3.09	3.09	1.38	100	100.6	1	2	7.9 9.1	558	1006		3000	--	--	
15			Narayur Tank	70.250	19.42	2	8.10	13.97	1.60	100	100.6	3	3	38, 27.5 10.7	385	1150	1300	1500	Olaipadi Tank	--	
16			Andampallam Tank	70.950	25.07	2	0.83	8.73	1.66	100	100.6	5	2	53.1 7.6	712	915		2000	T.Valasai Tank	--	
17			Su.Nallur Tank	40.850	14.48	2	7.23	14.43	1.47	30.10	30.71	2	1	15.1	620	701		3000	--	Su.Valasai	
18			Samuthram Tank	131.170	78.75	2	14.14	65.68	4.78	168.48	171.3	3	1	132	4,746	1748		3,000	Ayyamapalayam	Thenmathur	
19			Karikalampadi Tank	43.660	17.70	2	3.37	6.21	7.25	100	100.6	2	2	45, 30	1928, 1286	810		1000	Vedanatham Tank	Karikalampadi Chitheri	
20			Somasipadi Tank	48.415	17.70	2	20.44	60.35	71.89	100	100.6	3	1	46.5	1897	1025	700	1200	Nammiyandal Tank	Aranchi	
21			Vedanatham Tank	43.220	15.25	2	3.495	5.44	13.15	100	100.6	2	1	19.5	550	860		3220	Nil	Karikalampadi	
22			Avur Tank	83.205	24.49	2	3.780	13.14	21.13	100	100.6	1	2	19, 18	670 660	1065		1500	Nivanatham Tank	Kallanai Tank	

23	Tiruvannamalai	Tiruvannamalai	Nadalaganandal Tank	14.710	14.63	2	2.926	9.71	14.40	100	100.6	2	1	9.7	780	570		2000	Nil	Thurinjar River
24			Polakunam Tank	40.100	21.79	2	1.942	17.30	18.80	100	100.6	1	2	28 16	1800 1326	1284		1000		Kattuvelanandal Tank
25			Olaipadi Tank	68.305	22.77	2	3.495	10.23	20.51	100	100.6	1	2	52.4, 32.0	400 ,270	585		1600	Vettavalam	Narayur Tank
26			Chellanguppam Tank	25.040	17.66	2	5.538	5.54	14.40	130	130.4	1	1	28.15	565	908	2000	2000,	Natural Drain	Appupattu Peria Eri
27			Vaipur Tank	55.935	12.29	2	1.683	7.16	17.04	100	100.6	2	1	19.5	1278 650	1215	1000	2500	Sorathur Eri	Vaipur Chitheri , Veerapandi Tank
28			Vettavalam Tank	74.355	33.51	2	8.029	8.03	17.30	100	100.6	2	2	30, 8	1513 375	453		3200	Munufa Tank	Olaipadi Tank
29			Perumpakkam Tank	55.590	19.423	2			3.70	100	100.6	2	2	26, 19	1320	440		1200	Nil	P.u. Ta nk
30			Melsirupakkam Tank	67.950	38.516	2	7.54	7.54	0.64	100	100.6	2	2	40, 12	1132	1745		1000		
31			Ottampattu Tank	51.860	14.83	1	2.08	5.38	0.20	100	100.6	2	1	25	374	910		2800	Forest	Veerangipuram
32			Veerapandi Tank	169.470	19.42	2	2.69	4.01	0.92	101	101.3	3	1	21.7	223	900		4200	Veerapandi	Ottampattu
33			Kottamarudur Tank	107.290	17.66	1	2.56	8.88	1.51	45	45.85	3	1	12.05	271	1700		6300	Kulatheepamangalam	Thurinjar River
34			Manampoondi Tank	70.130	11.65	1	1.02	9.98	0.30	49	50.05	1	1	18.2	180	1680		4500	Kottamarudur	Thurinjar River
35			Adoor kolapakkam Tank	68.830	5.7	1	0.9	2.25	0.30	100	100.3	2	2	9.30,31	430	1800		2500	Kazhumaram	Thurinjar River
36			Vadakaranthazhanur Tank	55.940	12	1	1.18	10.14	0.34	48	48.6	2	2	34.45, 34.40	306	1280		-	Vellamputhur	Kadaganur
37			Koladeepanangalam Tank	118.620	26.86	1	3.76	8.45	1.38	100	100.6	2	1	18	315	1800		6200	Kazhumaram	Kottamarudur
38			Sanglyam Tank	34.500	8.47	1	2.51	-	0.41	100	100.6	2	1	18	220	790		6000	Manalurpettai	Kazhumaram
39			Vilandal Tank	199.190	32.48	1	6.4	14.34	1.01	46	46.6	2	1	37	250	1450		7300	Kazhumaram	Kulatheivamangalam
40			Athipakkam Tank	86.230	14.126	1	2.5	5.5	0.58	100	100.1	3	1	27	223	3700		-	Forest	Pennayar
41	Kazhumaram Tank	44.250	5.29	1	0.98	1.33	0.37	101	101.2	3	1	20	110	1120		6500	Sangiyam	Vilanthai		
42	Mathapoondi Tank	53.760														0				
			2754.150														12300	100520		

1.3.4. SUPPLY CHANNEL HAVING DIRECT AYACUT

SINo	Name of Supply Channel	Sartimg Point		End Point		Length in M	Bed Width	Bed Slope	Side Slope	M.F.D	Depth of Flow	Remark
		Location	Sill Level	Location	Sill Level							
1	Mannai Anicut Left off take channel	Left	99.700	Left	99.200	500	1.50	1 in 1000m	1:1	2762	0.60	indirect ( Union Tank)
2	Seelapandal Anicut left off take channel I	do	99.700	do	99.010	690	1.80	do	1:1	2762	0.60	do
3	Seelapandal Anicut left off take channel II	do	99.100	do	97.300	1800	3.00	do	1:1	3074	0.60	Direct
4	Vilakkanandal Anicut left off take channel	Left	99.240	Left	97.440	1800	1.40	do	1:1	5157	0.30	do
5	Munianandal Anicut Right off take channel	Right	99.400	Right	96.400	3000	2.00	do	1:1	7387	0.60	do
6	Sadayanodai Anicut Right off take channel	Left	98.300	Left	97.575	725	1.20	do	1:1	8766	0.30	do
7	Andapattu Anicut Right off take channel	Right	98.500	Right	95.500	3000	2.20	do	1:1	8716	0.75	do
8	Kunnamurinja Anicut left off take channel	Left	99.100	Left	96.300	2800	1.20	do	1:1	9084	0.60	do
9	Killiyapattu Anicut Right off take channel	Right	99.000	Right	95.880	3120	2.00	do	1:1	11760	0.60	Dire& Ind (union Tank)
10	Malapampadi Anicut left off take channel	Left	98.800	Left	97.300	1500	0.90	do	1:1	12330	0.60	Direct
11	Pallikondapattu Anicut Right off take channel	Right	99.400	Right	98.770	630	2.40	do	1:1	14280	0.60	do
12	Sambandanur Anicut left off take channel	Left	99.100	Left	95.870	3230	2.00	do	1:1	14370	0.60	do
13	Chinnakangayanur Anicut Right off take channel	Right	99.400	Right	96.650	2750	1.50	do	1:1	10760	0.60	indirect ( Union Tank)
14	Thandarai Anicutleft off take channel	Left	99.400	Left	93.400	6000	3.00	do	1:1	27900	0.60	1) Su Nallur 2) Valasai 3)Andampallam
15	Su Valavetti Anicut Right off take channel	Right	98.700	Right	95.700	3000	1.50	do	1:1	28310	0.30	Direct
16	Kadagaman Anicut Right Off take Channel	Right	92.870	Right	98.870	4000	1.50	do	1:1	35180	0.75	dir& Ind
17	Vasanthkrishnapuram Anicut Left off Take channel	Left	99.100	Left	96.100	3000	2.00	do	1:1	40330	0.70	Madurampattu(P.W.D)

18	Melanakkarai Anicut Left off Take Channel	Left	98.630	Left	97.730	900	1.00	do	1:1	8772	0.60	P.U( Nallavanpalayam)& direct
19	Kilanakkarai Anicut							do	1:1	8772		Direct
20	Endal Anicut Left Off Take Channel	Left	99.400	Left	97.400	2000	2.00	do	1:1		0.60	Direct
21	Keeranur Anicut Left off Take channel	Left	99.250	Left	61.385	37865	5.50	do	1:1	22360	0.90	L/S- Nandan Chanel
	Keeranur Anicut Right off Take channel	Right	99.400	Right	96.900	2200	2.50	do	1:1	22360	0.60	R/S- Union Tank
22	Sorpanandal Anicut	Left	99.300		97.960	1340	1.50	do	1:1	22420	0.30	Direct
23	Arumpakkam Anicut Left off Take Channel	left	99.200	left	96.640	2560	1.50	do	1:1	25010	0.60	Direct
24	Konalur Anicut Left off Take Channel	Left	99.100	Left	96.130	2970	2.10	do	1:1	25710	0.45	DIR& Konalur(p.w.d)
25	Neikuppam Anicut Right Off take Channel	Right	99.000	Right	97.200	1800	2.00	do	1:1	25810	0.60	Direct
26	Devanur Anicut	Left	100.000	Left	98.740	3800	3.00	2.125	1:1	36747	0.6	Direct
	Total Length					96980						



**1.4. PARTICIPATORY IRRIGATION  
MANAGEMENT (PIM)**

## **1.4. Participatory Irrigation Management (PIM)**

### **1.4.1. SALIENT FEATURES OF IMPLEMENTATION OF THURINJALAR SUB BASIN**

1) The Sub Basin : This is one of the Eighteen sub basins of the Thurinjalar Basin. Totally 70 Irrigation Tanks, 26 Anicuts under the control of water Resources Organisation (WRO) of Public Works Department (PWD in this sub-basin. The list of Infrastructures covered with more details are furnished in the Annexure-1, These infrastructures are located within the Sub Basin's Hydraulic Boundary spread over 97 villages of 5 Taluks in Tiruvannamalai & Villupuram Districts. The total Command area under these Infrastructures worksout to 4442.625 Ha.

2) Command area:

Anaicut	:	719.050 Ha
System	:	958.190Ha
Nonsystem	:	2765.385 Ha
Total	:	<u>4442.625 Ha</u>

### **3) An Assessment of number of WUAs**

1)	Associates proposed to be formed under IAMWARM Project covering tanks & Anicuts in Villages only.	37 Nos.
2)	The Total command area covered by the above (37) WUAs works out to	
3)	More details about formulation of WUA's in the Sub basin are made available in the Annexure - 1	

### **4) An account of "Awareness Creation" among the farming community.**

**Activities undertaken and "Walkthrough Survey" carried out:**

- 1) There are 70 tanks, 26 Anicuts are in the Sub-basin spread over 97 Villages as detailed out in Annexure – 01. All these villages were visited

by the WRO Officials and awareness about various activities, contemplated under IAMWARM project has been created.

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

**5) Schedule for completion of delineation and preparation for WUA documents,**

**comprising of:**

- 1) Form-I: Details to be notified by Districted Collectors (End of March – 2009)
- 2) Form – II: WUA document to be notified by District Collectors (End of April – 2009)
- 3) Completion of Preparatory works for the conduct of Elections for WUAs (End of June – 2009)

**6) Schedule for Conduct of Elections in the Sub-Basin for forming Management Committees (End of July – 2009)**

**7) Support Organisation (SOs).**

- 1) Initiating and completing the process of publishing EOI to hire support Organisation at Sub-basin level (End of 03/2009)
- 2) Short listing and providing request for proposals (RFPs) all the short listed agencies, and obtaining Technical and Cost proposals (Middle of April 2009)
- 3) Selection and deployment of Support Organisation to the Sub-basin (End of May 2009)

**8) Appointment and the Role of Competent Authorities:**

1) 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 Organisation (WUA, distributor 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.

2) Appointment of Competent Authorities for the WUAs proposed to be formed under IAMWARM project is based on the “WRO Section Officer wise” distribution as indicated below.

Name of the WRO Sub Divisional Officers working in the Pennaiyar upto Thuringalar Sub Basin.

- a. Middle Pennaiyar Basin Sub Division WUAs 1 to 35
- b. Sathanur Dam Sub Division, Sathanur Dam WUAs 1 to 35
- c. Lower Pennaiyar Basin Sub Division, Tirukoilur WUAs 36 to 47

a.	Section Officer, Kilpennathur Section @ Tiruvannamalai.	WUAs 1 to 35
b.	Section Officer, Tiruvannamalai Section Tiruvannamalai.	WUAs 1 to 35
c.	Section Officer, Irrigation Section @ Chengam.	WUAs 1 to 35
d.	Section Officer, Thenmudiyannur Section @ Thenmudiyannur.	WUAs 1 to 35
e.	Section Officer, Irrigation Section @ Arni.	-Nil-
f.	Section Officer, Irrigation Section @ Tirukoilur.	WUAs 36 to 47

### **9. Involvement of Farmers in the preparation “Scheme Modernisation Plans”**

i. 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 IAMWARM Project was discussed with 995 No.of farmers from 97 Villages. The final list of tasks was also prepared and exhibited in the Notice Board of the village Administrative Officers Office and Panchayat Office. These details were also discussed with the farmers and the tasks to be taken up under scheme modernization finalized on 01/2009.

ii) During the meeting, the farmers present were also informed that soon after finalization of contract for carrying out “Modernisation of Irrigation Systems” a “Notice Board” with the details about the nature of works, its 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.

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

iv) The WRO officers were also informed that they are personally responsible for handing over the irrigation systems, under IAMWARM Project.

#### **10. Current Status of Recovery of Water Charges :**

i) An enquiry conducted with the “Village Administrative Officers” (VAOs) of randomly selected villages (10 numbers out of 97 Villages) located within the Sub-basin the normal water charges recovery as informed by the VAO, works out to 40-50% only, about the expected percentage of 80-90%

ii) With the proposal to form new WUAs under IAMWARM in Thuringalar Sub Basin” the Managing Committee will be trained to take up the responsibility of improving the water charges recovery percentage. These will be followed up, after completing the modernization tasks and handing over of the O&M responsibilities to WUAs.

#### **11. “Capacity Building” of the WUA farmers:**

i) The “Support Organization Group” will prepare “Training Modules” required for building the capacity of the WUA farmers, based on a “Training Needs” Analysis. They will also organize various “Capacity Building” Programs at suitable locations within the Sub-basin command area, to benefit the farmers of the WUAs in the Sub-basin.

ii) The “Support Organisation” will also arrange for organization the “Study Tours” both within and outside the state to enhance their knowledge and experiences which will help them to improve the crop productivity and thereby the farmer’s income.

iii) The support Organization will also conduct necessary “Awareness programme” and impart training 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.

12. The “Component Authorities” appointed for the Sub-basin will also be trained to effectively to interact with WUA farmers and maintain good report and relationship with the farming community in the Sub Basin.

#### **1.4.2. WATER USER ASSOCIATION STATUS ABSTRACT**

Sl.No.	Status of WUA	District	Taluk	No.of WUA	Ayacut in Ha.	Remarks.
1.	Already formed.	Tiruvannamalai	Tiruvannamalai	9 Nos.	1011.95	
		Villupuram	Gingee	1 No.		
2.	To be formed	Tiruvannamalai	Tiruvannamalai	33 Nos.	2278.365	
			Chengam	1 No.		
			Thandrampattu	1 No.		
		Villupuram	Tirukoilur	12 Nos.	1152.310	
		Total		57 Nos.	4442.625	

## Annexure - 1

## AN ASSESSMENT OF COMMAND AREA AND WUAs UNDER THE CONTROL OF WRO OF PWD IN THURINJALAR SUB BASIN

WUA No.	Name of Irrigation Systems and Tanks	Command Area in (Ha)	Location of the Command Area			Coverage of Command are under different Projects (Ha)		Status of formation of WUAs in the Sub - Basin	
			Villages	Taluk	District	WRCP and Others	IAMWARM	Formed under WRCP	To be formed under IAMWARM
1	Seelapandal Anicut	158.960	Seelapandal	Tiruvannamalai	Tiruvannamalai	--	158.960	--	Yes
2	Karunthuvambadi Tank	43.360	Karunthuvambadi	"	"	--	43.360	--	Yes
3	Mallavadi Tank	43.080	Mallavadi	"	"	--	43.080	--	Yes
4	Madhulambadi Tank	59.265	Madhulambadi	"	"	--	59.265	--	Yes
5	Nukkambadi Tank	52.290	Nukkambadi	"	"	--	52.290	--	Yes
6	Kalasthambadi Tank	43.600	Kalasthambadi	"	"	--	43.600	--	Yes
7	Vallivagai Tank	52.540	Vallivagai	"	"	--	52.540	--	Yes
8	Mallappambadi Anicut	118.590	Mallappambadi	"	"	--	118.590	--	Yes
9	Pallikondapattu Anicut	42.890	Pallikondapattu	"	"	--	42.890	--	Yes
10	Chinnakangeyanur Anicut	35.190	Chinnakangeyanur	"	"	--	35.190	--	Yes
11	Melanaikarai Anicut	40.350	Melanaikarai	"	"	--	40.350	--	Yes
12	Adaiyur Tank	98.155	Adaiyur	"	"	--	98.155	--	Yes
13	Vengikkal Tank	65.335	Vengikkal	"	"	--	65.335	--	Yes
14	Nochimalai Tank	48.79	Nochimalai	"	"	--	48.790	--	Yes
15	Samudram Tank	127.23	Samudram	"	"	--	127.230	--	Yes

16	Meyyur Tank	69.98	Meyyur	„	„	--	69.980	--	Yes
17	Thenmathur Tank	65.075	Thenmathur	„	„	--	65.075	--	Yes
18	Alaganandhal Tank	40.925	Alaganandhal	„	„	--	40.925	--	Yes
19	Perumbakkam Tank	53.475	Perumbakkam	Chengam	„	--	53.475	--	Yes
20	Melsirupakkam Tank	69.745	Melsirupakkam	Thandaram pet	„	--	69.745	--	Yes
21	Su.valavetti Anicut	44.73	Su.valavetti	Tiruvannamalai	„	--	44.730	--	Yes
22	Su.Nallur Tank	59.055	Su.Nallur	„	„	--	59.055	--	Yes
23	Veraiyur Tank	50.57	Veraiyur	„	„	--	50.570	--	Yes
24	Su.Valavetti Tank	40.10	Su.valavetti	„	„	--	40.100	--	Yes
25	Andampallam Tank	66.325	Andampallam	„	„	--	66.325	--	Yes
26	Arumpakkam Tank	79.61	Arumpakkam	„	„	--	79.610	--	Yes
27	Somasipadi Tank	48.415	Somasipadi	„	„	--	48.415	--	Yes
28	Polakunam Tank	40.275	Polakunam	„	„	--	40.275	--	Yes
29	Vedanatham Tank	70.71	Vedanatham	„	„	--	70.710	--	Yes
30	Nadalaganandal Tank	40.35	Nadalaganandal	„	„	--	40.350	--	Yes
31	Avoor Tank	83.205	Avoor	„	„	--	83.205	--	Yes
32	Vettavalam Tank	74.355	Vettavalam	„	„	--	74.355	--	Yes
33	Olaipadi Tank	68.305	Olaipadi	„	„	--	68.305	--	Yes
34	Vaipoor Tank	55.935	Vaipoor	„	„	--	55.935	--	Yes
35	Nariyur Tank	74.87	Nariyur	„	„	--	74.870	--	Yes
36	Oddampattu Tank	51.86	Oddampattu	„	„	--	51.860	--	Yes
37	Veerapandi Tank	169.47	Veerapandi	„	„	--	169.470	--	Yes
38	Kottamarudur Tank	107.29	Kottamarudur	„	„	--	107.290	--	Yes
39	Manampoondi Tank	70.13	Manampoondi	„	„	--	70.130	--	Yes
40	Vedakarathazhayanur Tank	55.94	Vedakarathazhay anur	„	„	--	55.940	--	Yes

41	Devanur Anicut	146.00	Devanur	”	”	--	146.000	--	Yes
42	Athipakkam Tank	86.23	Athipakkam	”	”	--	86.230	--	Yes
43	Sangiyam Tank	34.5	Sangiyam	”	”	--	34.500	--	Yes
44	Villandhai Tank	199.19	Villandhai	”	”	--	199.190	--	Yes
45	Kazumaram Tank	44.25	Kazumaram	”	”	--	44.250	--	Yes
46	Kuladeepamangalam Tank	118.62	Kuladeepamangalam	”	”	--	118.620	--	Yes
47	Adur Kolapakkam Tank	68.83	Adur Kolapakkam	”	”	--	68.830	--	Yes
48	S.L.B.C. W.U.A.No.27 at Kolakkudi	102.58	Kolakkudi	”	”	102.580	--	Yes	--
49	S.L.B.C. W.U.A.No.17 at Thalaiyampallam	29.86	Thalaiyampallam	”	”	29.860	--	Yes	--
50	S.L.B.C. W.U.A.No.18 at Thatchampattu	8.73	Thatchampattu	”	”	8.730	--	Yes	--
51	S.L.B.C. W.U.A.No.22 at Nariyappattu	49.2	Nariyappattu	”	”	49.200	--	Yes	--
52	S.L.B.C. W.U.A.No.23 at Pavupattu	84.27	Pavupattu	”	”	84.270	--	Yes	--
53	S.L.B.C. W.U.A.No.25 at Periyakallappadi	73.98	Periyakallappadi	”	”	73.980	--	Yes	--
54	S.L.B.C. W.U.A.No.26 at Pavithram	60.91	Pavithram	”	”	60.910	--	Yes	--

55	TVM WUA - 76 Konalur	119.385	Konalur	„	„	119.385	--	Yes	--
56	TVM WUA - 77 Kolathur	429.275	Kolathur	„	„	429.275	--	Yes	--
57	VPM WUA - 48 Mathapoondi	53.76	Mathapoondi	„	„	53.760	--	Yes	--
	<b>Total</b>	<b>4442.625</b>				<b>1011.950</b>	<b>3430.675</b>		

### **ABSTRACT**

1	Command Area already covered under WRCP and other Project / Schemes	1011.95 Ha
2	Command Area proposed to be covered under IAMWARM Project	3430.675 Ha
3	Total Command are controlled by WRO of PWD in the Sub Basin	4442.625 Ha
4	Total No.of WUAs already formed under WRCP	10 Nos.
5	Total No.of WUAs Proposed to be formed under IAMWARM	47 Nos.
6	Total No.of WUAs that will cover the entire Sub - Basin	57 Nos.

Annexure - 2  
Details of "Awareness Creation Activities and Walk - Through Surveys"

Sl.No.	Date of Visit	Names of the Villages visited	Awareness Programme (No.of Farmers attended) (Prepare the list of farmers with acknowledgement separately and attach)	Walk Through Survey (No.of Farmers Participated) (Prepare the list of farmers with acknowledgement separately and attach)	Remarks
1	2	3	4	5	6
1	26.08.08	1) Kunnumurinja 2) Killiyapattu 3) Kalasthampadi 4) Madalampadi 5) Vallivagai 6) Noogambadi	15	5	
2	27.08.08	1) Mannai Anicut 2) Seelapandal 3) Seelapandal 4) Vilakkanandhal 5) Karuthuvambadi 6) Mallavadi 7) Munianthal 8) Sadayanodai 9) Andapattu	10	7	
3		10) Madhapoondi	--	--	
4	28.08.08	1) Vengikkal 2) Adaiyur 3) Samudiram 4) Nochimalai	20	12	
5	05.09.08	1) Avoor 2) Vedanatham 3) Kolathur 4) Karikalambadi 5) G.Pappanthangal 6) Vayalur 7)Aungunam 8) Neelanthangal 9) Panniyur 10) Edaiveli	25	12	

6	06.09.08	1) Ariyampallam 2) Vettavalam 3) Oaipadi 4) Vaipoor 5) Kallanai 6) Madurampattu 7) Kariyamthangal 8) Andampallam 9) Naraiyur	30	14	
7	09.09.08	1) Chinnakangeyanur 2) Pallikondapattu 3) Sambanathanur 4) Mallappambadi 5) Melanaikarai 6) Kilanaikarai 7) Endal.	10	5	
8	11.09.08	1) Sambandhanur 2) Mallappambadi 3) Thavanur	12	12	
9	24.10.08	1) Mannai 2) Seelapanthal-1 3) Seelapanthal-2	14	7	
10	01.11.08	1) Somasipadi 2) Polakonam 3) Karikalampadi 4) Vedanatham	9	8	
11	04.11.08	1) Kalasthambadi 2) Karunthuvambadi 3) Madulampadi 4) Vallivagai 5) Noogambadi 6) Mallavadi 7) Perumbakkam	15	10	
12	08.11.08	1) Andapattu 2) Kunnumurinji 3) Killiyapattu	6	6	
13	20.11.08	1) Kolakkudi 2) Naduppattu 3) Su.Andapattu 4) Aradappattu 5) Pavithram	7	7	
14	22.11.08	1) Nariappattu 2) Chakkarathan madai 3) Thalayampallam 4) Paraiyampattu 5) Pavupattu	11	10	



15	23.11.08	Kattampoondi Periakallappadi Thatchampattu Allikondampattu	12	12	
16	02.01.09	Vilandai Sangiyam Athipakkam	10	9	
17	06.01.09	Kazumaram Kuladeepamangal am Adurkolapakkam	10	9	
18	07.01.09	Oddampattu Veerappandi Kottamarudur Manampoondi Velakaraithzhaur	10	15	
19	06.01.09	Kazumaram Kuladeepamangal am Adurkolapakkam	12	12	
20	07.01.09	Oddampattu Veerappandi Kottamarudur Manampoondi Velakaraithzhaur	12	12	

**Annexure - 03**

**Details of Modernisation works as suggested by the Farmers and as finalized by the officials of WRO**

Sl.No.	Date of Visit	Names of the Villages visited	Outcome of Walk through survey and discussions with farmers	
			Works Suggested by Farmers	Works finalized by WRO Officials.
1	26.08.08	1) Kunnumurinji 2) Killiyapattu 3) Kalasthampadi 4) Madalampadi 5) Vallivagai 6) Noogambad	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
2	27.08.08	1) Mannai Anicut 2) Seelapandal 3) Seelapandal 4) Vilakkanandhal 5) Karuthuvambadi 6) Mallavadi 7) Munianthal 8) Sadayanodai 9) Andapattu	Arrest the body wall leakage, Desilting the channel in Anicuts, Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
		10) Madhapoondi	Repairs to Weir, supply channel and Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
3	28.08.08	1) Vengikkal 2) Adaiyur 3) Samudiram 4) Nochimalai	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
4	04.09.08	1) Veriyur 2) Meyyur	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply	All the request of the farmers were fulfilled except field channel lining.

		3) Thenmathur 4) Alaganandal	channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
5	05.09.08	1) Avoor 2) Vedanatham 3) Kolathur 4) Karikalambadi 5) G.Pappanthangal 6) Vayalur 7)Aungunam 8) Neelanthangal 9) Panniyur 10) Edaiveli	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
6	06.09.08	1) Ariyampallam 2) Vettavalam 3) Olaipadi 4) Vaipoor 5) Kallanai 6) Madurampattu 7) Kariyamthangal 8) Andampallam 9) Naraiyur	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
7	09.09.08	1) Chinnakangeyanur 2) Pallikondapattu 3) Sambanthanur 4) Mallappambadi 5) Melanaikarai 6) Kilanaikarai 7) Endal.	Arrest the body wall leakage, Desilting the channel in Anicuts, Forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.

8	11.09.08	1) Sambandhanur 2) Mallappambadi 3) Devanur	Arrest the body wall leakage, Desilting the channel in Anicuts, Forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
9	24.10.08	1) Mannai 2) Seelapanthal-1 3) Seelapanthal-2	Arrest the body wall leakage, Desilting the channel in Anicuts, Forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
10	01.11.08	1) Somasipadi 2) Polakonam 3) Karikalampadi 4) Vedanatham	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
11	04.11.08	1) Kalasthambadi 2) Karunthuvambadi 3) Madulampadi 4) Vallivagai 5) Noogambadi 6) Mallavadi 7) Perumbakkam	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
12	08.11.08	1) Andapattu 2) Kunnumurinji 3) Killiyapattu	Arrest the body wall leakage, Desilting the channel in Anicuts, Forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
13	20.11.08	1) Kolakkudi 2) Naduppattu 3) Su.Andapattu 4) Aradappattu 5) Pavithram	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.

14	22.11.08	1) Nariappattu 2) Chakkarathanmadai 3) Thalayampallam 4) Paraiyampattu 5) Pavupattu	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
15	23.11.08	Kattampoondi Periakallappadi Thatchampattu Allikondampattu	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
16	02.01.09	Vilandai Sangiyam Athipakkam	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
17	06.01.09	Kazumaram Kuladeepamangalam Adurkolapakkam	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.
18	07.01.09	Oddampattu Veerappandi Kottamarudur Manampoondi Vedakarathzhanur	Strengthening the bund, Repairs and Reconstruction sluice and weir, supply channel, Desilting forming flood banks construction of Field channels were requested by farmers.	All the request of the farmers were fulfilled except field channel lining.

**STATEMENT WITH DETAILS OF DATE OF WALK THROUGH SURVEY, LOCATION, FARMERS REQUEST, TECHNICAL SOLUTION, PROPOSED IN THE PLAN**

Sl. No.	Walk Through Survey		Farmers Request	Technical Solution							Proposed in the Plan								Remarks	
	Date	Location		W.R.O.	Agriculture	TNAU	Horticulture	Agri marketing	Agri Engg.	Fisheries	A.H.	W.R.O.	Agriculture	TNAU	Horticulture	Agri. Marketing	Agri. Engg.	Fisheries		A.H.
1	26.08.08	1) Kunnumurinjil 2) Killiyapattu 3) Kalasthampadi 4) Madalampadi 5) Vallivagai 6) Noogambad	Strengthening Bund, Head Sluice Repairs & Reconstruction, Channel clearance, Repairs to weir. Farmers requested farm ponds for fish culture, As there is scarcity of labour, farmers requested farm machineries for farm operations, Micro Irrigation system such as drip and sprinkler @ 100% subsidy for saving of water, Lining of field channel, PVC pipe line for well to field irrigation. Access to the Regulated market committee is too long distance hence farmers sell their produce to the local traders, No proper road access to the regulated market committees, under weighment by the local traders, Delayed payment by the local traders, Non availability of Thrashing Floors, Non availability of storage godowns, No knowledge about value addition, Lack in Market intelligence, No awareness about availing the produce pledge loan facilities offered by the Market committees, No ideas among farmers about the	To Improve the Tank Bund, Sluice, Weir and Channel improvements, arresting seepage through anicut, Strengthening the anicut embankments, offtake channel improvements	S.R.I. method of cultivation in paddy. Alternate crops like maize, Sunflower,	--	Introduction of crop diversification with less water consuming Horticulture crops.	Margin captured by various entities leads to value loss to farmers, Traders/wholesalers, at times, under weigh the produce which leads to value loss in the system, Most farmers are unaware of prices at other mandis and is at the mercy of the trader, Activities such as milling are not carried out in the most efficient manner, The traders/Millers typically "buy low-sell high" taking advantage of higher market prices. The farmers do not get the benefit, Although not as serve as in F&V, the farmers, at times, are at the mercy of money lenders for credit at a very high rate, Farmers at times have to suffer due to counterfeit agri-inputs.	1) Farmponds proposed in the patta lands. 2) Modern farm machineries proposed for farm operation 3) Micro irrigation system proposed at 50% subsidy as per prevailing norms of Government of India.	The Development of fisheries in the sub basin will generate employment opportunities to the farmers and fishermen and increased profitability leading to the rural upliftment by enhanced inland fish production to provide protein rich fish food to the rural people.	1) Training of Farmers 2) Entrepreneurship training to unemployed veterinary graduates 3) Improving the essential infrastructure in the government in the project area. 4) Increasing availability of green fodder, 5) Infertility cum total Veterinary health care camps. 6) Distribution of mineral Mixtures. 7) Information and education and communications campaigns. 8) Conducting Night meetings.	To Improve the Tank Bund, Sluice, Weir and Channel improvements, arresting seepage through anicut, Strengthening the anicut embankments, offtake channel improvements	Conducting Demonstration on SRI method Technology Demonstration in Maize, Sunflower and pulses	--	Supply of Hybrid Vegetables seeds & other inputs. Providing adequate technical support.	Commodity groups to be formed. Training to be given to commodity group farmers about. Alternate Crop High value crop Value addition To create awareness about the market intelligence to the farmers, exposure visits to be arranged. Producers and buyers meeting to be conducted to fix the price for their produce. Contract farming to be arranged so that the buyers can buy a bulk quantity from a single village. MOU to be arranged with buyer so as to have definite price for their produce before sowing and to avoid intermediaries . Infrastructure structures facilities like storage godowns and drying yard to be constructed where ever it is required. Pack house to be constructed in village to sorting,	1) Farmponds proposed in the Patta lands. 2) Modern farm machineries proposed for farm operation 3) Micro Irrigation system proposed at 50% subsidy.	It is proposed to demonstrate fish culture in 11 tanks through the water user association members. The success of fish culture and attainment of expected fish production is dependant upon the retention of water in the culture area for minimum of 5-6 months with a minimum depth of 1 M. The implementation of the composite fish culture technology is for optimum income and enhanced fish production . The tanks identified will be stocked with quality fish seeds viz., catla, Rohu, Mrigal and common carp at the	1) Productivity enhance ment by improving delivery of veterinary services in the Project area at the Governm ent and private level. 2) Increasing availability of green fodder and other fodder for sustenance. 3) Conducting various outreach programmes to enhance productivity. 4) Enhancing the knowledge level of human resource in the project area.	--







3	28.08.08	1) Vengikkal 2) Adaiyur 3) Samudiram 4) Nochimalai	Strengthening Bund, Head Sluice Repairs, Channel clearance, Repairs to weir. Hybrid Vegetable Seeds and all inputs under 100% subsidy. 1) Technologies forget frequent yield with Low cost in Paddy & Groundnut 2) Technologies for Labour saving. 3) Crop suited for users water. 4) Crop which require no plant protection (or) Less cost PP 5) New Hybrids. Form pond, Veterinary Hospitals, Subsidy for drip Irrigation, Fish Pond. Farmers requested farm ponds for fish culture, As there is scarcity of labour, farmers requested farm machineries for farm operations, Micro Irrigation system such as drip and sprinkler @ 100% subsidy for saving of water, Lining of field channel, PVC pipe line for well to field irrigation. Access to the Regulated market committee is too long distance hence farmers sells their produce to the local traders, No proper road access to the regulated market committees, under weighment by the local traders, Delayed payment by the local traders, Non availability of Thrashing Floors, Non availability of storage	To Improve the Tank Bund, Sluice, Weir and Channel improvements , arresting seepage through anicut, Strengthening the anicut embankments , offtake channel improvements	S.R.I. method of cultivation in paddy. Alternate crops like maize, Sunflower,	--	-do-	Margin captured by various entities leads to value loss to farmers, Traders/wholesalers, at times, under weigh the produce which leads to value loss in the system, Most farmers are unaware of prices at other mandis and is at the mercy of the trader, Activities such as milling are not carried out in the most efficient manner, The traders/Millers typically "buy low-sell high" taking advantage of higher market prices. The farmers do not get the benefit, Although not as serve as in F&V, the farmers, at times, are at the mercy of money lenders for credit at a very high rate, Farmers at times have to suffer due to counterfeit agri-inputs.	1) Farmponds proposed in the patta lands. 2) Modern farm machineries proposed for farm operation 3) Micro irrigation system proposed at 50% subsidy as per prevailing norms of Government of India.	-do-	-do-	-do-	Conducting Demonstration on SRI method Technology Demonstration in Maize, Sunflower and pulses	--	-do-	-do-	-do-	-do-	-do-	--
---	----------	---	---	---	---	----	------	--	---	------	------	------	--	----	------	------	------	------	------	----

			godowns, No knowledge about value addition, Lack in Market intelligence, No awareness about availing the produce pledge loan facilities offered by the Market committes, No ideas among farmers about the selection of alternate crop and high value crops, More number of intermediaries involvement in trading the agricultural produce.																	
4	04.09.08	1) Veriyur 2) Meyyur 3) Thenmathur 4) Alaganandal	1) Technologies forget frequent yieldwith Low cost in Paddy & Groundnut 2) Technologies for Labour saving. 3) Crop suited for users water. 4) Crop which require no plant protection (or) Less cost PP 5) New Hybrids. Form pond, Veterinary Hospitals, Subsidy for drip Irrigation, Fish Pond. Farmers requested farm ponds for fish culture, As there is scarcity of labour, farmers requested farm machineries for farm operations, Micro Irrigation system such as drip and sprinkler @ 100% subsidy for saving of water, Lining of field channel, PVC pipe line for well to field irrigation. Access to the Regulated market	-do-	-do-	--	-do-	--	--	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	--





storage godowns, No knowledge about value addition, Lack in Market intelligence, No awareness about availing the produce pledge loan facilities offered by the Market committees, No ideas among farmers about the selection of alternate crop and high value crops, More number of intermediaries involvement in trading the agricultural produce. The Sub basin has inland co-operative societies and fisher women co-operative societies. Capture fishery is their primary occupation. The Fisher folks currently do not have effective craft and gear for fishing. The project scenario with good quality seed materials is expected the produce about 30 tones of fish in the sub basin. For harvesting this fishery effectively fishing implements shall be provided to Fishermen Co-operative society in the sub basin. The farmers have requested to provide the same as explained above.

6	06.09.08	1) Ariyampallam 2) Vettavalam 3) Olaipadi 4) Vaipoor 5) Kallanai 6) Madurampattu 7) Kariyamthangal 8) Andampallam 9) Naraiyur	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	--
7	09.09.08	1) Chinnakangeyanur 2) Pallikondapattu 3) Sambanthanur 4) Mallappambadi 5) Melanaikarai 6) Kilanaikarai 7) Endal.	Hybrid Vegetable Seeds and all inputs under 100% subsidy. 1) Technologies for frequent yield with Low cost in Paddy & Groundnut 2) Technologies for Labour saving. 3) Crop suited for users water. 4) Crop which require no plant protection (or) Less cost PP 5) New Hybrids. Form pond, Veterinary Hospitals, Subsidy for drip Irrigation, Fish Pond.	--	-do-	--	-do-	-do-	-do-	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	--
8	11.09.08	1) Sambandhanur 2) Mallappambadi 3) Thavanur	To ensure market driven and profitable crops are grown by the farmers. To facilitate value addition to the produce. To improve transport arrangements for marketing and preservation of perishable items by providing cold storages and godowns. To provide market intelligence to WUAs.	--	-do-	--	-do-	-do-	-do-	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	--







12	08.11.08	1) Andapattu 2) Kunnumurinji 3) Killiyapattu	The Sub basin has inland co-operative societies and fisher women co-operative societies. Capture fishery is their primary occupation. The Fisher folks currently do not have effective craft and gear for fishing. The project scenario with good quality seed materials is expected the produce about 30 tones of fish in the sub basin. For harvesting this fishery effectively fishing implements shall be provided to Fishermen Co-operative society in the sub basin. The farmers have requested to provide the same as explained above.	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	--
13	20.11.08	1) Kolakkudi 2) Naduppattu 3) Su.Andapattu 4) Aradappattu 5) Pavithram	Hybrid Vegetable Seeds and all inputs under 100% subsidy. 1) Technologies for frequent yield with Low cost in Paddy & Groundnut 2) Technologies for Labour saving. 3) Crop suited for users water. 4) Crop which require no plant protection (or) Less cost PP 5) New Hybrids. Form pond, Veterinary Hospitals, Subsidy for drip Irrigation, Fish Pond. To ensure market driven and profitable crops are grown by the farmers. To facilitate value addition to the produce. To improve transport arrangements for marketing and	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	--

			preservation of perishable items by providing cold storages and godowns. To provide market intelligence to WUAs.																	
14	22.11.08	1) Nariappattu 2) Chakkarathan madai 3) Thalayampallam 4) Paraiyampattu 5) Pavupattu	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	--
15	23.11.08	Kattampoondi Periakallappadi Thatchampattu Alikondampattu	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	--
16	02.01.09	Vilandai Sangiyam Athipakkam	Supply of high yielding hybrid seeds, timely supply of seeds, supply of all other inputs at subsidy rate and timely technical support by concerned department staff.	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	--
17	06.01.09	Kazumaram Kuladeepamangalam Adurkolapakkam	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	--

18	07.01.09	Oddampattu Veerappandi Kottamarudur Manampoondi Velakaraithzhaur	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	-do-	-do-	-do-	--	-do-	-do-	-do-	-do-	--
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## **1.5. IRRIGATION INFRASTRUCTURES**

**1.5.1 List of Anicut**

S/No	Name of Anicut	Village	Block	Taluk	District	Direct Ayacut in (Ha)	Discharge Capacity in Cusec
1	Mannai Anicut	Mannai	Thurinapuram	Tiruvannamalai	Tiruvannamalai	Nil	2762
2	Seelapandal Anicut I	Seelapandal	Thurinapuram	Tiruvannamalai	Tiruvannamalai	Nil	2762
3	Seelapandal Anicut II	do	Thurinapuram	Tiruvannamalai	Tiruvannamalai	12.98	3074
4	Vilakkanandal Anicut	Uoosampadi	Thurinapuram	Tiruvannamalai	Tiruvannamalai	38.11	5157
5	Munianandal Anicut	Inam Karianthal	Thurinapuram	Tiruvannamalai	Tiruvannamalai	10.59	7387
6	Sadayanodai Anicut	Sadayanodai	Thurinapuram	Tiruvannamalai	Tiruvannamalai	23.41	8766
7	Andapattu Anicut	Nammiandal Village	Thurinapuram	Tiruvannamalai	Tiruvannamalai	29.83	8716
8	Kunnamurinji Anicut	Kunnamurinji Village	Thurinapuram	Tiruvannamalai	Tiruvannamalai	8.05	9084
9	Killiyapattu Anicut	Killiapattu Village	Thurinapuram	Tiruvannamalai	Tiruvannamalai	35.99	11760
10	Malapampadi Anicut	Nellimedu	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	118.59	12330
11	Pallikondapattu Anicut	Malappampadi	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	7.70	14280
12	Sambandanur Anicut	Malappampadi	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	35.19	14370

13	Chinnakangayanur Anicut	Chinnakangayanur	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	87.92	10760
14	Thandarai Anicut	Thandarai	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	Nil	27900
15	Su Valavetti Anicut	Su Val;avetti	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	44.73	28310
16	Kadagaman Anicut	Kadagaman	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	Nil	35180
17	Vasanthakrishnapuram Anicut	Vasanthakrishnapuram	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	Nil	40330
18	Melanakkarai Anicut	Anakkarai	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	21.17	8772
19	Kilanakkarai Anicut	Anakkarai	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	20.18	9000
20	Endal Anicut	Endal	Thiruvannamalai	Tiruvannamalai	Tiruvannamalai	Nil	22360
21	Keeranur Anicut	Sambandanur	Kilpennathur	Tiruvannamalai	Tiruvannamalai	Nil	22360
22	Sorpanandal Anicut	Sorpanandal	Kilpennathur	Tiruvannamalai	Tiruvannamalai	18.58	22420
23	Arumpakkam Anicut	Arumbakkam	Kilpennathur	Tiruvannamalai	Tiruvannamalai	18.76	25010
24	Konalur Anicut	Soorian Thangal	Kilpennathur	Tiruvannamalai	Tiruvannamalai	27.46	25710
25	Neikuppam Anicut	Velanandal	Kilpennathur	Tiruvannamalai	Tiruvannamalai	14.81	25810
26	Devanur Anicut	Devanur	Mugayur	Thirukoilur	Villupuram	146	36747

**1.5.2. List of Tanks (System)**

Sl. No.	Name of Tank / Anicut / Supply Channel	Village	Block	Taluk	District	Direct Ayacut area in Ha.	Capacity
<b>SYSTEM TANKS</b>							
1	Kallanai Tank	Kallanai	Tiruvannamalai	Tiruvannamalai	Tiruvannamalai	22.685	
2	Madurampattu Tank	Madurampattu	- do -	- do -	- do -	46.050	
3	Kariyanthangal Tank	Madurampattu	- do -	- do -	- do -	12.520	
4	Sakkarathan Madai Tank	Sakkarathanmadai	- do -	- do -	- do -	11.050	3.5
5	Nariyapattu Tank	Nariyapattu	- do -	- do -	- do -	21.770	2.51
6	Parayampattu Tank	Parayampattu	- do -	- do -	- do -	16.380	3
7	Pavupattu Tank	Pavupattu	- do -	- do -	- do -	22.150	12.05
8	Kattampoondi Tank	Kattampoondi	Tiruvannamalai	Tiruvannamalai	Tiruvannamalai	62.120	17.84

9	Thalaiampallam Tank	Thalaiampallam	- do -	- do -	- do -	23.840	7.49
10	Thatchampattu Tank	Thatchampattu	- do -	- do -	- do -	8.730	2.08
11	Periya Kallapadi Tank	Periya Kallapadi	- do -	- do -	- do -	61.940	13.96
12	Aradapattu Tank	Aradapattu	- do -	- do -	- do -	12.040	3.39
13	Su. Andapattu Tank	Su. Andapattu	- do -	- do -	- do -	32.690	29.72
14	Kolakkudi Tank	Kolakkudi	- do -	- do -	- do -	42.550	5.35
15	Nadupattu Tank	Nadupattu	- do -	- do -	- do -	27.340	2.7
16	Pavithiram Tank	Pavithiram	- do -	- do -	- do -	60.910	
17	Allikondapattu Tank	Allikondapattu	- do -	- do -	- do -	6.020	1.8
	<b>Sub Total :</b>					<b>490.785</b>	
18	Konalur Tank	Konalur	Kilpennathur	Tiruvannamalai	Tiruvannamalai	65.180	15.36
19	Kolathur Tank	Kolathur	- do -	- do -	- do -	74.380	26.79
20	Gudalur Papanthangal Tank	Jamin Gudalur	- do -	- do -	- do -	49.530	3.68



21	Vayalur Tank	Vayalur	Kilpennathur	Tiruvannamalai	Tiruvannamalai	34.220	32.16
		Rajanthangal	- do -	- do -	- do -	20.600	
22	Angunam Tank	Angunam	- do -	- do -	- do -	48.795	48.795
23	Kalingaleri	Kalingaleri	- do -	- do -	- do -	17.505	17.505
24	Kattu Malayanur Nangeri	Kattu Malayanur	- do -	- do -	- do -	36.700	36.7
25	Edaiveli Tank	Kallanai	- do -	- do -	- do -	38.850	11.58
26	Neelanthangal Tank	Neelanthangal	- do -	- do -	- do -	24.045	8.65
27	Panniyur Tank	Panniyur	- do -	- do -	- do -	35.460	12.57
28	Ariyampallam Tank	Ariyampallam	- do -	- do -	- do -	22.140	6.82
	<b>Sub Total :</b>					<b>467.405</b>	
	<b>Grand Total :</b>					<b>958.190</b>	

### 1.5.3. List of Tanks (Non System)

Sl. No.	Name of Tank / Anicut / Supply Channel	Village	Block	Taluk	District	Ayacut in Ha.	Capacity
<b>NON SYSTEM TANKS</b>							
<b>TIRUVANNAMALAI DISTRICT</b>							
1	Karuthuvampadi Tank	Karuthuvampadi	Thurinjapuram	Tiruvannamalai	Tiruvannamalai	43.360	15.41
2	Mallavadi Tank	Mallavadi	- do -	- do -	- do -	43.080	14.72
3	Madulampadi Tank	Madulampadi	- do -	- do -	- do -	59.265	21.87
4	Nukkampadi Tank	Nukkampadi	- do -	- do -	- do -	52.290	18.15
5	Kalasthambadi Tank	Kalasthambadi	- do -	- do -	- do -	43.600	15.69
6	Vallivagai Tank	Vallivagai	- do -	- do -	- do -	52.540	53.755
	<b>Sub Total :</b>					<b>294.135</b>	
7	Adaiyur Tank	Adaiyur	Tiruvannamalai	Tiruvannamalai	Tiruvannamalai	98.155	35.43
8	Vengikal Tank	Vengikal	- do -	- do -	- do -	65.335	24.72
9	Nochimalai Tank	Nochimalai	- do -	- do -	- do -	48.790	13.97
10	Meyyur Tank	Meyyur	- do -	- do -	- do -	69.980	15.54
11	Thenmathur Tank	Thenmathur	- do -	- do -	- do -	65.075	22.25
12	Alaganandal Tank	Alaganandal	- do -	- do -	- do -	40.925	14.13

13	Veraiyur Tank	Veraiyur	- do -	- do -	- do -	50.570	24.72
14	Su. Valavetti Tank	Su. Valavetti	- do -	- do -	- do -	38.900	15.89
15	Nariyur Tank	Nariyur	- do -	- do -	- do -	74.870	19.42
16	Andampallam Tank	Andampallam	- do -	- do -	- do -	66.325	25.07
17	Su. Nallur Tank	Su. Nallur	- do -	- do -	- do -	60.255	14.48
18	Samuthiram Tank	Samuthiram	- do -	- do -	- do -	127.230	78.75
	<b>Sub Total :</b>					<b>806.410</b>	
19	Karikalampadi Tank	Karikalampadi	Kilpennathur	Tiruvannamalai	Tiruvannamalai	28.090	17.70
20	Somasipadi Tank	Somasipadi	- do -	- do -	- do -	48.415	17.70
21	Vedanatham Tank	Vedanatham	- do -	- do -	- do -	43.220	15.25
22	Avoor Tank	Avoor	- do -	- do -	- do -	83.205	24.49
23	Nadalagandal Tank	Nadalagandal	- do -	- do -	- do -	14.710	14.63
24	Polakunam Tank	Polakunam	- do -	- do -	- do -	40.275	21.79
25	Olaipadi Tank	Olaipadi	- do -	- do -	- do -	68.305	22.77
26	Chellankuppam Tank	Chellankuppam	- do -	- do -	- do -	25.040	17.66
27	Vaipoor Tank	Vaipoor	- do -	- do -	- do -	55.935	12.29
28	Vettavalam Tank	Vettavalam	- do -	- do -	- do -	74.355	33.51
	<b>Sub Total :</b>					<b>481.550</b>	
29	Perumpakkam Tank	Perumpakkam	Chengam	Chengam	Tiruvannamalai	53.475	19.423
	<b>Sub Total :</b>					<b>53.475</b>	

30	Melsiruppakkam	Melsiruppakkam	Thandrampet	Thandarampet	Tiruvannamalai	69.745	38.516
	<b>Sub Total :</b>					<b>69.745</b>	
	<b>VILLUPURAM DISTRICT</b>						
31	Ottampattu Tank	Ottampattu	Mugayur	Thirukovilur	Villupuram	51.860	14.83
32	Veerapandi Tank	Veerapandi	- do -	- do -	- do -	169.470	19.42
33	Kottamarudur Tank	Kottamarudur	- do -	- do -	- do -	107.290	17.66
34	Manampoondi Tank	Manampoondi	- do -	- do -	- do -	70.130	11.65
35	Adoorkolapakkam Tank	Adoorkolapakkam	- do -	- do -	- do -	68.830	5.70
36	Vadakaraithazhanur Tank	Vadakaraithazhanur	- do -	- do -	- do -	55.940	12.00
37	Kuladeepanangalam Tank	Kuladeepanangalam	- do -	- do -	- do -	118.620	26.86
38	Sangiyam Tank	Sangiyam	- do -	- do -	- do -	34.500	8.47
39	Vilandai Tank	Vilandai	- do -	- do -	- do -	199.190	32.48
40	Athipakkam Tank	Athipakkam	- do -	- do -	- do -	86.230	14.126
41	Kazhumaran Tank	Kazhumaran	- do -	- do -	- do -	44.250	5.29
	<b>Sub Total :</b>					<b>1006.310</b>	
42	Mathapoondi Tank	Mathapoondi	Gingee	Gingee	Villupuram	53.760	
	<b>Sub Total :</b>					<b>53.760</b>	
	<b>Grand Total :</b>					<b>2765.385</b>	

#### 1.5.4 LIST OF SUPPLY CHANNEL

SI No	Name of Supply channel	Off Take Point/Supply from	Length in Km	Village	Block	Taluk	District	Direct Ayacut in Ha
	<b>Direct Ayacut From Anicut</b>							
1	Mannai Anicut Left off take channel	Left	500.00	Mannai	Thurinjapuram	Thiruvannamalai	Thiruvannamalai	Nil
2	Seelapandal Anicut left off take channel	do	690.00	Seelapandal	Thurinjapuram	Thiruvannamalai	Thiruvannamalai	Nil
3	Seelapandal Anicut left off take channel	do	1800.00	do	Thurinjapuram	Thiruvannamalai	Thiruvannamalai	12.98
4	Vilakkanandal Anicut left off take channel	Left	1800.00	Uoosampadi	Thurinjapuram	Thiruvannamalai	Thiruvannamalai	38.11
5	Munianandal Anicut Right off take channel	Right	3000.00	Inam Karianthal	Thurinjapuram	Thiruvannamalai	Thiruvannamalai	10.59
6	Sadayanodai Anicut Right off take channel	Left	725.00	Sadayanodai	Thurinjapuram	Thiruvannamalai	Thiruvannamalai	23.41
7	Andapattu Anicut Right off take channel	Right	3000.00	Nammiandal Village	Thurinjapuram	Thiruvannamalai	Thiruvannamalai	29.83
8	Kunnamurinji Anicut left off take channel	Left	2800.00	Kunnamurinji Village	Thurinjapuram	Thiruvannamalai	Thiruvannamalai	8.05
9	Killiyapattu Anicut Right off take channel	Right	3120.00	Killiyapattu Village	Thurinjapuram	Thiruvannamalai	Thiruvannamalai	35.99
10	Malapampadi Anicut left off take channel	Left	1500.00	Nellimedu	Kilpennathur	Thiruvannamalai	Thiruvannamalai	118.59

11	Pallikondapattu Anicut Right off take channel	Right	630.00	Malappampadi	Kilpennathur	Thiruvannamalai	Thiruvannamalai	7.70
12	Sambandanur Anicut left off take channel	Left	3230.00	Malappampadi	Kilpennathur	Thiruvannamalai	Thiruvannamalai	35.19
13	Chinnakangayanur Anicut Right off take channel	Right	2750.00	Chinnakangayanur	Kilpennathur	Thiruvannamalai	Thiruvannamalai	87.92
14	Thandarai Anicutleft off take channel	Left	6000.00	Thandarai	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	Nil
15	Su Valavetti Anicut Right off take channel	Right	3000.00	Su Vallavetti	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	44.73
16	Kadagaman Anicut Right Off take Channel	Right	4000.00	Kadagaman	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	Nil
17	Vasanthakrishnapuram Anicut Left off Take channel	Left	3000.00	Vasanthakrishnapuram	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	Nil
18	Melanakkara Anicut Left off Take Channel	Left	900.00	Anakkara	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	21.17
19	Kilanakkara Anicut			Anakkara	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	20.18
20	Endal Anicut Left Off Take Channel	Left	2000.00	Endal	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	Nil
21	Keeranur Anicut Left off Take channel	Left	37895.00	Sambandanur	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
22	Keeranur Anicut Right off Take channel	Right	2200.00	Sambandanur	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
23	Sorpanandal Anicut	Left	1340.00	Sorpanandal	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL

24	Arumpakkam Anicut Left off Take Channel	left	2560.00	Arumbakkam	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
25	Konalur Anicut Left off Take Channel	Left	2970.00	Soorian Thangal	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
26	Neikuppam Anicut Right Off take Channel	Right	1800.00	Velanandal	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
27	Devanur Anicut	Left side	3800m	Devanur	Mugayur	Thirukoilur	Villupuram	NIL
	<b>Supply From Tank to Tank</b>							
28	Alaganandal Tank Supply channel	Thenmathur	2000	Alaganandal	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
29	Andampallam Tank Supply Channel	T.Valasai	1500	Andampallam	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
30	Narayur Tank Supply Channel	Olaipadi	2000	Narayur	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
31	Nochimalai Tank Supply Channel	Seriyandal & Vengikkal	1500, 1300	Nochimalai	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
32	Samudram Tank Supply Channel	Ayyampalayam	3000	Samudram	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
33	Su Nallur Tank Supply Channel	--	3000	Sunallur	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
34	Thenmathur Tank Supply Channel	Kilnachipattu	2000	Thenmathur	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
35	Vengikal Tank Supply Channel	Adaiyur	1500	Vengikal	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL

36	Verayur Tank Supply channel	Periyakallapadi	2000	Verayur	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
37	Kallanai Tank Supply Channel	Vayalur	1300	Kallanai	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
38	Mathurampattu Tank Supply Channel	Ariyampallam	1000	Mathurampattu	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
39	Melsirupakkam Tank supply channel		1000	Melsirupakkam	Thandrapat	Thandrapat	Thiruvannamalai	NIL
40	Kalasthampadi Tank supply channel	Union Tank	1600	Kalasthampadi	Thurinjapuram	Thiruvannamalai	Thiruvannamalai	NIL
41	Somasipadi Tank supply channel	So. Nammiyandal	1300	Somasipadi	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
42	Kalingaleri Tank supply channel	Puravadai Tank & Nandhan Channel	60	Kalingaleri	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
43	Konalur Tank supply channel	Konalur Anicut Left off Take	3000 ,2600	Konalur	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
44	Kattumalayanur Putheri Tank supply channel	Anneri & Agaram Eri	600, 500	Kattumalayanur Putheri	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
45	Neelanthangal Tank supply channel	Kolathur, Madapondi, Neelanthangal eri	700 ,500, 700	Neelanthangal	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
46	Vayalur Tank supply channel	Gudalur Papanthangal Eri	1700	Vayalur	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL



47	Edaiveli Tank supply channel	Kallanai Eri	2000	Edaiveli	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
48	Panniyur Tank supply channel	Edaiveli Tank	1000	Panniyur	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
49	Angunam Tank supply channel	Edaiveli Tank	1200	Angunam	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
50	Ariampallam Tank supply Channel	Panniyur	2500	Aruiampallam	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
51	Vettavalam Tank Supply channel	Munafha Tank	3200	Vettavalam	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
52	Olaipadi Tank Supply channel	Vetavalam Tank	1600	Olaipadi	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
53	Vaipur Tank supply channel	Sorathur Tank	1600	Vaipur	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
54	Gudalur Pappan thangal Supply channel	Neelanthangal, Pakkam Eri	150, 850	Gudalur-papanthangal	Kilpennathur	Thiruvannamalai	Thiruvannamalai	NIL
55	Sakkarathan Madal TankSupply Channel	-	450	Sakkarathan Madai	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
56	Nariyampattu Tank Supply Channel	Vanakkampadi	500	Nariyampattu	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
57	Parayampattu Tank Supply Channel	-	500	Parayampattu	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
58	Pavupattu Tank Supply Channel	Elikutti Eri	850	Pavupattu	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
59	Kattampoondi Tank Supply Channel	-	2500	Kattampoondi	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL

60	Thalayampallam Tank Supply Channel	Nariampattu Tank	1500	Thalayampalayam	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
61	Thatchampattu Tank Supply Channel	-	250	Thatchampattu	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
62	Periakalapadi Tank Supply Channel	Thalayampallam Tank	2400	Periakalapadi	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
63	Aradapattu Tank Supply Channel	-	400	Aradapattu	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
64	Su Andapattu Tank Supply Channel	Nadupattu Tank	3500	Su Andapattu	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
65	Kolakkudi Tank Supply Channel	-	3500	Kolakudi	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
66	Nadupattu Tank Supply Channel	Kolakudi Tank	3000	Nadupattu	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
67	Pavithram Tank Supply Channel	Pavuthiram Chitheri	450	Pavuthiram	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
68	Allikondapattu Tank Supply Channel	-	1800	Allikondapattu	Thiruvannamalai	Thiruvannamalai	Thiruvannamalai	NIL
69	Ottampattu Tank Supply channel	Forest	2800	Ottampattu	Mugayur	Thirukoilur	Villupuram	NIL
70	Veerapandi Tank	do	4200	Veerapandi	Mugaiyur	Tirukoilur	Villupuram	NIL
71	Kottamarudur Tank	Kulatheepamangalam	6300	Kottamarudur	Mugaiyur	Tirukoilur	Villupuram	NIL
72	Manampoondi Tank	Kottamarudur	4500	Manampoondi	Mugaiyur	Tirukoilur	Villupuram	NIL

73	Adoor kolapakkam Tank	Kazhumaram	2500	Adoor kolapakkam	Mugaiyur	Tirukoilur	Villupuram	NIL
74	Vadakaranthazhanur Tank	Forest	2800	Vadakaranthazhanur	Mugaiyur	Tirukoilur	Villupuram	NIL
75	Koladeepanangalam Tank	Kaxhumaram	6200	Koladeepa-mangalam	Mugaiyur	Tirukoilur	Villupuram	NIL
76	Sangiyam Tank	ManalurPetai	6000	Sangiyam	Mugaiyur	Tirukoilur	Villupuram	NIL
77	Vilandal Tank	Kaxhumaram	7300	Vilandal	Mugaiyur	Tirukoilur	Villupuram	NIL
78	Athipakkam Tank	Forest		Athipakkam	Mugaiyur	Tirukoilur	Villupuram	NIL
79	Kazhumaram Tank	SAN	6500	Kazhumaram	Mugaiyur	Tirukoilur	Villupuram	NIL
80	Mathapoondi Tank			Mathapoondi	Mugaiyur	Tirukoilur	Villupuram	NIL

**1.5.5. List of Tanks / Anaicuts Executed under various scheme (Viz Part II Scheme, NABARD, WRCP etc.,) since 2000**

Sl. No.	Name of Tank	Name of Scheme	Year	Est.Rs.	DR.No.	Tank Bund	Sluice Repairs	Re.Constr. Of Sluice	Weir Repair	supply Channel	Threshing Floor	WUA Building.	OFD Lining.
1	Vettavalam Tank	Nabard XI	2006-07	19.29	239 I/06-07	1.84	0.49	--	4.23	2.31			
		RSVY	2004-05	7.00	266 RSVY/04-05	--	--	--	--	5.00			
2	Olaipadi Tank	Nabard X	,,	16.85	60 I/06-07	2.03	--	2.20	0.84	0.30			
3	Vayalur Tank	Nabard X	,,	13.70	63 I/06-07	2.66	0.66	--	0.86	0.73			
4	Kalasthampadi Tank	RSVY	,,	7.00	271 RSVY/04-05	2.60	--	1.60	--	--			
5	Polakunam Tank	RSVY	2003-04	4.00	--	1.22	--	1.60	--	0.28			
6	Nadalaganandal Tank	,,	,,	5.00	--	--	--	1.75	1.00	--	--	--	1.95
7	Vaipoor Tank	MLA Work	2007-08	10.00	--	3.98	1.52	--	1.08	0.86	1.73	--	--
8	Karikkalampadi Tank	,,	,,	10.00	--	2.65	0.31	--	1.74	1.98	1.73	--	1.12
9	Nochimalai Tank	Nabard X	2006-07	13.85	64 I/06-07	3.21	--	1.86	0.62	--	--	1.61	4.92
10	Meyyur Tank	,,	,,	20.08	--	3.33	0.67	--	1.32	0.71	--	1.72	9.97
11	Perumpakkam Tank	Part II	,,	11.7	--	4.09	0.52	--	--	1.42	0.90	0.90	3.49

### 1.5.6. ABSTRACT ON THE DETAILS OF IRRIGATION INFRA STRUCTURE AVAILABLE AND WORKS TAKEN UP UNDER IAM WARM PROJECT

Name of Sub Basin: Thurinjalar

Sl. No.	Details	Anicut			System Tank			Non System Tank			Any other Supply Channel		Remarks
		Nos	Supply channel in Km	Direct Ayacut in Ha.	Nos	Supply channel in Km	Ayacut in Ha.	Nos	Supply Channel in Km	Ayacut in Ha	Length	Direct Ayacut in Ha.	
1	Available Infra structure in Sub Basin	26	54.75	719.06	28	38.20	958.190	42	78.26	2765.385	NIL	NIL	
2	Infra srtructure in lamwarm project since works carried out under Various scheme from 2000	NIL	NIL	NIL	NIL	NIL	NIL	11	20.00	646.32	NIL	NIL	
3	Infra srtructure that does not require any rehabilitation works	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	
4	Works Taken up in lamwarm project												
	(a) Works Taken up under other shemes but also taken up in lamwarm Project	NIL	NIL	NIL	NIL	NIL	NIL	11	20.00	646.32	NIL	NIL	COMPONENT THAT ARE NOT TAKEN UP IN OTHER SHEMES ALONE PROPOSED UNDER THIS PROJECT
	(b) Works proposed under IAMWARM Project alone.	26	54.75	719.05	28	38.2	958.190	31.00	58.26	2119.065	NIL	NIL	
	<b>TOTAL</b>	<b>26</b>	<b>54.75</b>	<b>719.05</b>	<b>28</b>	<b>38.2</b>	<b>958.190</b>	<b>42.00</b>	<b>78.26</b>	<b>2765.385</b>			

1 Certified that the Panchayat Union Tanks are not Considered in this project

2 Certified That the Tanks Executed Under Various Scheme ( Viz WRCP, NABARD, PART II SCHEME ETC) Since 2000 were also proposed in this project but the components that are not taken up in other shemes was only proposed



**1.6. REHABILITATION OF IRRIGATION  
INFRASTRUCTURE**

## **1.6. REHABILITATION OF IRRIGATION INFRASTRUCTURE**

### **1.6.1. Structural Status & Deficiencies in the System**

The Following are the present structural condition of the Thurinjalar Sub Basin

- 1) This system is a old system existing for more than 100 years as such requires rehabilitation.
- 2) Heavy accumulation of silt due to hilly region and contour nature of canal system.
- 3) Lack of adequate control of regulating structures like Anicuts, Head Sluices, Sand/scour vents etc.,
- 4) The damaged (or) dilapidated condition of the existing anicuts, diversion head works etc. and supply channels causes to poor standard of the entire conveyance system.
- 5) The System and Non system tanks are to be rehabilitated.

#### **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 Thurinjalar Sub Basin.

- 1) Repairs to the damaged in 26 No.of Anicuts, such as providing skinwall, Apron and Retaining wall.
- 2) Providing Head Sluice to some of the supply channels to avoid breaches during floods and for better water management
- 3) Providing Scour vent in Some Anicuts.
- 4) Trimming the supply channels by earthwork excavation
- 5) Providing revetments and Retaining walls in selective area of the supply channels.
- 6) Repairing, Restoring the traditional water bodies (i.e. tanks)
  - a) Desilting the supply channels to tank.

- 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) Repairs to the damaged Sluices.
- e) Providing revetments and Retaining walls in selective area of the tanks.
- f) Providing S.G.Shutter / Plug arrangements to Sluices, Head Sluices, Scour Vents etc.,
- g) Removing, Repairing and refixing in position of the existing S.G.Shuttering arrangements and providing locking arrangements etc.,
- h) Reconstruction of fully damaged sluices, and weirs in some tanks.

### **Expected outcome**

1. Increase in conveyance efficiency by from 53% to 60%
2. The present Gap area of 1210.275 ha. Is to be converted as a fully irrigated area
3. The following irrigation infrastructure development works are proposed in the sub basin.

Rehabilitation works for 26 Anicuts,

Rehabilitation works for 70 Tanks

Rehabilitation of Supply Channel for 171.21 KM.



**1.6.2. DETAILS OF PROPOSALS IN EACH INFRASTRUCTURE OF THE SUB BASIN**

Slno	Name of Tank Anicut Reservoir	Bund		Sluice			Weir			Anicut		Supply Channel		Boundry stone		Amount
		Length	Amount	Recons truction	Repairs	Amount	Recons truction	Repairs	Amount	No	Amount	Lengthin m	Amount	Nos	Amount	
	<b>ANICUT</b>															
1	Mannai Anicut									1	5.52					5.52
2	Seelapandal Anicut I									1	14.00					14.00
3	Seelapandal Anicut II									1	15.70	1800.00	1.05			16.75
4	Vilakkanandal Anicut									1	8.24	1800.00	0.51			8.75
5	Munianandal Anicut									1	8.76	3000.00	1.24			10.00
6	Sadayanodai Anicut									1	10.82	2800.00	0.18			11.00
7	Andapattu Anicut									1	13.19	3120.00	1.31			14.50
8	Kunnamurinji Anicut									1	12.56	1500.00	0.94			13.50
9	Killiyapattu Anicut									1	10.33	630.00	1.17			11.50
10	Malapampadi Anicut									1	12.43	3230.00	0.32			12.75
11	Pallikondapattu Anicut									1	9.18	2750.00	0.32			9.50
12	Sambandanur Anicut									1	12.77	6000.00	1.23			14.00
13	Chinnakangayanur Anicut									1	10.15	2750.00	0.85			11.00
14	Thandarai Anicut									1	11.23					11.23
15	Su Valavetti Anicut									1	14.39	3000.00	0.61			15.00

16	Kadagaman Anicut								1	12.00					12.00
17	Vasanthakrishnapuram Anicut								1	15.00					15.00
18	Melanakkarai Anicut								1	11.36	900.00	0.74			12.10
19	Kilanakkarai Anicut								1	7.58	1000.00	0.32			7.90
20	Endal Anicut								1	7.00					7.00
21	Keeranur Anicut								1	14.10					14.10
22	Sorpanandal Anicut								1	9.08	1340.00	0.31			9.39
23	Arumpakkam Anicut								1	9.97	2560.00	0.78			10.75
24	Konalur Anicut								1	12.11	2970.00	0.89			13.00
25	Neikuppam Anicut								1	13.24	1800.00	0.76			14.00
26	Devanur Anicut								1	31.08	3800.00	5.17			36.25
	<b>System Tank</b>														330.49
27	Kallanai Tank	620	3.25		1	0.64		1	2.87		1300.00	1.73	45.00	0.41	8.90
28	Madurampattu Tank	826	4.26	1	1	5.09		1	3.79		1000.00	1.03	50.00	0.45	14.62
29	Karian Thangal Tank	340	1.69					1	0.39		4500.00	1.73	25.00	0.23	4.04
30	Sakkarathan Madal Tank	260	1.03		1	1.01					450.00	1.47			3.51
31	Nariyampattu Tank	550	2.20	1		2.41					500.00	2.10			6.71
32	Parayampattu Tank	485	2.50	1		2.59		1	1.33		500.00	1.25			7.67
33	Pavupattu Tank	710	3.28	1		3.34		1	1.91		850.00	0.93			9.46
34	Kattampoondi Tank	1050	4.75	1		3.49		1	3.40		2500.00	1.11			12.75
35	Thalayampallam Tank	884	3.91		1	2.05		1	2.48		1500.00	1.69			10.13
36	Thatchampattu Tank	440	2.29	1		2.38		1	1.00		250.00	1.47			7.14

37	PeriaKalapadi Tank	1140	5.24	1		2.28		1	3.88			2400.00	2.20			13.60
38	Aradapattu Tank	870	3.73					1	2.18			400.00	2.78			8.69
39	Su Andapattu Tank	540	2.58	1		2.19		1	2.22			3500.00	6.86			13.85
40	Kolakkudi Tank	1230	5.51		1	1.26		1	2.07			3000.00	4.62			13.46
41	Nadupattu Tank	660	2.82	1		2.51		1	3.06			450.00	2.27			10.66
42	Pavithram Tank	1010	1.53	1		3.42		1	2.50			1800.00	1.51			8.96
43	Allikondapattu Tank	435	2.15	1		3.01		1	0.72			1500.00	1.25			7.13
44	Konalur Tank	840	1.35		3	2.42		2	3.65					70.00	0.64	8.06
45	Kolathur Tank	1380	0.51		2	1.05		1	2.48			1000.00	0.30	70.00	0.63	4.97
46	Gudalur Pappanthal	750	3.70		1	1.9		1	1.45			1700.00	1.16	45.00	0.41	8.62
47	Vayalur Tank							1	1.89							1.89
48	Angunam Tank	1130	3.82	1	1	4.08	1		4.00			600.00	0.20			12.10
49	Kalingelari	860	4.42	1		3.47		1	2.04			1100.00	0.99	40.00	0.36	11.28
50	Kattu Malayanur Putheri	620	3.35	1		3.49		2	3.54			2000.00	1.16	25.00	0.23	11.77
51	Edaivelli Tank	590	2.97		1	0.99		1	0.85			1900.00	1.66	25.00	0.23	6.70
52	Neelanthangal Tank	480	2.33	1		2.41		1	0.93			1000.00	2.61	30.00	0.28	8.56
53	Panniyur Tank	726	3.66	1		3.3		1	2.52			2500.00	0.71	70.00	0.63	10.82
54	Ariampallam Tank	515	2.22	1		3.26		1	0.52			600.00	1.21	50.00	0.46	7.67
	<b>Nonsystem Tank</b>															
55	Karuthuvampadi Tank	1200	5.57		1	1.13		1	1.11					70.00	0.63	8.44
56	Mallavadi Tank	1285	5.13	1	1	4.80	1		4.37					55.00	0.49	14.79
57	Nukkampadi Tank	1060	4.27	1	1	4.36		1	1.14					50.00	0.57	10.34
58	Vallivagai Tank	715	2.76	1	1	4.81		2	2.54					40.00	0.36	10.47
59	Madulampadi Tank	1000	3.52	1	1	4.79		2	1.22					60.00	0.54	10.07
60	Kalasthampadi tank				3	3.02		1	1.10					40.00		4.12
61	Adayur Tank	1050	3.19		2	1.6		1	0.35							5.14
62	Vengikal Tank	710	2.65		1	0.84						1500.00	0.94			4.43

63	Nochimalai Tank	1150	1.25		1	0.85					2800.00	1.53		3.63
64	Meyyur Tank											1.50		1.50
65	Thenmathur Tank	940	3.69		2	2.31		1	1.00		2000.00	2.43		9.43
66	Alaganandal Tank	915	4.06		1	1.18		1	3.46		2000.00	1.30		10.00
67	Verayur Tank	1360	6.22		2	2.29	1	3	4.99		2000.00	1.53		15.03
68	Su.Valavetti Tank	1006	0.41		1	1.12		1	1.88					3.41
69	Narayur Tank	1080	5.77		1	1.28		1	1.41		2000.00	1.30		9.76
70	Andampallam Tank	1340	5.30		2	2.63		1	2.23		1500.00	1.30		11.46
71	Su.Nallur Tank	701	3.67		2	2.29		1	2.50		3000.00	5.32		13.78
72	Samuthram Tank	1748	19.21	2	1	19.33		1	8.42		6000.00	4.62		51.58
73	Karikalampadi Tank	810	0.67					1	0.40					1.07
74	Somasipadi Tank	1025	4.30	1	2	3.23		1	2.76		1300.00	1.51		11.80
75	Vedanatham Tank	870	3.44		2	2.24		1	2.00					7.68
76	Avur Tank	1065	3.65	1		3.27		2	2.26					9.18
77	Nadalaganandal Tank	570	2.74											2.74
78	Polakunam Tank										1100.00	0.53		0.53
79	Olaipadi Tank							1	2.01					2.01
80	Chellanguppam Tank	913	3.29	1		3.19		1	2.78					9.26
81	Vaipur Tank				1	0.74		2	2.11		1600.00	1.87		4.72
82	Vettavalam Tank										3200.00	1.00		1.00
83	Perumpakkam Tank	0	0.44		2	1.67		1	2.68					4.79
84	Melsirupakkam Tank	1745	7.34		2	2.27		1	2.79		1000.00	0.68		13.08
85	Ottampattu Tank	910	4.48		2	4.82		1	1.57		2800.00	1.40		12.27
86	Veerapandi Tank	900	1.07	1		5.03		1	0.67		4200.00	1.51		8.28
87	Kottamarudur Tank	1700	7.56	2		8.48		1	1.44		6300.00	4.99		22.47
88	Manampoondi Tank	1680	6.47	2		4.34		1	1.79		4500.00	3.50		16.10
89	Adoor kolapakkam Tank	1800	8.73	1		3.42		1	1.03		2500.00	1.23		14.41

90	Vadakaranthazhanur Tank	1280	1.58					1	1.34						2.92
91	Koladeepanangalam Tank	1800	0.94	1		4.04						6200.00	4.12		9.10
92	Sangiyam Tank	790	4.10	2		5.98		1	1.42			6000.00	7.27		18.77
93	Vilandal Tank	1450	6.58	2		6.91		1	2.73			7300.00	5.26		21.48
94	Athipakkam Tank	3700	11.31	2		8.58		1	3.13			2800.00	0.88		23.90
95	Kazhumaram Tank	1120	4.93		1	2.44		2	6.56			6500.00	2.68		16.61
96	Madhapoondi											1500.00	0.74		0.74
	Provision for measuring device 130 Nos x Rs. 15000 / 1 No.														
	Total Cost	61769	242.01	39.00	49.00	192.773	3	67	134.98	26	332.15	171210.00	128.27		1067.67

### 1.6.3. TANK DETAILS WITH FREE BOARD PROVIDED

SINo	Name of the Tank	Maximum Height of the Bund	Free Board		Length of Bund
			Provided Previously	Provided Now	
	<b>System Tank</b>				
1	Kallanai Tank	4.200	1.000	1.500	620
2	Madurampattu Tank	4.500	1.000	1.500	826
3	Karian Thangal Tank	4.300	1.000	1.500	340
4	Sakkarathan Madal Tank	4.020	1.000	1.500	260
5	Nariyampattu Tank	3.680	1.000	1.500	550
6	Parayampattu Tank	4.040	1.000	1.500	485
7	Pavupattu Tank	4.970	1.250	1.500	710
8	Kattampoondi Tank	4.920	1.250	1.500	1050
9	Thalayampallam Tank	3.840	0.860	1.500	884
10	Thatchampattu Tank	3.515	1.000	1.500	440
11	PeriaKalapadi Tank	4.645	1.000	1.500	1140
12	Aradapattu Tank	3.925	1.000	1.500	870
13	Su Andapattu Tank	3.500	1.000	1.500	540
14	Kolakkudi Tank	5.005	1.200	1.500	1230
15	Nadupattu Tank	3.770	1.020	1.500	660
16	Allikondapattu Tank	3.405	1.000	1.500	435
17	Konalur Tank	3.245	1.000	sss	975
18	Gudalur Pappanthangal	4.500	1.000	1.500	750
19	Angunam Tank	4.880	1.000	1.500	1130
20	Kalingelari	3.815	1.000	1.500	860
21	Kattu Malayanur Putheri	4.630	1.000	1.500	732
22	Edaivelli Tank	4.600	1.000	1.500	1285
23	Neelanthangal Tank	4.750	1.000	1.500	480
24	Panniyur Tank	5.705	1.000	1.500	726

25	Ariampallam Tank	4.560	1.000	1.500	515
	<b>Non system Tank</b>				
26	Karuthuvampadi Tank	4.800	1.000	1.500	1200
27	Mallavadi Tank	5.400	1.000	1.500	1285
28	Nukkampadi Tank	4.450	1.000	1.500	1060
29	Vallivagai Tank	5.400	1.000	1.500	715
30	Madulampadi Tank	5.600	1.000	1.500	1000
31	Adayur Tank	8.180	1.830	1.500	1050
32	Vengikal Tank	5.290	1.300	1.500	710
33	Thenmathur Tank	4.850	0.700	1.500	940
34	Alaganandal Tank	6.490	0.700	1.500	915
35	Verayur Tank	5.850	0.700	1.500	1360
36	Narayur Tank	5.060	1.200	1.500	1150
37	Andampallam Tank	6.100	0.700	1.500	915
38	Su.Nallur Tank	4.340	0.990	1.500	701
39	Samuthram Tank	7.550	0.270	1.500	1748
40	Somasipadi Tank	4.600	1.000	1.500	1025
41	Vedanatham Tank	4.820	1.000	1.500	860
42	Avur Tank	5.100	1.000	1.500	1065
43	Nadalaganandal Tank	4.050	1.000	1.500	570
44	Chellanguppam Tank	4.580	1.000	1.500	908
45	Melsirupakkam Tank	5.300	1.000	1.500	1745
46	Ottampattu Tank	4.000	1.000	1.500	910
47	Kottamarudur Tank	4.950	1.500	1.500	1700
48	Manampoondi Tank	5.750	2.000	2.000	1680
49	Adoor kolapakkam Tank	4.800	1.500	1.500	1800
50	Sangiyam Tank	4.650	1.500	1.500	790
51	Vilandal Tank	4.600	2.000	2.000	1450
52	Athipakkam Tank	4.800	1.500	1.500	3700
53	Kazhumaram Tank	4.500	1.500	1.500	1120

**1.6.4. W.R.O. COST TABLE**

SINo	Description of Work	Quantity	Amount in Lakhs	Remarks
<b>I Tank Component</b>				
1	Improvement to Weirs			
	a) Repairs	73Nos	122.32	
	b) Reconstructions	3 Nos	10.30	
2	Improvements to Bund	61.42 KM	262.38	
3	Improvements to sluice with Plug rod			
	a) Repairs	47	50.92	
	b) Reconstructions	39	141.83	
4	improvements to supply channel	127.91km.	109.57	
	Measuring Device	130 Nos	19.50	
			<b>716.82</b>	
<b>II Non Tank Component</b>				
1	Improvements to Anicut	26 Nos	314.78	
2	Improvements to Supply channels	46.75 Km	18.71	
	Total		333.49	
	Environment Cell		8.00	
	Ground water		0.00	
	<b>Total</b>		<b>341.49</b>	

1) Tank Component	:	716.82 Lakhs
2) Non-Tank Component	:	341.49 Lakhs
<b>Total</b>		<b>1058.31 Lakhs</b>



**1.6.5. WRO COST TABLE (PHYSICAL AND FINANCIAL PROGRAM)**

Sl.No	Description	I Year		II Year		Total		
		Quantity	Amount in Lakhs	Quantity	Amount in Lakhs	Quantity	Amount in Lakhs	
ss1	<b>Anicuts</b>							
A	Construction of Anicuts (at existing off takes)							
B	Desilting							
C	Repairs to Anicut	13	126.5	13	127.29	26	Nos. <b>253.79</b>	
D	Reconstruction of Sluice							
E	Shutters Renewal	4	3.00	4	4.00	8	Nos. <b>7.00</b>	
F	Construction of Groyne wall in Anicut system							
G	Construction of Culverts & CD works in Anicut system	5	7.00	5	6.99	10	Nos. <b>13.99</b>	
H	Construction of Divide wall in Anicuts							
I	Protection walls at vulnerable points in Anicuts	6	20.00	5	15.00	11	Nos. <b>35.00</b>	
J	Rehabilitation of Supply channels from Anicut	23000	9.00	23750	9.71	46750	Mt. <b>18.71</b>	
K	Selective Lining of Channels from Anicut	4	1.00	4	1.00	8	Nos. <b>2.00</b>	
L	Strengthening of River Banks	5	3.00	--	--	--	<b>3.00</b>	
	<b>Non Tank component - Sub Total</b>							<b>333.49</b>

Sl.No	Description	I Year		II Year		Total		Amount in Lakhs
		Quantity	Amount in Lakhs	Quantity	Amount in Lakhs	Quantity	Amount in Lakhs	
<b>II</b>	<b>PWD TANKS</b>							
A	Desilting of supply channel and flood bank construction	62.50	54.85	65.86	54.72	127.91	Km.	109.57
B	Repairs to Surplus weir	43	70.16	30	52.16	73	Nos.	122.32
C	Reconstruction of Surplus weir.	2	7	1	3.50	3	Nos.	10.30
D	Repairs to Sluice	29	36.59	18	14.33	47	Nos.	50.92
E	Reconstruction of sluice. Shutter Plug rod Renewal	20	71.83	19	70.00	39	Nos.	141.83
F	Rehabilitation of Supply Channels from Tank							
G	Selective Lining of Channels from Tank.							
H	Standardisation of Tank Bund	31.42	140.00	30	122.38	61.42	KM	262.38
I	Measuring devices	70	10.00	60	9.50	130	Nos	19.50
	<b>Tanks Sub Total</b>							<b>716.82</b>
VII	Environmental Cell	1	5.00	1	3.00	2	Nos	8.00
	<b>Total Cost</b>							<b>1058.31</b>

**1.6.6. PACKAGE DETAILS**  
**Package - I**

Sl No	Name of Tank / Anicut	Amount in Lakhs
1	Karuthuvampadi Tank	8.44
2	Mallavadi Tank	14.79
3	Nukkampadi Tank	10.34
4	Vallivagai Tank	10.47
5	Madulampadi Tank	10.07
6	Kalasthampadi tank	4.48
7	Mannai Anicut	5.52
8	Seelapandal Anicut I	14.00
9	Seelapandal Anicut II	16.75
10	Vilakkanandal Anicut	8.75
11	Munianandal Anicut	10.00
12	Sadayanodai Anicut	11.00
13	Andapattu Anicut	14.50
14	Kunnamurinji Anicut	13.50
15	Killiyapattu Anicut	11.50
16	Adayur Tank	5.59
17	Vengikal Tank	4.97
18	Nochimalai Tank	4.08
19	Malapampadi Anicut	12.75
20	Pallikondapattu Anicut	9.50
21	Sambandanur Anicut	14.00
22	Chinnakangayanur Anicut	11.00
23	Melanakkarai Anicut	12.10
24	Kilanakkarai Anicut	7.90
25	Endal Anicut	7.00
26	Measuring Device 20 Nos X 15000/per no	3.00
	<b>Civil Cost</b>	<b>256.00</b>

## Package - II

Sl No	Description of Work	Amount in Lakhs
1	Kolakkudi Tank	13.46
2	Nadupattu Tank	10.66
3	Su Andapattu Tank	13.85
4	Samuthram Tank	52.92
5	Meyyur Tank	1.50
6	Thenmathur Tank	9.88
7	Alaganandal Tank	10.41
8	Perumpakkam Tank	5.01
9	Melsirupakkam Tank	13.70
10	Pavithram Tank	8.98
11	Pavupattu Tank	9.46
12	Parayampattu Tank	7.67
13	Kattampoondi Tank	12.75
14	Sakkarathan Madal Tank	3.51
15	Nariyampattu Tank	6.71
16	Thalayampallam Tank	10.13
17	Thatchampattu Tank	7.14
18	Allikondapattu Tank	7.11
19	Aradapattu Tank	8.69
20	PeriaKalapadi Tank	13.60
21	Su.Nallur Tank	14.23
22	Verayur Tank	15.47
23	Andampallam Tank	11.92
24	Vasanthkrishnapuram Anicut	18.00
25	Thandarai Anicut	11.23
26	Su Valavetti Anicut	15.00
27	Kadagaman Anicut	12.00
28	Su.Valavetti Tank	4.16
29	Measuring Device 39 Nos x 15000/per nos	5.85
	<b>Civil Cost</b>	<b>335.00</b>

## Package - III

Sl No	Description of Work	Amount in Lakhs
1	Somasipadi Tank	12.34
2	Polakunam Tank	1.07
3	Vedanatham Tank	7.91
4	Karikalampadi Tank	1.07
5	Kalingelari	11.28
6	Kattu Malayanur Putheri	11.77
7	Konalur Tank	8.06
8	Nadalaganandal Tank	3.19
9	Chellanguppam Tank	9.72
10	Keeranur Anicut	14.10
11	Sorpanandal Anicut	9.39
12	Arumpakkam Anicut	10.75
13	Konalur Anicut	13.00
14	Neikuppam Anicut	14.00
16	Vettavalam Tank	1.00
17	Kolathur Tank	4.97
18	Neelanthangal Tank	8.56
19	Gudalur Pappanthangal	8.62
20	Vayalur Tank	1.89
21	Avur Tank	9.54
22	Olaipadi Tank	2.01
23	Vaipur Tank	4.72
24	Edaivelli Tank	6.70
25	Panniyur Tank	10.82
26	Ariampallam Tank	7.67
27	Angunam Tank	13.36
28	Kallanai Tank	8.90
29	Madurampattu Tank	14.62
30	Karian Thangal Tank	4.04
31	Narayur Tank	10.29
32	Madhapoondi	0.74
33	Measuring Device 46 Nos x 15000/ per nos	6.90
	<b>Civil cost</b>	<b>253.00</b>

## Package - IV

SI No	Description of Work	Amount in Lakhs
1	Ottampattu Tank	12.27
2	Veerapandi Tank	8.28
3	Kottamarudur Tank	22.47
4	Manampoondi Tank	16.10
5	Vadakaranthazhanur Tank	2.92
6	Devanur Anicut	36.25
7	Adoor kolapakkam Tank	14.41
8	Athipakkam Tank	23.90
9	Sangiyam Tank	18.77
10	Vilandai Tank	21.48
11	Kazhumaram Tank	16.61
12	Kuladeepanangalam Tank	9.10
13	Measuring Device 25 Nos x 15000 / Per Nos	3.75
	<b>Civil cost</b>	<b>206.31</b>

## GENERAL ABSTRACT

SINo	Name of Work	Estimate Rs in Lakhs
1	Rehabilitation and Modernisation of Anicuts, System Tanks, Non system tanks, and supply channel s covered under Thuringalar Sub basin in Thuringapuram and Tiruvannamalai Block in Tiruvannamalai District <b>(Package no I)</b>	256.00
2	Rehabilitation and Modernisation of Anicuts, System Tanks, Nonsystem tanks, and supply channel s covered under Thuringalar Sub basin in Tiruvannamalai Block ,Chengam and Tandrapattu Block in Tiruvannamalai District <b>( Package no II)</b>	335.00
3	Rehabilitation and Modernisation of Anicuts, System Tanks, Nonsystem tanks, and supply channel s covered under Thuringalar Sub basin in Tiruvannamalai Block ,Kilpennathur & Ginjee Block in Tiruvannamalai and Villupuram District <b>(Package no III)</b>	253.00
4	Rehabilitation and Modernisation of Anicuts, System Tanks, Nonsystem tanks, and supply channel s covered under Thuringalar Sub basin in Mugayur Block in Villupuram District <b>(Package no IV)</b>	206.31
5	Environment Cell	8.00
	<b>Total Civil Cost</b>	<b>1058.31</b>

**CALCULATION OF MACHINERIES REQUIREMENT  
PACKAGE NO.1**

It is programmed to execute the work from 1.7.2009 to 1.10.2010

Total months 15 Leading Rainy Season 3 Months

Total No.of Working days = 20 days / Month

12x20= 240 days

Approximate quantity of Earth work to be done

= 146085 M<sup>3</sup>

Earthwork to be done per day

=

$$\frac{146085}{240}$$

609 M<sup>3</sup>

It is proposed to carryout the above work by using

2 Pocalin

Out turn expected - 75 M<sup>3</sup> / Hour

Working Hours 8 Hours

1 Day out turn 8x75 = 600 M<sup>3</sup>

No.of Lorry required per Hour = 75 M<sup>3</sup> / 4 M<sup>3</sup> = 19 Nos.

One Lorry can run and in load and return to the Dept trip by 20 Minutes.

No.of Trip required in 1 Hour = 3 Trips

No.of Lorry required = 19/3 = 6 Nos.

Sl. No.	Description of Item	Quantity		Cement		Sand	
1)	Earthwork for tank bund	56900	M <sup>3</sup>				
2)	Earthwork for Supply channel	86900	M <sup>3</sup>				
3)	Earthwork for Foundation	2285	M <sup>3</sup>				
4)	PCC M 7.5 grade	2343.00	M <sup>3</sup>	380	MT	1054.35	M <sup>3</sup>
5)	PCC M 10 grade	1296	M <sup>3</sup>	210	MT	583.2	M <sup>3</sup>
6)	PCC M 15 grade	560	M <sup>3</sup>	91	MT	252	M <sup>3</sup>
7)	PCC M 20 grade	1140	M <sup>3</sup>	185	MT	513	M <sup>3</sup>
8)	R.R.Masonry in CM 1:4	2395	M <sup>3</sup>	388	MT	814.3	M <sup>3</sup>
9)	Plastering in CM 1:4	1230	M <sup>2</sup>	199	MT	27.06	M <sup>2</sup>
						3244	
	<b>Total</b>			<b>1452</b>	<b>MT</b>	<b>3893</b>	<b>M<sup>3</sup></b>



Total quantity of concrete = 5339.00 M<sup>3</sup>  
 Qty.to be excution / day =  $\frac{5339.00}{240}$  days 22.25 M<sup>3</sup>/day

Mixer Machine 2 M<sup>3</sup> / Hour for 6 Hours / day 12M<sup>3</sup> / day

No.of Mixer Machine required = 2 Nos / day

**Machineries Required**

10/7 Tonne capacity Mixer Machine Since it is necessary to complete Foundation Concrete within 6 Months use 44.49 M<sup>3</sup> /day 4 Nos / day

<b><u>Cement</u></b>	<b><u>10MT/Tipper</u></b>	<b><u>1Tipper/day</u></b>	<b><u>10MT/day</u></b>
Sand	5.66M3/Tipper	2Tipper/day	11.32M3/day
Metal/stone	5.6M3/Tipper	3Tipper/day	16.80M3/day

Total Quantity of Cement = 1452 MT  
 Lorry required for conveyence =  $\frac{1452}{10}$  145 Lorries  
 or  $\frac{145}{120}$  Lorries days 1 Lorry

Total quantity of Sand = 3893 M<sup>3</sup>  
 Lorry required for conveyence =  $\frac{3893}{11.2}$  348 Lorries  
 or  $\frac{348}{120}$  Lorries days 3 Lorries

Total quantity of Metal = 4805 M<sup>3</sup>  
 Lorry required for conveyence =  $\frac{4805}{16.80}$  286 Lorries  
 or  $\frac{286}{120}$  Lorries days 2 Lorries

**Mechinery details (Package No.1)**

SI.No.	Description of Item	Lorries	Poc alin	Tipper	Roller 8/10 tonne
1	E.W. Excavation	--	2 Nos	6 Nos	2 Nos
2	Cement	1No.	--	--	--
3	Sand	3 Nos.	--	--	--
4	Metal	2 Nos.	--	--	--
	<b>Total</b>	<b>6 Nos</b>	<b>2 Nos</b>	<b>6 Nos</b>	<b>2 Nos</b>

**CALCULATION OF MACHINERIES REQUIREMENT  
PACKAGE NO.2**

It is programmed to execute the work from 1.7.2009 to 1.10.2010

Total months 15 Leading Rainy Season 3 Months

Total No.of Working days = 20 days / Month                      12x20= 240 days  
Approximate quantity of Earth work to be done                      = 279710 M<sup>3</sup>

Earthwork to be done per day =  $\frac{279710}{240}$  1165 M<sup>3</sup>

It is proposed to carryout the above work by using  
4 Pocalin

Out turn expected - 50 M<sup>3</sup> + 25 M<sup>3</sup> = 75 M<sup>3</sup> / Hour

Working Hours 8 Hours

1 Day out turn 8x75 = 600 M<sup>3</sup>

No.of Lorry required per Hour = 75 M<sup>3</sup> / 4 M<sup>3</sup> = 19 Nos.

One Lorry can run and in load and return to the Dept trip by 20 Minutes.

No.of Trip required in 1 Hour = 3 Trips

No.of Lorry required = 19/3 = 6 Nos.

Sl. No.	Description of Item	Quantity	Cement	Sand
1)	Earthwork for tank bund	160860 M <sup>3</sup>		
2)	Earthwork for Supply channel	113400 M <sup>3</sup>		
3)	Earthwork for Foundation	5450 M <sup>3</sup>		
4)	PCC M 7.5 grade	1700.00 M <sup>3</sup>	275 MT	765 M <sup>3</sup>
5)	PCC M 10 grade	2057 M <sup>3</sup>	333 MT	925.65 M <sup>3</sup>
6)	PCC M 15 grade	283 M <sup>3</sup>	46 MT	127.35 M <sup>3</sup>
7)	PCC M 20 grade	841 M <sup>3</sup>	136 MT	378.45 M <sup>3</sup>
8)	R.R.Masonry in CM 1:4	1588 M <sup>3</sup>	257 MT	539.92 M <sup>3</sup>
9)	Plastering in CM 1:4	1265 M <sup>2</sup>	205 MT	27.83 M <sup>2</sup>
				2764
	<b>Total</b>		<b>1253 MT</b>	<b>3317 M<sup>3</sup></b>

Total quantity of concrete = 4881.00 M<sup>3</sup>  
Qty.to be excution / day = 4881.00 20.34 M<sup>3</sup>/day

240  
days

Mixer Machine 2 M<sup>3</sup> / Hour for 6 Hours / day 12M<sup>3</sup> / day

No.of Mixer Machine required = 2 Nos / day

**Machineries Required**

10/7 Tonne capacity Mixer Machine  
Since it is necessary to complete Foundation Concrete within 6 Months use

40.68 M<sup>3</sup> /day 3 Nos / day

<b><u>Cement</u></b>	<b><u>10MT/Tipper</u></b>	<b><u>1Tipper/day</u></b>	<b><u>10MT/day</u></b>
	5.66M3/Tipper		
Sand	er	2Tipper/day	11.32M3/day
Metal/stone	5.6M3/Tipper	3Tipper/day	16.80M3/day

Total Quantity of Cement = 1253 MT  
 Lorry required for conveyence =  $\frac{1253}{10}$  125 Lorries  
 or  $\frac{125}{120} \frac{\text{Lorries}}{\text{days}}$  1 Lorry

Total quantity of Sand = 3317 M<sup>3</sup>  
 Lorry required for conveyence =  $\frac{3317}{11.2}$  296 Lorries  
 or  $\frac{296}{120} \frac{\text{Lorries}}{\text{days}}$  2 Lorries

Total quantity of Metal = 4393 M<sup>3</sup>  
 Lorry required for conveyence =  $\frac{4393}{16.80}$  261 Lorries  
 or  $\frac{261}{120} \frac{\text{Lorries}}{\text{days}}$  2 Lorries

**Mechinery details (Package No.1)**

SI.No.	Description of Item	Lorries	Capacity	Tipper	Roller 8/10 tonne
1	E.W. Excavation	--	6 Nos	12 Nos	4 Nos
2	Cement	1 No.	--	--	--
3	Sand	2 Nos.	--	--	--
4	Metal	2 Nos.	--	--	--
	<b>Total</b>	<b>5 Nos</b>	<b>6 Nos</b>	<b>12 Nos</b>	<b>4 Nos</b>

**CALCULATION OF MACHINERIES REQUIREMENT  
PACKAGE NO.3**

It is programmed to execute the work from 1.7.2009 to 1.10.2010

Total months 15 Leading Rainy Season 3 Months

Total No.of Working days = 20 days / Month

12x20= 240 days

Approximate quantity of Earth work to be done

= 204665 M<sup>3</sup>

Earthwork to be done per day

=

$$\frac{204665}{240}$$

853 M<sup>3</sup>

It is proposed to carryout the above work by using  
5 Pocalin

Out turn expected - 50 M<sup>3</sup> + 25 M<sup>3</sup> = 75 M<sup>3</sup> / Hour

Working Hours 8 Hours

1 Day out turn 8x75 = 600 M<sup>3</sup>

No.of Lorry required per Hour = 75 M<sup>3</sup> / 4 M<sup>3</sup> = 19 Nos.

One Lorry can run and in load and return to the Dept trip by 20 Minutes.

No.of Trip required in 1 Hour = 3 Trips

No.of Lorry required = 19/3 = 6 Nos.

Sl. No.	Description of Item	Quantity		Cement		Sand	
1)	Earthwork for tank bund	106100	M <sup>3</sup>				
2)	Earthwork for Supply channel	91600	M <sup>3</sup>				
3)	Earthwork for Foundation	6965	M <sup>3</sup>				
4)	PCC M 7.5 grade	1495.00	M <sup>3</sup>	242	MT	672.75	M <sup>3</sup>
5)	PCC M 10 grade	1865	M <sup>3</sup>	302	MT	839.25	M <sup>3</sup>
6)	PCC M 15 grade	316	M <sup>3</sup>	51	MT	142.2	M <sup>3</sup>
7)	PCC M 20 grade	711	M <sup>3</sup>	115	MT	319.95	M <sup>3</sup>
8)	R.R.Masonry in CM 1:4	1873	M <sup>3</sup>	303	MT	636.82	M <sup>3</sup>
9)	Plastering in CM 1:4	1185	M <sup>2</sup>	192	MT	26.07	M <sup>2</sup>
						2637	
	<b>Total</b>			<b>1206</b>	<b>MT</b>	<b>3164</b>	<b>M<sup>3</sup></b>

Total quantity of concrete

=

4387.00 M<sup>3</sup>

$$\text{Qty. to be execution / day} = \frac{4387.00}{240 \text{ days}} = 18.28 \text{ M}^3/\text{day}$$

Mixer Machine 2 M<sup>3</sup> / Hour for 6 Hours / day 12M<sup>3</sup> / day

$$\text{No. of Mixer Machine required} = 2 \text{ Nos / day}$$

**Machineries Required**

10/7 Tonne capacity Mixer Machine  
Since it is necessary to complete Foundation Concrete within 6 Months use

$$36.56 \text{ M}^3/\text{day} = 3 \text{ Nos / day}$$

<b><u>Cement</u></b>	<b><u>10MT/Tipper</u></b>	<b><u>1Tipper/day</u></b>	<b><u>10MT/day</u></b>
Sand	5.66M3/Tipper	2Tipper/day	11.32M3/day
Metal/stone	5.6M3/Tipper	3Tipper/day	16.80M3/day

$$\text{Total Quantity of Cement} = 1206 \text{ MT}$$

$$\text{Lorry required for conveyence} = \frac{1206}{10} = 121 \text{ Lorries}$$

$$\text{or } \frac{121}{120} \text{ Lorries / days} = 1 \text{ Lorry}$$

$$\text{Total quantity of Sand} = 3164 \text{ M}^3$$

$$\text{Lorry required for conveyence} = \frac{3164}{11.2} = 283 \text{ Lorries}$$

$$\text{or } \frac{283}{120} \text{ Lorries / days} = 2 \text{ Lorries}$$

$$\text{Total quantity of Metal} = 3948 \text{ M}^3$$

$$\text{Lorry required for conveyence} = \frac{3948}{16.80} = 235 \text{ Lorries}$$

$$\text{or } \frac{235}{120} \text{ Lorries / days} = 2 \text{ Lorries}$$

**Mechinery details (Package No.1)**

<b>SI.No.</b>	<b>Description of Item</b>	<b>Lorries</b>	<b>Poc alin</b>	<b>Tipper</b>	<b>Roller 8/10 tonne</b>
1	E.W. Excavation	--	5 Nos	9 Nos	3 Nos
2	Cement	1 No.	--	--	--
3	Sand	2 Nos.	--	--	--
4	Metal	2 Nos.	--	--	--
	<b>Total</b>	<b>5 Nos</b>	<b>5 Nos</b>	<b>9 Nos</b>	<b>3 Nos</b>

**CALCULATION OF MACHINERIES REQUIREMENT  
PACKAGE NO.4**

It is programmed to execute the work from 1.7.2009 to 1.10.2010

Total months 15 Leading Rainy Season 3 Months

Total No.of Working days = 20 days / Month

12x20= 240 days

Approximate quantity of Earth work to be done

= 228100 M<sup>3</sup>

Earthwork to be done per day

=

$$\frac{228100}{240}$$

950 M<sup>3</sup>

It is proposed to carryout the above work by using

5 Pocalin

Out turn expected - 50 M<sup>3</sup> + 25 M<sup>3</sup> = 75 M<sup>3</sup> / Hour

Working Hours 8 Hours

1 Day out turn 8x75 = 600 M<sup>3</sup>

No.of Lorry required per Hour = 75 M<sup>3</sup> / 4 M<sup>3</sup> = 19 Nos.

One Lorry can run and in load and return to the Dept trip by 20 Minutes.

No.of Trip required in 1 Hour = 3 Trips

No.of Lorry required = 19/3 = 6 Nos.

Sl. No.	Description of Item	Quantity		Cement		Sand	
1)	Earthwork for tank bund	99800	M <sup>3</sup>				
2)	Earthwork for Supply channel	120600	M <sup>3</sup>				
3)	Earthwork for Foundation	7700	M <sup>3</sup>				
4)	PCC M 7.5 grade	1162.00	M <sup>3</sup>	188	MT	522.9	M <sup>3</sup>
5)	PCC M 10 grade	2057	M <sup>3</sup>	333	MT	925.65	M <sup>3</sup>
6)	PCC M 15 grade	291	M <sup>3</sup>	47	MT	130.95	M <sup>3</sup>
7)	PCC M 20 grade	208	M <sup>3</sup>	34	MT	93.6	M <sup>3</sup>
8)	R.R.Masonry in CM 1:4	844	M <sup>3</sup>	137	MT	286.96	M <sup>3</sup>
9)	Plastering in CM 1:4	820	M <sup>2</sup>	133	MT	18.04	M <sup>2</sup>
						1978	
	<b>Total</b>			<b>872</b>	<b>MT</b>	<b>2374</b>	<b>M<sup>3</sup></b>

Total quantity of concrete

=

3718.00 M<sup>3</sup>

Qty.to be excution / day

=

$$\frac{3718.00}{240 \text{ days}}$$

15.49 M<sup>3</sup>/day

Mixer Machine 2 M<sup>3</sup> / Hour for 6 Hours / day 12M<sup>3</sup> / day  
 No.of Mixer Machine required = 1 Nos / day

**Machineries Required**

10/7 Tonne capacity Mixer Machine  
 Since it is necessary to complete Foundation Concrete within 6 Months use 30.98 M<sup>3</sup> /day 3 Nos / day

<b><u>Cement</u></b>	<b><u>10MT/Tipper</u></b>	<b><u>1Tipper/day</u></b>	<b><u>10MT/day</u></b>
Sand	5.66M3/Tipper	2Tipper/day	11.32M3/day
Metal/stone	5.6M3/Tipper	3Tipper/day	16.80M3/day

Total Quantity of Cement = 872 MT  
 Lorry required for conveyence =  $\frac{872}{10}$  87 Lorries  
 or  $\frac{87}{120}$  Lorries days 1 Lorry

Total quantity of Sand = 2374 M<sup>3</sup>  
 Lorry required for conveyence =  $\frac{2374}{11.2}$  212 Lorries  
 or  $\frac{212}{120}$  Lorries days 2 Lorries

Total quantity of Metal = 3346 M<sup>3</sup>  
 Lorry required for conveyence =  $\frac{3346}{16.80}$  199 Lorries  
 or  $\frac{199}{120}$  Lorries days 2 Lorries

**Mechinery details (Package No.1)**

Sl.No.	Description of Item	Lorries	Pocal in	Tipper	Roller 8/10 tonne
1	E.W. Excavation	--	5 Nos	9 Nos	3 Nos
2	Cement	1 No.	--	--	--
3	Sand	2 Nos.	--	--	--
4	Metal	2 Nos.	--	--	--
	<b>Total</b>	<b>5 Nos</b>	<b>5 Nos</b>	<b>9 Nos</b>	<b>3 Nos</b>













**1.7. ENVIRONMENTAL COMPONENT**

Report to accompany the estimate for the work of Environmental Component in Detailed Project Report for THURINJALAR SUB BASIN of Pennaiyar River Basin” under TN – IAMWARM PROJECT

**Estimate Amount: Rs 8.00 Lakhs**

Under TNWRCP, with World Bank assistance, special emphasis was given for the first time to assess the Environmental Status and degradation caused for all River basins in Tamil Nadu. Soil Assessment study has been conducted by **Environment Protection Training and Research Institute (EPTRI), Hyderabad**. This institute has identified the Environmental issues, mitigatory measures and given their recommendations on the following issues.

- i) Environmental Issues :
  - Soil Erosion, Sand Mining
  - Water Pollution due to Industries
  - Encroachment of river and tank beds
  - Poor solid waste management
- ii) Social Issues:
  - Dry Land Agriculture
  - Reduction in Livestock
  - Women empowerment-SHG's
  - No storing facilities.
  - Health problems due to industrial water pollution
- iii) Mitigatory Measures:
  - Non-judicial and excessive sand mining have to be controlled and regulated.
  - Livestock services delivery and management
  - Common storage facilities may be established
- iv) Agency:
  - The above measures can be improved By the combined working of Environmental Cell wing and Animal Husbandry Department.

The Environmental Cell of WRO assessed the Environmental impact on the quality of Surface and Ground water and Soil by collecting water & soil samples and testing them, preparation of Micro level Environmental Status Reports for all the River basins with the World Bank assistance for these works up to March 2004.

Also few Awareness programs & workshops were conducted to create Awareness on the Environmental issues & remedies among the public, farmers, Govt. officials and NGOs. Seminars were conducted to find out new techniques and methods developed recently to solve the Environmental problems.

Now under IAMWARM Project, focus is at each Sub Basin level to identify and prioritize the requirements for improvements to storage structures, rehabilitation, new schemes for water harvest, and diversification of crops. Any new schemes or rehabilitation of existing one, consideration of the Environmental issues pertaining to that area and remedial action to overcome the problems is must. Accordingly, Environmental issues prevailing in the Thuringalar Sub basin is taken up under IAMWARM Project.

### **PENNAIYAR RIVER**

Pennaiyar River originates on the South Eastern slope of Chinnakesava Hills in Karnataka State. The river is called Dakshina Pinakini in Karnataka. The river enters into Tamil Nadu at Sakkarasam palli near Bagalur village of Hosur taluk. The total length of river is 432 Km and out of which 112 Km length of river is in Karnataka State and 320 Km is in Tamil Nadu, it confluences in Bay of Bengal at Cuddalore.

### **THURINJALAR SUB-BASIN**

The Thuringalar River is one of the Major Tributeries of Pennaiyar river originates from Kauthimalai reserve forest in Chengam Taluk of Tiruvannamalai District. It flows in South-South east direction of the basin, crossing Thuringapuram, Kilpennathur and Thiruvannamalai Block and Confluences with Pennaiyar River near Thirukkoilur after flowing a distance of about 44 km. The length of the river basin is about 48km and its width is about 22km. Area of minor basin is 835.53 SqKm. The length of Minor Basin is 44 Km

Thuringalar River Basin is Located in the Southern Part of Tiruvannamalai District and Northern Part of Villupuram District. The Major

Portion of the Basin is located with in Thirukoilur and Gingee Block of Villupuram District There are 26 Anicuts across Thuringalar River. This Sub basin receives rain fall both from N-E and S-W monsoons Runoff Received from Thuringalar Catchment is 3886 Mcft Per Annum. The Surface Water Potential is worked out for the 75% of the Dependable Yield for South West and North east and non monsoon period.

### **ENVIRONMENTAL PROBLEMS:**

#### **SOIL EROSION:**

Soil erosion causes depletion of fertility through removal of valuable surface soil and lead to reduction in the effective arable soil depth and hence it is one of limiting factors for crop production. As per the Watershed Atlas of Tiruvannamalai District, in some parts of Tiruvannamalai taluk, the soil erosion is reported to be very high.

#### **SAND MINING:**

One of the major problem in river basin related to Sand Mining as it poses major threat to River Bed. Sand quarrying for construction and other purposes is growing at an alarming rate which causes failure of Anicuts and Diversion structures, stagnation of water in the deep mined river bed causing consequent health hazards. This needs to be prevented by all means. Now the sand mining has come under the control of WRO. Sand is being collected only at the approved site and the Regular Territorial Division is closely monitoring.

#### **AQUATIC WEEDS :**

It is observed that the Aquatic weeds growth Ipomoea locally known as Kadal Palai is found to be in almost 80% of the tanks. The plant growth varies from 40% to 80% in various tanks. In general weeds growth restricts the water storage and loss in capacity of the tanks.

#### **INDUTRIAL POLLUTION:**

The effluent from industries located in this sub basin are let into ditches and water drains which ultimately reach the River or supply channels of tanks or lands. Special attention is needed for treating the effluent to avoid water pollution in the sub basin.

## **CATCHMENT DEGRADATION**

The area of Thuringalar Sub basin watershed is 835.53Sq.km. The head reaches of the above reservoirs constitute series of hills, valleys and plains. Already heavy silt has been deposited in the reservoir by which capacity has been considerably reduced. In respect of conservation of forest wealth and prevent soil erosion, effective measures were taken up under TamilNadu A forestation Project (TAP) by the Forest Department and under the Western gnat development programme by the Agricultural Engineering Department.

## **SOLID WASTE DISPOSAL:**

The problem of Garbage collection and its disposal has assumed importance, in the context of rapid growth of population, urbanization, industrial growth and development. There is no organized scientific method of disposal in all the Municipalities and Panchayats in this sub basin.

At present, in Tiruvannamalai Municipality, solid waste to the tune of 19.20MT per day collected through Lorries and dumped in the compost yard at Nochimalai & Vengikkal villages over an area of 47.25.0 ha.

## **SEWAGE DISPOSAL LET INTO WATER BODIES:**

It is noted that in the following location Sewage is directly let into the nearby watercourse, river or tank.

1. Nochimalai Tank
2. Vengikkal Tank

More over in almost all the village no safe disposal of sewage or proper treatment method is adopted. This affect the near by water source directly or affecting the ground water potential indirectly.

So, creating awareness among the Presidents of the local bodies is essential and to motivate them to adapt Solid waste management and Sewage management, wherever required. Workshop including field visits, exclusively for them is to be conducted under the IAMWARM project.

## **ACTIVITIES PROPOSED:**

### **River Basin Monitoring:-**

To monitor the quality of water and soil and create database regarding the environmental status for the sub basin, the following activities are proposed at the sub basin level.



### **Collection and testing of water and soil samples:**

Water samples will be collected and tested in the sub basin at identified sampling points regularly. Continuance of collection and testing of water samples is essential, as good and long range data will enable to understand the problems more precisely.

Hence, now it is proposed to collect and test water samples for a period of **Three years** to assess the environmental impact on the quality of surface water of this sub basin more accurately. Water samples at the following location (vide statement enclosed) will be collected once in 3 months.

In addition to the above identified locations, water samples will also be collected from tanks to estimate the level of pollution in selected locations, where untreated sewage is directly let into tanks and Channels. These samples will be tested, to assess the impact on the quality of surface and ground water.

Soil samples are to be collected from selected locations to assess the impact on the quality of soil due to various Environmental problems like use of chemical fertilizer and using the polluted water. From these locations numbers of samples at regular interval have to be collected and tested to determine precisely the impact on the degradation of the quality of the soil. Therefore testing soil samples are essential.

Under this item following provisions have been made.

1 Testing charges for the water& soil samples.

2 Provision of Labour charges, purchase of materials, conveyance, driver salary and computer operator.

**Transfer of technical know-how for solid waste management system including source segregation, recycle of dry waste and linkage with user agencies.**

Now a new scheme for solid waste management plan is under implementation in all municipalities and Panchayats. Under this scheme, collection tank for disposal and non-disposable garbage have been constructed in most of the local bodies. But recycling the waste and converting

the solid waste into manure and production of energy from them are yet to be come up.

Hence demonstration and action programs are planned with user agencies and necessary field visits are programmed to transfer of technical know how for solid waste management system.

### **Conducting Awareness Programs.**

Awareness Programs are necessary to create awareness among the public about environmental aspects and the action to be taken by them to remove or reduce the impacts due to the environmental problems.

Hence, to create and motivate the people, Awareness programmes are to be conducted in the villages where sewage is directly let into water bodies. It is also proposed to conduct awareness meetings in School/ Institutions during the study period of three years covering the following subjects in addition to placing Stickers, tin sheets and Pamphlets containing messages about Environmental Awareness.

- Sanitation. Solid waste treatment.
- Sewage treatment and converting the same into Gas.
- Natural farming.
- Conversion of aquatic weeds into manure etc.

### **Mode of Execution:**

All the works proposed are to be carried out by outsourcing through an Educational Institution.

### **Total Cost.**

The total Proposal cost works out to **Rs.8.00 Lakhs. (Rupees Eight Lakhs Only).**

## (ENVIRONMENTAL COMPONENT )

Name of River Basin	<b>Pennaiyar River Basin</b>	
Name of Sub Basin	<b>Thurinjar Sub-Basin</b>	
Number of WUA	Already formed:10 Nos / yet to be formed: 47 Nos.	
Name of Division	Middle Pennaiyar Basin Division, Thiruvannamalai	
Name of Sub-Division	Middle Pennaiyar Basin Sub-Division, Thiruvannamalai	
	Sathanur Dam Sub-Division, Sathanur Dam	
	Lower Pennaiyar Basin Sub-Division, Thirukoilur	
District	<b>Thiruvannamalai</b>	<b>Villupuram</b>
Taluk	1) Thiruvannamalai	1)Gingee
	2) Chengam	2)Thirukoilur
	3)Thandarampet	
Block	1) Thurinjapuram	1) Gingee
	2) Tiruvannamalai	2) Mugaiyur
	3) Kilpennathur	
	4) Thandarampet	
	5) Chengam	
Name of Tanks/Anaicuts Severly affected by weeds	Neikuppam Anicut of Velanandal village & Neelanthangal Tank of Neelanthangal village of Thiruvannamalai District is severely affected by water weeds	
Domestic Sewage (Name of River/ Tank with specific location polluted by Domestic sewage)	Domestic Sewage is directly let in to tanks of Nochimalai & Vengikkal of Thiruvannamalai Taluk	
Municipal Solid Waste (Name of River/ Tank with specific location where Municipal solid waste is dumped)	Solid generated in Thiruvannamalai Municipality is 19.20 MT /Day and disposed in Nochimalai & Vengikkal village over an area of 47.25 ha	
<b>Water Quality Status:</b>		
i) Ground Water	In the Upper & Middle Part of the Thirunjar Sub-basin ground water is Moderate to good.	
ii)Surface Water	Water can be utilized for irrigation purpose, however it need treatment before using drinking purpose.	

Environmental Activities in Thuringalar Sub-Basin of Pennaiyar River Basin under  
**IAMWARM PROJECT**

**DETAILED ESTIMATE**

Sl No	Description of work	No	Measurement			Contents
			L	B	D	
<b>I. Environmental Social Monitoring of river basin including peroidal water and soil quality testing and documentation.(By fixing nodel agency or any educational institution)</b>						
1	Collection and testing of water samples and Soil samples					
i)	Water samples collected from river & tanks for a period of <b>Three years</b>					6 Nos
ii)	Soil samples collected from irrigation fields for a period of <b>Three years</b>					3 Nos
iii.)	Hiring jeep driver on service contract basis for the department vehicle	1 No	3 x 1 = 3 months			3
iv.)	Collection and conveyance charges including all purchases like cans, chemicals,Documentation of test results including labour charges.	LS				LS
<b>II Environmental Social knowledge base analysis and development (By fixing nodel agency or any educational institution)</b>						
	Preparation of Impact Assessment report with expert analysis for 3 yrs @ every 6 months and documentation for					
a)	impacts due to project investment.					LS
b)	other impacts obsered in the river basin.					LS
<b>III. Transfer of technical know how for solid waste management system including source segregation, recycle of dry waste and linkage with user agencies. (By fixing nodel agency or any educational institution)</b>						
a)	Motivating the local bodies for Soild waste management project and Sewage treatment plants to prevent pollution of water sources and using for irrigation by transferring technical know how through demonstration Documentary film and Technical visit.	LS				LS
b)	Promoting Entrepreneurship	LS				LS

	Policy for Eradication for weeds by setting up Bio gas Plant / Vermi compost By WUA through Awareness creation, Demonstration and consultative meeting and pilot study.					
c)	Herbal garden in institutions	1 x 1				1 No.
<b>IV.</b>	<b>Conducting Environmental and social Awareness meeting, programme, demonstration and Exhibitions on various environmental and social related issues including capacity building.(By fixing nodal agency or any educational institution)</b>					
a)	Printing Stickers, Pamphlets, Tin sheets, Providing Banners for Propagating Environmental Awareness among public	LS				LS
b)	Conducting Awareness Programs for Public	LS				LS
c)	Conducting meetings in school/Institutions	1 x 1				1 No
d)	Preparing and publishing Environmental Atlas for the Sub Basin for the use of Line departments / Institutions for better Management of Sub basin	LS				LS
e)	Documentation of the entire activities, Videofilms,hire purchase of LCD,Preparation of sub-basin maps of all size & Upgradation of computer and accessories.	LS				LS
f)	Engaging Computer Operator grade-II for the preparation of reports,Documents etc..	1 x3				3 Months
g)	Exposure to field visit and Eco-friendly practices and environmental monitoring.	LS				LS

Environmental Activities in Thuringalur Sub-Basin of Pennaiyar River Basin under  
**IAMWARM PROJECT**

**Working Sheet**

**Water Samples**

1	Testing Charges rate as per ground water division (Dept) (Partly)	650.00	/Sample
2	Testing Charges rate as per SGS Laboratory (private) (Total Coliform, Faecal Coliform, Pesticides Residual) (Partly)	5250.00	/Sample
3	Service Charges @ 10.30 %	540.75	
	<b>TOTAL</b>	6440.75	(or)
		<b>6441</b>	

**Soil Samples**

1	Testing Charges rate as per SM & R Division (Dept) (Partly)	6000	/Sample
2	Testing Charges rate as per SGS Laboratory (private) ( Pesticides Residual) (Partly)	4500	/Sample
	Service Charges @ 10.3 %	463.50	
	<b>TOTAL</b>	10963.5	(or)
		<b>10964</b>	

Environmental Activities in Thuringalar Sub-Basin of Pennaiyar River Basin under  
IAMWARM PROJECT

**ABSTRACT ESTIMATE**

S.No	Qty	Description of Work	Rate	Per	Amount
<b>I. Environmental Social Monitoring of river basin including peroidal water and soil quality testing and documentation. (By fixing nodel agency or any educational institution)</b>					
a)	6 Nos	Testing charges for Water samples	6441	Each	38646
b)	3 Nos	Testing charges for soil samples from polluted site	10964	Each	32892
c)	3 months	Hiring Jeep driver for the Dept Vehicle @ RS 151.80/day	151.80	/day	11840
d)	LS	Collection and conveyance charges including all purchases like cans, bottles,chemicals,Documentation of test results including labour charges.	LS		5000
<b>II Environmental Social knowledge base analysis and development (By fixing nodel agency or any educational institution)</b>					
		Preparation of Impact Assessment report with expert analysis for 3 yrs @ every 6 months and documentation for			
a)	LS	Impacts due to project investment.	LS		200000
b)	LS	Other impacts observed in the river basin.	LS		25000
<b>III. Transfer of technical know how for solid waste management system including source segregation, recycle of dry waste and linkage with user agencies. (By fixing nodel agency or any educational institution)</b>					
a)	L.S.	Motivating the local bodies for Soild waste management project and Sewage treatment plants to prevent pollution of water sources and using for irrigation by transferring technical know how through demonstration Documentary film and Technical visit.	LS		75000

b)	L.S.		Promoting Entrepreneurship Policy for Eradication for weeds by setting up Bio gas Plant / Vermi compost By WUA through Awareness creation, Demonstration and consultative meeting and pilot study.	LS		75000
c)	1	No	Herbal garden in institutions	30000	Each	30000
<b>IV.</b>	<b>Conducting Environmental and social Awareness meeting, programme, demonstration and Exhibitions on various environmental and social related issues including capacity building. (By fixing nodel agency)</b>					
a)	LS		Printing Stickers, Pamphlets, Tin sheets, Providing Banners for Propagating Environmental Awareness among public	LS		10710
b)	LS		Conducting Awareness Programs for Public	LS		100000
c)	LS		Conducting meetings in school/Institutions	LS		20000
d)	LS		Preparing and publishing Environmental Atlas for the Sub Basin for the use of Line departments / Institutions for better Management of Sub basin	LS		75000
e)	LS		Documentation of the entire activities, Videofilms, hire purchase of LCD, Preparation of sub-basin maps of all size & Upgradation of computer and accessories.	LS		10000
f)	3	Months	Engaging Computer Operator grade-II for the preparation of reports, Documents etc..	204	/day	15912
g)	LS		Exposure to field visit and Eco-friendly practices and environmental monitoring.	LS		75000
				<b>Total</b>		<b>800000</b>

**(Rupees Eight Lakhs Only)**



### Water Supply, Sewage and Solid Waste Generation

Local Body	Population 2001	Designed Capacity of Protected Water Supply (Lakh Litre)	Total Estimated water Consumption (Lakh Litre)	Estimated Sewage generation (Lakh Litre)	Solid Waste Management (Tonnes)	
					Generation	Collection
<b>A.Municipalities</b>						
1)Thiruvannamalai	130567	120	120	84	18	15.0
<b>B.Town Panchayat</b>						
Chengam	23223	12.0	12.0	8.4	5.0	5.0
Thirukoilur	27197	9.0	9.0	6.3	3.6	3.00
Kilpenathur	12468	7.01	7.0	5.0	1.0	1.0
<b>Grand Total</b>	<b>193455</b>	<b>148</b>	<b>148.0</b>	<b>103.7</b>	<b>27.6</b>	<b>24.0</b>

### Status of Sewerage condition

Town	Population 2001	Estimated Sewerage generation in Lakh litre	Existence of Sewerage under ground	No Treatment	Nature of Disposal & Quantity in Lakh litre		
					Water Body		
					River	Reservoir	Land
<b>A.Municipalities</b>							
Thiruvannamalai	130567	84		No			84
<b>B.Town Panchayat</b>							
Chengam	23223	8		No	8.4		
Thirukoilur	27197	6.3		No		6.3	
Kilpenathur	12468	5.0		No			5.0



## **1.8. GROUND WATER COMPONENT**

### **3.6.1. Ground Water Scenario**

In present scenario of water crises, artificial recharge of Ground Water becomes an essential phenomenon to meet out the water scarcity due to ever increasing demand on water.

Artificial recharge is a method to augment the natural infiltration of precipitation or surface water into under ground formation by some method of construction, spreading of water and injecting surface water into ground formation through dug well / bore well.

When the amount of average annual ground water extraction is more than the annual ground water recharge artificial recharge is required to balance the overdraft. Tiruvannamalai district is one of the drought prone districts in Tamil Nadu. In Thuringalar Sub basin area of 835.53Sq.km. Tiruvannamalai district average annual rainfall is 943 mm. Due to frequent failure of monsoon or delay in monsoon setting agricultural activity has to depend on ground water to major extent. Hence we have to recharge the replenishable ground water resources whenever and wherever possible.

Under "IAM WARM" Project, it has been proposed to repair the check dam across Thuringalar River and construct recharge pits in major selected irrigation tanks to improve ground water storage to make it readily available to utilize it whenever required.

### **3.6.2. GEOLOGY:**

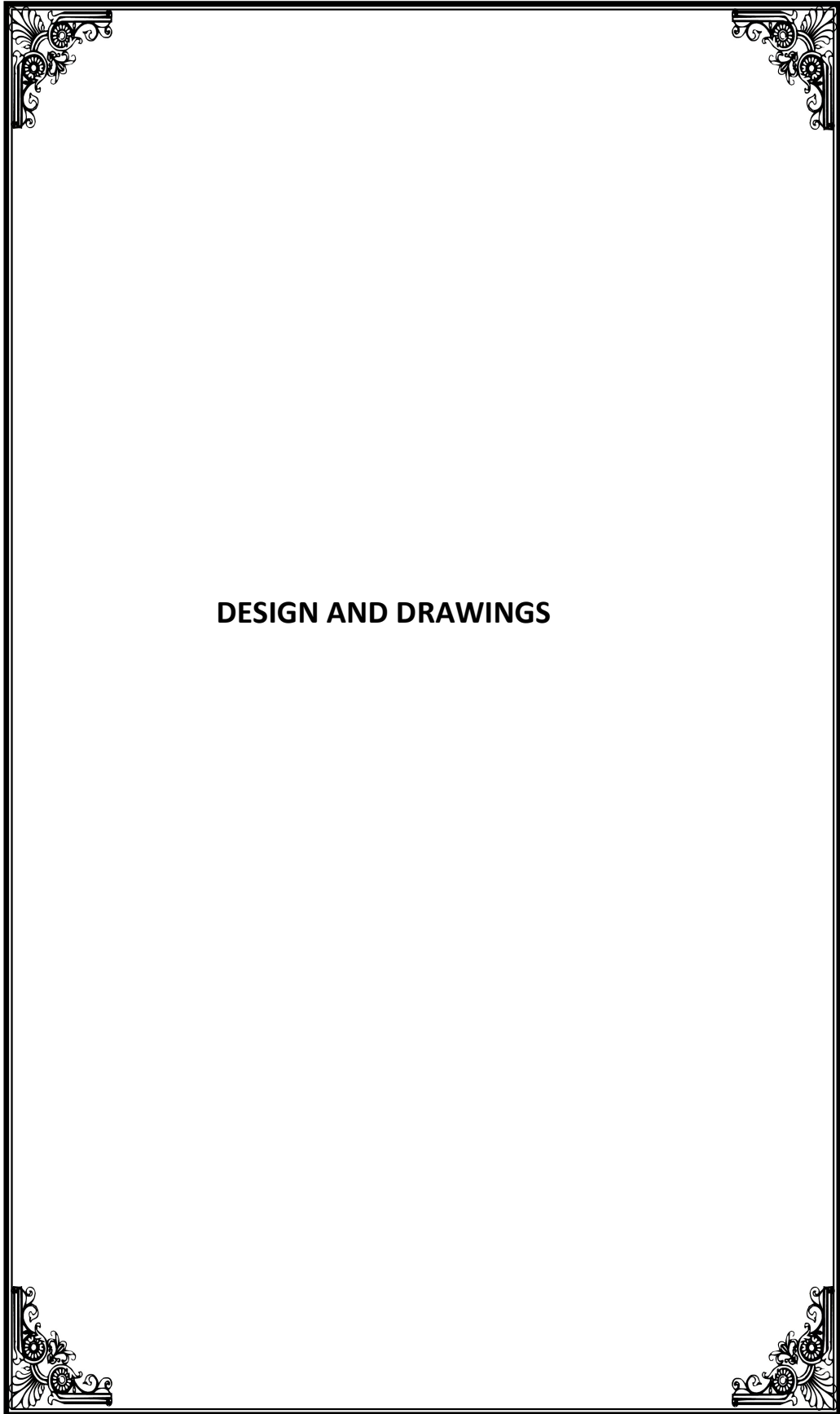
Area is covered by Granitoid Gneiss Hornblende Biotite Gneiss Magmatite and Granite. In this, major area is covered by Granitoid Gneiss rocks of Achaean age. Top soil is followed by kankar, weathered rock, fractured rock and fresh rock of variegated gneissic rocks and Charnockite. Middle Portion of the Project area is covered by black cotton soil, red soil and kankar soil.

### **3.6.3. QUALITY:**

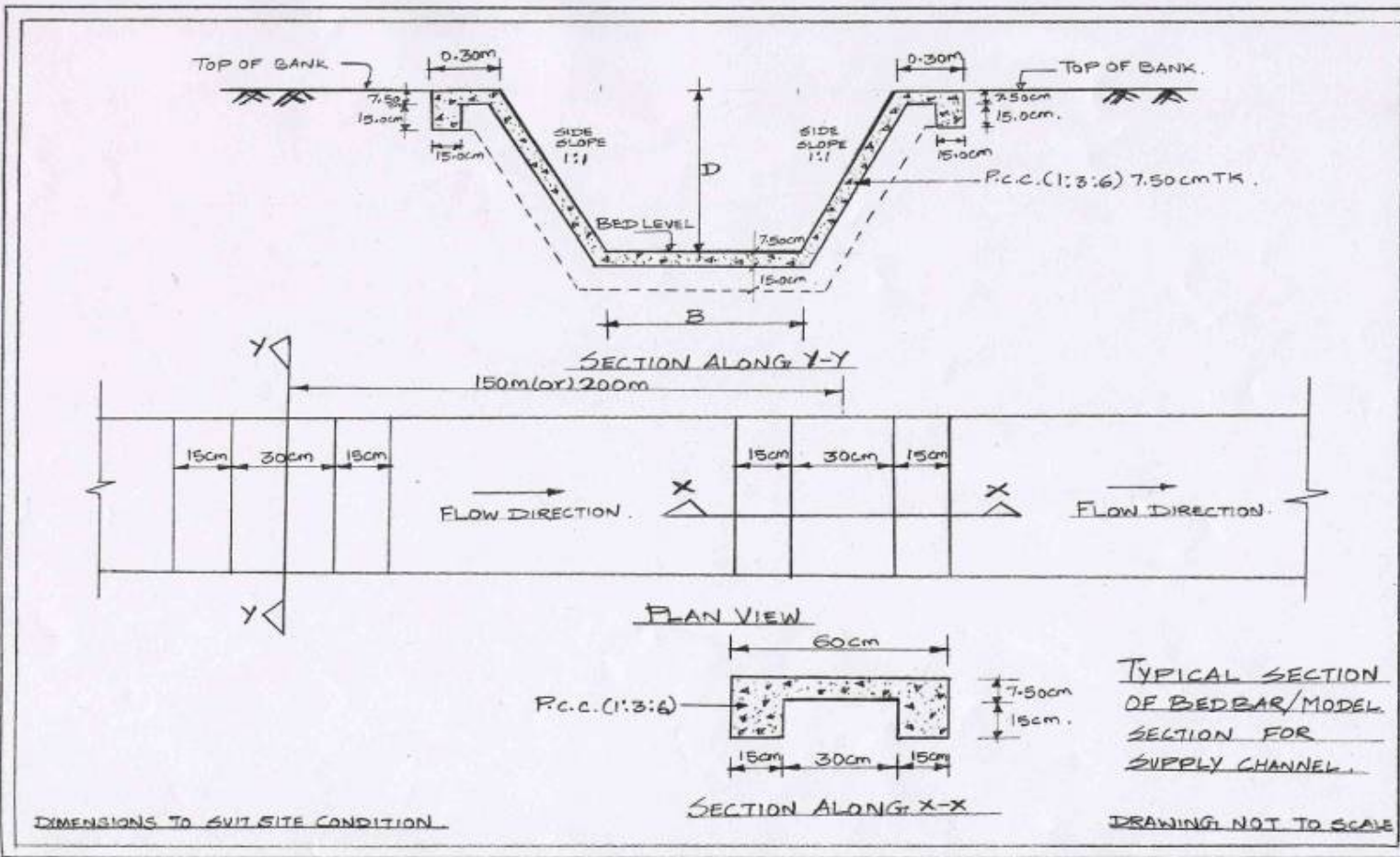
In the upper and middle part of the Thuringalar sub basin of ground water is moderate to good.

#### **3.6.4. CONCLUSION:**

This Thuringalar Sub basin comes under semi critical region. This sub basin is located in hilly terrain. Hence no proposal is made under "IAMWARM" Project.

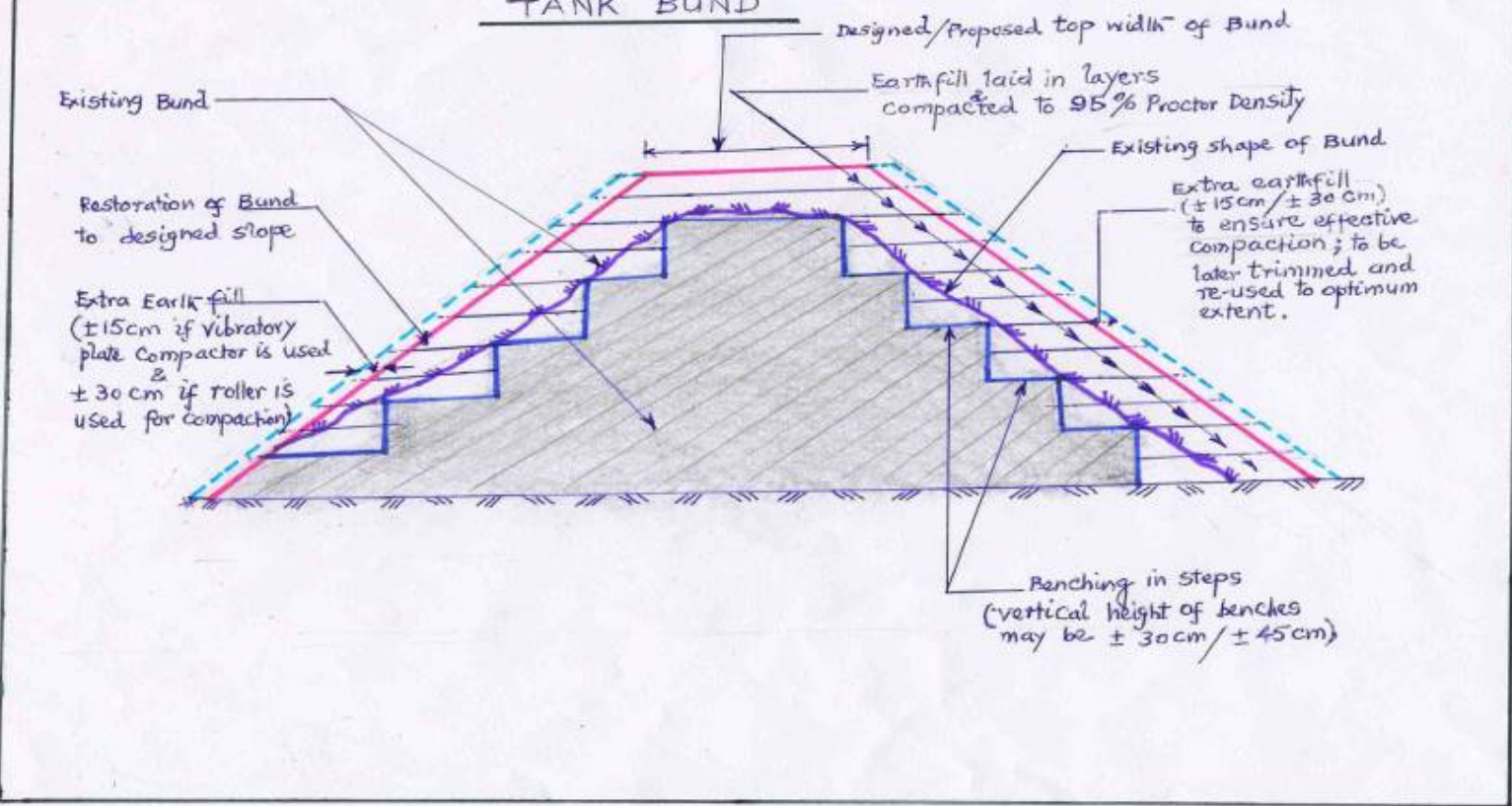


**DESIGN AND DRAWINGS**

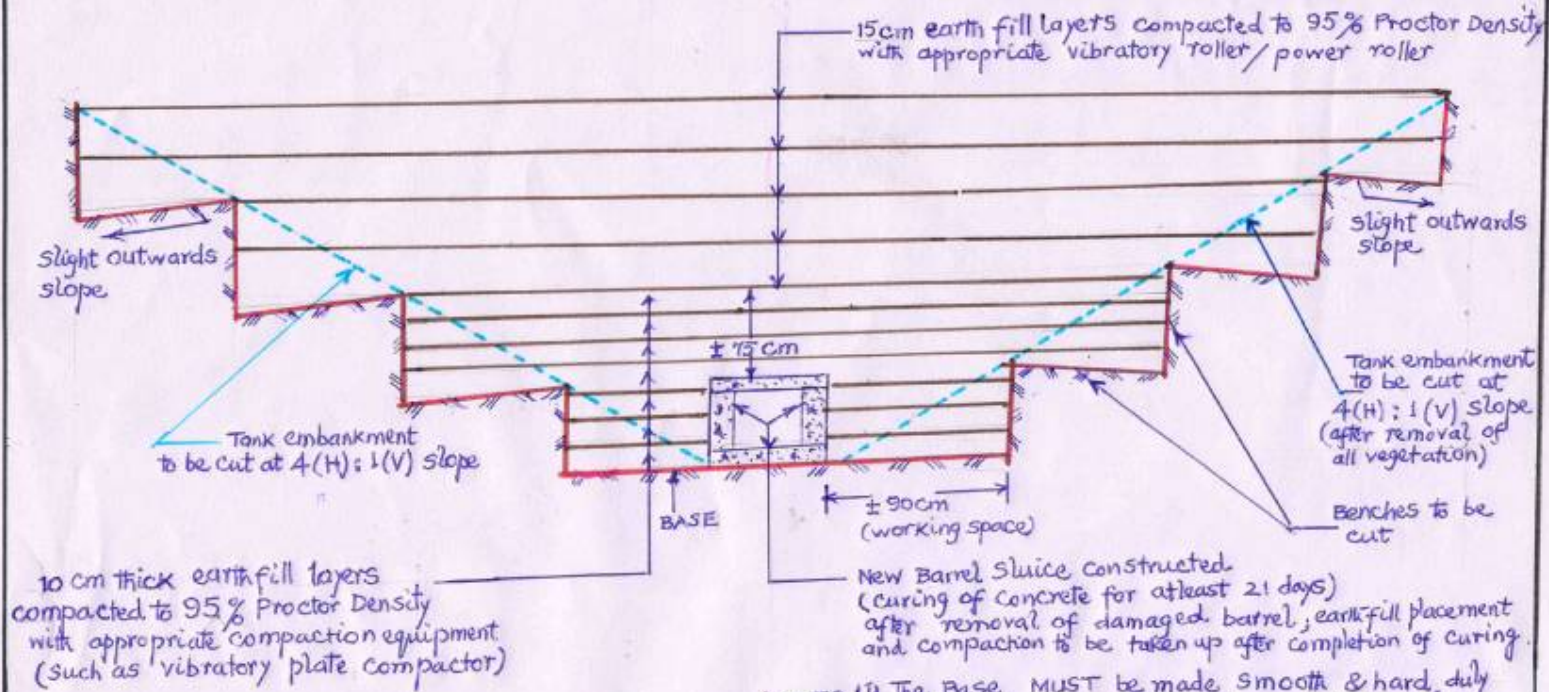


# TYPICAL SKETCH

## RAISING & STRENGTHENING OF TANK BUND



## TYPICAL SKETCH



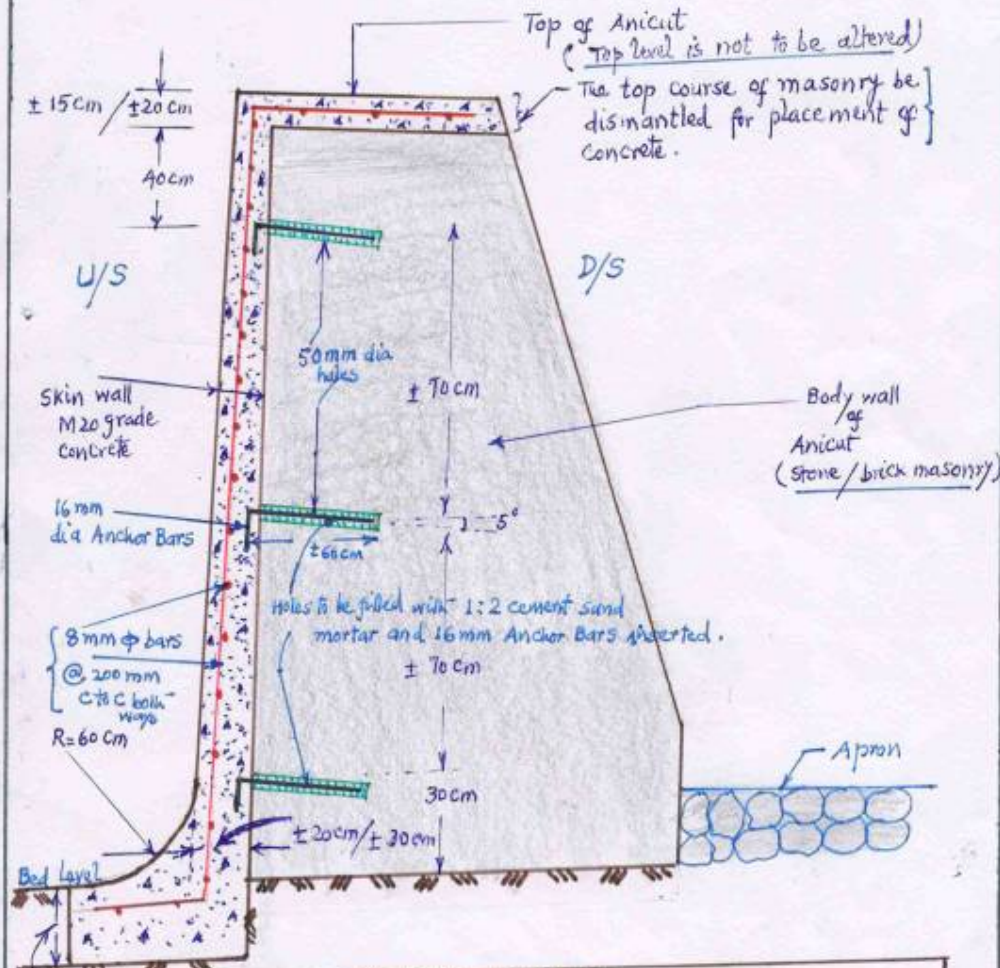
### RECONSTRUCTION OF SLUICES

- NOTES**
- (i) The Base MUST be made smooth & hard, duly compacted with compactors/pneumatic tampers.
  - (ii) Earth fill compaction adjoining the Barrel and Benches should be compacted by mechanical/pneumatic tampers to ensure effective compaction.
  - (iii) Earth obtained from benching be reused (after removal of clods (bigger than 7.5 cm), vegetation etc) in earth fill layers.



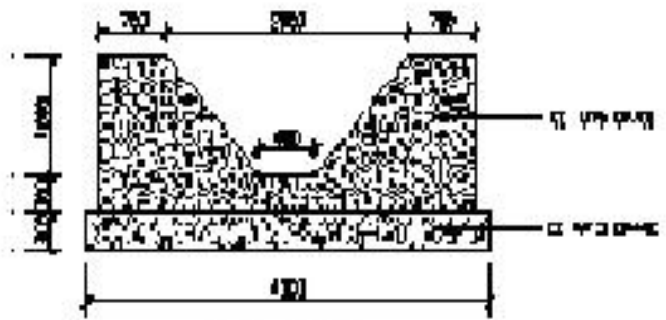
## TYPICAL SKETCH

### Rehabilitation of Anicut through SKIN WALL Concrete

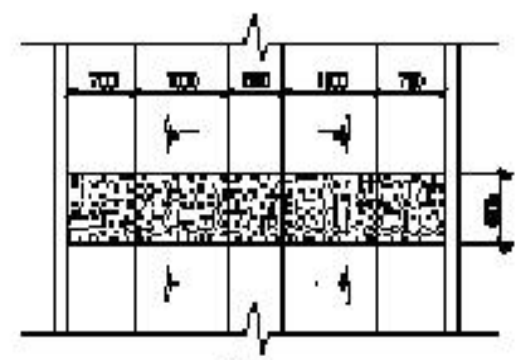


#### SALIENT FEATURES

- Joints on U/S surface to be taken to 25 mm depth & surface roughened by chipping;
- Drill holes of 50 mm to be filled with 1:2 mortar and 16 mm Anchor Bars to be pushed in. The roughened surface to be kept wet for 72 hours and cement slurry (1:2:5) of 0.70 water-cement ratio be applied over the surface prior to placement of skin concrete.
- Concrete of M20 Grade is to be used with 20 mm maximum aggregate size.
- Curing is to be done for 28 days.
  - Thickness of skin concrete: 15 cm at top & 20 cm at bottom for Anicuts of height upto  $\pm 1.50$  m and 20 cm at top & 30 cm at bottom for Anicuts of height more than  $\pm 1.50$  m.



CROSS SECTION



PLAN

MEASURING DEVICE - V NOTCH