TN IAMWARM PROJECT

LOWER GUNDAR SUB BASIN

DETAILED PROJECT REPORT

WATER RESOURCES DEPARTMENT

1.1 INTRODUCTION

INTRODUCTION

1.1 GENERAL:

Agriculture is the dominant sector in the Indian economy. Tamil Nadu, which is supposed to be the next state to Rajasthan in Average Annual Rainfall depends largely on the surface water irrigation as well as ground water irrigation. The state has used the surface and ground water potentials to the maximum limit and hence the future development and expansion depends only on the efficient and economical use of water potential and resources.

To achieve the water use efficiency it is necessary to improve and upgrade the existing conveyance system and also to introduce modern irrigation methods.

With the above objective a comprehensive programme has been proposed with Multi disciplinary approach.

1.2 DESCRIPTION OF THE VAIPPAR BASIN:

The Gundar River Basin is one of the major river basins in Tamil Nadu having a drainage area of 5690.80 Sqkm. It is bounded by Western Ghats on the western side, Vaigai basin on Northern side, Vaipppar river on southern side and Gulf of mannar on eastern side.. The basin area is covered in 5 districts namely Madurai 29%, Virudhunagar 21%, Sivagangai 5%, Ramnad 38% and Thoothukudi 7%. The length of the Gundar River is 150 kms and finally it debouches in to Gulf of Mannar

This basin has been divided into 9 sub-basins namely as follows;

1. Upper Gundar
2. Therkkar
3. Kanal Odai.
4. Gridhumal Nadhi
5. Paralaiyaru.
6. Uthirakosamangai
7. Palar
8. Lower Gundar
9. Vembar.

1.3 DESCRIPTION OF LOWER GUNDAR SUB BASIN:

Lower Gundar sub basin is one of the major sub basin in the river basin Gundar. It receives drainage water from Upper Gundar, Girudhumal, Kanal Odai, Paralaiyar besides its own catchments. It originates from the Mandalamanickam anicut and flows from Northwest to Southeast direction. During the course of runoff another 3 anicuts are constructed, so as to supply the course of water to the higher level elevated tanks namely Gundar anicut, Malattar Anicut and Sankarathevan anicut. Another tributary course of the sub basin having its own free catchments namely Narayana Kaveri Channel runs at mid of the basin area to a length of about 48.25 Km and confluences with Sankarathevan canal and finally ends with the Sayalkudi tanks. The total catchment area of the sub basin is 842.239 S.km.

There are 66 numbers of PWD Non-system tanks in the sub basin and the total command area of the sub basin is 5720.78.50 ha.

The Lower Gundar sub basin is located between the latitude $9^{o}05'$ N – $9^{o}30'$ N and longitude $78^{o}5'$ E – $78^{o}35'$ E. The command area of the sub basin comes under Aruppukottai and Tiruchuli taluks in Virudhunagar district, and Kamudhi, Mudhukulathur and Kadaladi taluks in Ramanathapuram District.

Necessary key trenches are provided in the breached portions of tank bund as instructed for the tanks in the packages 2, 3 4 & 5. Now the DPR has been revised based on the guidelines issued by the Chief Engineer DRCS instruction given by mission during June 09.

AYACUT DETAILS (PWD TANKS):

()Annexure enclosed)

Virudhunagar District:

a)	Aruppukottai Taluk-6 Nos.	–	479.38.0 Hec.
b)	Tiruchuli Taluk-1 No.	–	78.51.0 Hec.
	Total	**-**	**557.89.0 Hec.**

Ramanathapuram District:

a)	Kamudhi Taluk -22 Nos.	–	2144.04.40 Hec.
b)	Muthukulathur Taluk- 6 Nos.	–	631.56.00 Hec.
c)	Kadaladi Taluk-27 Nos.	–	2259.37.50 Hec.
	Total	**-**	**5034.97.90 Hec.**

AYACUT DETAILS (PU TANKS):

(Annexure enclosed)

Virudhunagar District:

a)	Tiruchuli Block -49 Nos.	–	770.66.0 Hec.
b)	Narikudi Block – 9 Nos.	–	173.00.0 Hec.
	Total	**-**	**943.66.0 Hec.**

Ramanathapuram District:

a)	Kamudhi Block -61 Nos.	–	639.46.0 Hec.
b)	Kadaladi Block – 116 Nos.	–	1926.64 Hec.
	Total	**-**	**2566.10.0 Hec.**

CONVERGENT TABLE: ABSTRACT (FOR EACH CLUSTER)

Sl.No	Name of the Cluster/ Infrastructure/ Village	Total Ayacut (Ha)			Toatl Area (Ha)			WRO	Agriculture		TNAU		Horticulture		Agri Marketing		AED		Fisheries		Animal Husbandary	
		F1	P1	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
1	Cluster-1	146.45.0	128.54.5	37.46.5	274.99.5	297.49.5	14.96.5	Bund strenthening, sluice repair and reconstruction, weir repair, provisioning of bathing ghat, desilting of supply channel and fitment of measuring device.														
2	Cluster-2	115.03.0	100.97.0	29.43.0	216.00.0	233.67.5	11.75.5															
3	Cluster-3	289.38.0	254.00.0	74.02.5	543.38.0	587.83.5	29.57.5															
4	Cluster-4	171.72.0	150.73.0	43.93.0	322.45.0	348.83.0	17.55.0															
5	Cluster-5	234.30.5	205.66.0	59.94.0	439.97.0	475.96.0	23.94.5															
6	Cluster-6	309.50.5	271.66.5	79.17.5	581.17.0	628.71.5	31.63.0															
7	Cluster-7	197.35.0	173.22.5	50.48.5	370.58.0	400.89.5	20.17.0															
8	Cluster-8	251.39.5	220.66.0	64.31.0	472.06.0	510.67.5	25.69.0															
9	Cluster-9	363.38.0	318.96.0	92.96.0	682.34.0	738.16.5	37.13.5															
10	Cluster-10	280.73.0	246.41.0	71.81.5	527.14.5	570.27.0	28.69.0															
11	Cluster-11	262.11.5	230.07.0	67.05.0	492.18.5	532.45.0	26.79.0															
	Total	**2622.360**	**2300.495**	**670.585**	**4922.275**	**5321.515**	**271.350**															

CONVERGENT TABLE: ABSTRACT (FOR EACH CLUSTER)

Sl.No	Name of the Cluster/ Infrastructure/ Village	Total Ayacut (Ha)			Toatl Area (Ha)			WRO	Agriculture		TNAU		Horticulture		Agri Marketing		AED		Fisheries		Animal Husbandary	
		F1	P1	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
CLUSTER-1								Bund strenthening, sluice repair and reconstruction, weir repair, provisioning of bathing ghat, desilting of supply channel and fitment of measuring device.															
1	Kullampatti	19.03.0	16.70.0	4.87.0	35.73.0	38.65.5	1.94.5															
2	Paralachi	90.62.5	79.54.5	23.18.0	170.17.0	184.09.0	9.26.0															
3	Seelampatti	36.80.0	32.30.0	9.41.5	69.09.5	74.75.0	3.76.0															
	TOTAL	146.45.0	128.54.5	37.46.5	274.99.5	297.49.5	14.96.5															
CLUSTER-2																						
1	Senkulam	26.48.0	23.24.5	6.77.5	49.72.5	53.79.5	2.70.5															
2	Poolangal	34.83.5	30.57.5	8.911.0	65.41.0	70.76.0	3.56.0															
3	Keelkudi	30.29.0	26.59.0	7.75.0	56.88.0	61.53.5	3.09.5															
4	Purasalur	23.42.5	20.56.0	5.99.0	43.98.5	47.58.5	2.39.5															
	TOTAL	115.03.0	100.97.0	29.43.0	216.00.0	233.67.5	11.75.5															
CLUSTER-3																						
1	Mandalamanickam	270.02.0	237.01.0	69.07.5	507.03.5	548.51.5	27.59.5															
2	Marakualm Pudukulam	19.36.0	16.99.0	4.95.0	36.35.0	39.32.0	1.98.0															
	TOTAL	289.38.0	254.00.0	74.02.5	543.38.0	587.83.5	29.57.5	Bund strenthening, sluice repair and reconstruction, weir repair, provisioning of bathing ghat, desilting of supply channel and fitment of measuring device.														
CLUSTER-4																						
1	Neeravi	22.73.0	19.95.0	5.81.5	42.68.5	46.17.5	2.32.5															
2	N Karaisalkulam	21.67.5	19.03.0	5.54.5	40.70.5	44.03.5	2.21.5															
3	Melaramanathi	23.44.0	20.57.0	5.99.5	44.01.0	47.61.0	2.39.5															
4	Keelaramanathi	20.58.5	18.07.0	5.26.5	38.65.5	41.81.5	2.10.5															
5	Kamuthi	83.29.0	73.11.0	21.30.5	156.40.0	169.19.5	8.51.0															
	TOTAL	171.72.0	150.73.0	43.93.0	322.45.0	348.83.0	17.55.0															
CLUSTER-5																						
1	Muthalnadu	19.21.0	16.86.5	4.91.5	36.07.5	39.02.5	1.96.5	Bund strenthening, sluice repair and reconstruction, weir repair, provisioning of bathing ghat, desilting of supply channel and fitment of measuring device.														
2	Mustakurichi	56.04.0	49.19.0	14.33.5	105.23.0	113.83.5	5.72.5															
3	Pappankulam	24.18.5	21.23.0	6.18.5	45.41.5	49.13.0	2.47.0															
4	O Karisalkulam	32.16.0	28.22.5	8.22.5	60.38.5	65.32.5	3.28.5															
5	Veppankulam	31.67.0	27.80.0	8.10.0	59.47.0	64.34.0	3.23.5															
6	Kundukulam	21.44.0	18.82.0	5.48.5	40.25.5	43.55.0	2.19.0															

7	Kovilankulam	49.60.0	43.53.5	12.69.0	93.13.5	100.75.5	5.07.0		
	TOTAL	234.30.5	205.66.0	59.94.0	439.97.0	475.96.0	23.94.5		
CLUSTER-6									
1	Kadamangalam	58.45.0	51.30.5	14.95.0	109.75.0	118.73.0	5.97.5		
2	M Pudukkulam	65.83.5	57.78.5	16.84.0	123.62.0	133.73.0	6.73.0		
3	Erumaikulam	29.79.0	26.14.5	7.62.0	55.93.5	60.51.0	3.04.5		
4	Poolapathi & Idivilagi	24.74.0	21.71.5	6.33.0	46.46.0	50.26.0	2.53.0		
5	Pammanendal	23.70.5	20.80.5	6.06.5	44.51.0	48.15.0	2.42.5		
6	Pondampuli	49.09.5	43.09.5	12.56.0	92.19.0	99.73.5	5.02.0		
7	Ariyamangalam	36.56.5	32.09.5	9.35.0	68.65.5	74.27.5	3.73.5		
8	Padanthapuli	21.32.5	18.72.0	5.45.5	40.04.5	43.32.0	2.18.0		
	TOTAL	309.50.5	271.66.5	79.17.5	581.17.0	628.71.5	31.63.0		
CLUSTER-7									
1	Kathakulam	41.98.0	36.84.5	10.74.0	78.82.5	85.27.5	4.29.0		
2	Keelasakkulam	25.67.0	22.53.0	6.56.5	48.20.5	52.14.5	2.62.5		
3	Punavasal	54.80.0	48.10.0	14.02.0	102.90.0	111.32.0	5.60.0		
4	Velankurichi	20.55.0	18.04.0	5.25.5	38.59.0	41.75.0	2.10.0		
5	Mangalam	29.80.5	26.16.0	7.62.5	55.97.0	60.55.0	3.04.5		
6	Idaikulam	24.54.5	21.54.0	6.28.0	46.08.5	49.85.5	2.51.0		
	TOTAL	197.35.0	173.22.5	50.48.5	370.58.0	400.89.5	20.17.0		
CLUSTER-8									
1	Tulukkankurichi	20.92.0	18.36.5	5.35.0	39.28.5	42.50.0	2.14.0		
2	Ilanchembur	150.21.5	131.85.0	38.42.5	282.06.5	305.14.0	15.35.0		
3	Keelamanankarai	19.89.5	17.46.0	5.09.0	37.35.5	40.41.0	2.03.5		
4	Nedunkulam	23.03.5	20.22.0	5.89.0	43.25.0	46.79.0	2.35.5		
5	Poonkulam	37.33.0	32.77.0	9.55.0	70.10.0	75.83.5	3.81.5		
	TOTAL	251.39.5	220.66.0	64.31.0	472.06.0	510.67.5	25.69.0		
CLUSTER-9									
1	Selvanur	185.58.0	162.89.5	47.47.5	348.47.5	376.98.5	18.96.5		
2	Kadugusanthai	20.57.0	18.05.5	5.26.0	38.62.0	41.78.0	2.10.0		
3	Kannanpoduvan	22.42.5	19.68.5	5.73.5	42.11.0	42.11.0	5.73.5		
4	Nattankulam	19.55.0	17.16.0	5.00.0	36.71.5	39.71.5	2.00.00		
5	Panaikulam	42.91.0	37.66.0	10.97.5	80.57.0	87.16.0	4.38.5		
6	Orivayal	72.35.0	63.50.4	18.51.0	135.85.0	146.96.5	7.39.5		
	TOTAL	363.38.0	318.96.0	92.96.0	682.34.0	734.71.5	40.58.0		
CLUSTER-10									
1	Purasankulam	20.13.0	17.66.5	5.15.0	37.79.5	40.88.5	2.05.5		
2	Poothankudi	22.60.5	19.84.0	5.78.0	42.44.5	45.92.0	2.31.0		
3	Paduvanendhal	21.63.0	18.98.5	5.53.0	40.61.5	43.94.0	2.21.0		
4	Kadayankulam	21.47.0	18.84.5	5.49.0	40.31.5	43.61.5	2.19.5		
5	Meenankudi	36.63.5	32.15.0	9.37.0	68.79.5	74.42.0	3.74.5		
6	Sathankudi	21.26.0	18.66.5	5.44.0	39.92.5	43.19.0	2.17.5		
7	Marandhai	108.13.0	94.91.0	27.66.0	203.04.5	219.65.5	11.05.0		

Bund strenthening, sluice repair and reconstruction, weir repair, provisioning of bathing ghat, desilting of supply channel and fitment of measuring device.

8	Karunkulam	28.86.5	25.34.0	7.38.5	54.20.5	58.64.0	2.95.0																		
	TOTAL	280.73.0	246.41.0	71.81.5	527.14.5	570.27.0	28.69.0																		
CLUSTER-11																									
1	Sayalkudi	96.21.0	84.45.0	24.61.0	180.66.0	195.43.5	9.83.0																		
2	Mookkaiyur	27.04.5	23.74.0	6.92.0	50.78.0	54.93.5	2.76.5																		
3	Iruveli	26.43.0	23.20.0	6.76.0	49.63.5	53.69.5	2.70.0																		
4	Avadhandaikulam	29.40.0	25.80.5	7.52.0	55.21.0	59.72.5	3.00.5	Bund strenthening, sluice repair and reconstruction, weir repair, provisioning of bathing ghat, desilting of supply channel and fitment of measuring device.																	
5	S Vagaikulam	19.95.0	17.51.0	5.10.0	37.46.0	40.52.5	2.04.0																		
6	S Keerandhai	20.04.5	17.59.5	5.13.0	37.64.0	40.71.5	2.05.0																		
7	Kadaladi	22.46.0	19.71.5	5.74.5	42.17.5	45.62.5	2.29.5																		
8	Karisalkulam	20.57.5	18.06.0	5.26.5	38.63.0	41.79.0	2.10.0																		
	TOTAL	262.11.5	230.07.0	67.05.0	492.18.5	532.45.0	26.79.0																		

1.2 HYDROLOGY

CHAPTER – 2

LOWER GUNDAR SUB BASIN

HYDROLOGY

2.1 GENERAL:

Lower Gundar sub basin is one of the major sub basin in the river basin Gundar. It receives drainage water from Upper Gundar, Girudhumal, Kanal Odai, Parailaiyar besides its own catchments. It originates form the Mandalamanickam anicut and flows from Northwest to Southeast direction. During the course of runoff another 3 anicut are constructed. So as to supply the course of water to the higher level elevated tanks namely Gundar anicut, Malattar Anicut and Sankarathevan anicut. Another tributary course of the sub basin having its own free catchments namely Narayana Kaveri Channel runs at mid of the basin area to a length of about 48.25 Km and confluences with Sankarathevan canal and finally ends with the Sayalkudi tanks. The total catchment area of the sub basin is 842.239 S.km.

There are 62 numbers of PWD Non-system tanks lies in the sub basins and the total command area of the sub basin is 5592.86.90 ha.

2.2 LOCATION:

The Lower Gundar sub basin is located between the latitude $9^{o}05'$ N – $9^{o}30'$ N and longitude $78^{o}05'$ E – $78^{o}35'$ E. The geographical area of this sub basin is 842.239 Sq.Km. The tanks covered in this basin are Aruppukottai and Tiruchuli taluks of Virudhunagar district and Kamudhi, Muthukulathur and Kadaladi taluks of Ramanathapuram district. The blocks covered are Tiruchuli and Narikudi in Virudhunagar district and Kamudhi and Kadaladi blocks in Ramanathapuram district.

2.3 CATCHMENT AREA :

The catchment area of this Sub basin is 842.239 SqKm. This Sub Basin receives rain fall from North – East monsoon. During summer, the rain fall received is more or less equal to that of South – West monsoon. There are 62 non system tanks under the control of WRO, PWD with a total registered ayacut of 5592.86.90 Ha. But at present only 4847.85.0Ha is being cultivated during the I^{st} Crop.

The present cultivable area in Virudhunagar District are 429.84hec and in Ramanathapuram District are 5120.96 hec. The total gap area in the ayacut lands are 264.02 hec.

2.4 HYDROMETEROLOGY:

The weather data observed at Kavalur weather station, maintained by the Chief Engineer, PWD, WRO, State Ground and Surface Water Resources Data Centre, Chennai is used for analysis, since long term data is available.

2.5 RAIN FALL:

There are five influencing rain fall station in this Sub Basin namely Aruppukottai, Kamudhi, Muthukulathur, Tirunelveli and Vilathikulam.

Among the five rainfall station Kamudhi and Muthukulathur rainfall stations are major influencing stations covering 86% of the total basin area. The annual average rainfall of the basin is 694.80mm.

Season	Rainguage Stations					
	Aruppukottai	Kamudhi	Muthukulathur	Tiruchuli	Vilathikulam	Average
Southwest Monsoon	208.00	142.00	148.00	201.00	101.00	160.00
North East Monsoon	389.00	402.00	417.00	361.00	366.00	387.00
Winter	38.00	33.00	42.00	32.00	35.00	36.00
Summer	139.00	104.00	104.00	107.00	104.00	111.60
Annual	774.00	681.00	711.00	701.00	607.00	694.80

2.6 CLIMATE:

TEMPERATURE:

The maximum and minimum monthly mean temperature observed in the climatological station varies from 23.89^{o} C in Jan'90 to 34.34^{o} C in June 2003.

RELATIVE HUMIDITY:

The monthly average relative humidity varies from 55.69% to 72.64%.

WIND SPEED:

The average wind velocity varies from 3.31 Km/hr to 6.56 Km/hr.

SUN SHINE:

The monthly average sun shine hours varies from 6.07 hrs to 9.17 hrs.

2.7. SOIL CLASSIFICATION:

Soil is one of the natural resources which have the most direct impact on agricultural development. Soil classification maps have been prepared in 1996 by The National Bureau of Soil Survey and Land Use Planning, Bangalore (NBSS) in cooperation with the Department of Agriculture of Tamilnadu . Based on this, the predominant soil order found in this Sub Basin, are Inceptisol , Alfisol , Vertisols, and Entisal. Due to different stages of weathering of parent material, the above soil types are met with in combination.

2.8 LAND HOLDINGS:

More than 52 % of the land holdings are below 1 Ha followed by 35% of land holding with 1 to 2 Ha size. Big farmers contribute to 13% only. The total Nos of land holdings is 100%.

2.9 DEMOGRAPHY:

There are four blocks lying partially in this Sub Basin. They are Tiruchuli, Narikudi, Kamuthi and Kadaladi Blocks of Virudhunagar and Ramnad Districts respectively. The population details were obtained from the Director of Statistics; Chennai and used for calculation of domestic water requirement.

Name of sub basin	Total No of blocks	Total no of villages	Population		
			2001	2010	2020
Lower Gundar Sub Basin	4	47	216000	245000	283000

2.10 CROPPING PATTERN:

LOWER GUNDAR SUB BASIN (Both for Ramnad & Virudhunagar District Enclosed)

VIRUDHUNAGAR DISTRICT:

WITHOUT PROJECT:

Fully Irrigated	243.50
Partially Irrigated	186.34
Gap Area	128.05
Total	**557.89**

RAMNAD DISTRICT:

WITHOUT PROJECT:

Fully Irrigated	2229.39
Partially Irrigated	1946.72
Gap Area	858.87
Total	**5034.98**

WITHOUT PROJECT ABSTRACT

	Ramnad District	Virudhunagar District	Total
Fully Irrigated	2229.39	243.50	2472.89
Partially Irrigated	1946.72	186.34	2133.06
Gap Area	858.87	128.05	986.92
Total	**5034.98**	**557.89**	**5592.87**

VIRUDHUNAGAR DISTRICT:

WITH PROJECT:

Fully Irrigated	557.89
Partially Irrigated	---
Gap Area	---
Total	**557.89**

RAMNAD DISTRICT:

WITH PROJECT:

Fully Irrigated	5120.96
Partially Irrigated	----
Gap Area	264.02
Total	**5384.98**

WITH PROJECT ABSTRACT

	Ramnad District	**Virudhunagar District**	**Total**
Fully Irrigated	5120.96	557.89	5678.85
Partially Irrigated	----	---	---
Gap Area	264.02	----	264.02
Total	**5384.98**	**557.89**	**5942.87**

2.11: LIVE STOCK- POPULATION:

Name Of Sub Basin	Cattle	Buffalo	Sheep	Goats	Pigs	Dogs	Others	Poultry
Lower Gundar Sub Basin	31602	5817	38099	30122	1954	3151	674	53763
Monthly Requirement	3.64 M cum							

2.12: INDUSTRIES & MONTHLY WATER DEMAND in Mcum:

Name of sub basin	Small Industries			
	2004	2010	2020	2045
Lower Gundar Sub Basin	8.98	11.85	18.96	36.99

CROPPING PATTERN

Name of the sub Basin	**: Lower Gundar**	Fully Irrigated	:	2472.89	Ha
Nodal District	: Ramanathapuram	Partially Irrigated	:	2133.06	Ha
Registered Ayacut Area	5592.87 Ha.	Gap	:	986.92	Ha
		Total Ayacut Area	:	**5592.87**	Ha

S.No.	Crop	Without Project				With Project				Increas-ing
		FI	PI	RF/G	TOTAL	FI	PI	RF/G	TOTAL	
I	**Perennial crop**									
1		0	0	0	**0.00**	0	0	0	**0.00**	0.00
	Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
II	**Annual Crop**									
1	Sugarcane	16.18	0	0	**16.18**	16.18	0	0	**16.18**	0.00
	Total	**16.18**	**0.00**	**0.00**	16.18	**16.18**	**0.00**	**0.00**	16.18	0.00
III	**1st crop**									
1. a	Paddy	2364.73	1998.86	0.00	**4363.59**	3255.08	0.00	0.00	**3255.08**	-1108.51
b	Paddy - SRI	0.00	0.00	0.00	**0.00**	285.00	0.00	0.00	**285.00**	285.00
2	Maize	0.00	0.00	0.00	**0.00**	230.00	0.00	0.00	**230.00**	230.00
3	Pulses	0.00	16.46	0.00	**16.46**	178.89	0.00	0.00	**178.89**	162.43
4	Cumbu	0.00	3.70	0.00	**3.70**	3.70	0.00	0.00	**3.70**	0.00
5	Cotton	0.00	27.87	0.00	**27.87**	10.00	0.00	0.00	**10.00**	-17.87
6	Cholam	0.00	11.65	0.00	**11.65**	0.00	0.00	0.00	**0.00**	-11.65
7	Chillies	91.98	49.52	0.00	**141.50**	1072.00	0.00	0.00	**1072.00**	930.50
8	Bhendi	0.00	25.00	0.00	**25.00**	95.00	0.00	0.00	**95.00**	70.00
9	Brinjal	0.00	0.00	0.00	**0.00**	50.00	0.00	0.00	**50.00**	50.00
10	Tomato	0.00	0.00	0.00	**0.00**	40.00	0.00	0.00	**40.00**	40.00
11	Senna	0.00	0.00	0.00	**0.00**	75.00	0.00	0.00	**75.00**	75.00
12	Fodder cholam	0.00	0.00	0.00	**0.00**	18.00	0.00	0.00	**18.00**	18.00
13	Prosophis	0.00	0.00	264.02	**264.02**	0.00	0.00	264.02	**264.02**	0.00
14	Fallow	0.00	0.00	722.90	**722.90**	0.00	0.00	0.00	**0.00**	-722.90
	Total	**2456.71**	**2133.06**	**986.92**	**5576.69**	**5312.67**	**0.00**	**264.02**	**5576.69**	0.00
	Grand Total (I+II+III)	**2472.89**	**2133.06**	**986.92**	**5592.87**	**5328.85**	**0.00**	**264.02**	**5592.87**	0.00
IV	**2 nd crop**									
1	Pulses (Rice Fallow)	0	0	0	**0.00**	350.00	0	0	**350.00**	350.00
	Total	**0.00**	**0.00**	**0.00**	**0.00**	**350.00**	**0.00**	**0.00**	**350.00**	350.00
	Great Grand Total	**2472.89**	**2133.06**	**986.92**	**5592.87**	**5678.85**	**0.00**	**264.02**	**5942.87**	350.00
	Cropping Intensity				**82.35%**				**101.54%**	

2.13.1. CROP WATER REQUIREMENT WITH OUT PROJECT:-

Virudhunagar District:-

Crop water requirement

Sl. No.	Name of crop	Field Water requirement			Water requirement in mm^3			
		Area in Ha	mm	Mm^3	At source Eff 0.43	Drip Eff 0.80	sprinkler Eff 0.70	Total
1)	**Annual Crop**							
i)	Sugar Cane	14.00	1428	0.20	0.465			
2)	**1st Crop**							
i)	Paddy	334.86	633	2.12	4.93			
ii).	Pulses	16.46	351	0.058	0.134			
iii)	Cotton	27.87	635	0.177	0.412			
iv)	Cholam	11.65	346	0.040	0.094			
v) a)	Vegetables Bhendi	25.00	464	0.116	0.270			
	Total			**2.711**	**6.305**			

2.13.2 CROP WATER REQUIREMENT WITH OUT PROJECT:-

Ramanathapuram District:-

Sl.No	Name of Crop	Area in Ha	Crop water requirement in mm	Crop water requirement in Mcm	Irrigation water requirement at Source Eff =43%	Total Irrigation requirement in Mcm
I	**Annual Crops**					
1	Sugarcane	2.18	1428	0.03	0.06	0.06
	Sub Total	**2.18**		**0.03**	**0.06**	**0.06**
II	**1st Crop (Sep-Jan)**					
1.a	Paddy	4028.73	633	25.502	59.307	59.307
1.b	Paddy - SRI	0.00	443	0.00	0.00	0.00
2	Cumbu	3.70	335	0.012	0.02	0.02
3	Maize	0.00	550	0.00	0.00	0.00
4	Black Gram	0.00	293	0.00	0.00	0.00
5	Chillies	141.50	833	1.179	2.741	2.741
6	Bhendi	0.00	462	0.00	0.00	0.00
7	Brinjal	0.00	464	0.00	0.00	0.00
8	Tomato	0.00	460	0.00	0.00	0.00
9	Fodder Cholam	0.00	352	0.00	0.00	0.00
10	Prosophis	0.00	0	0.00	0.00	0.00
11	Fallows	0.00	0	0.00	0.00	0.00
	Sub Total	**4173.93**		**26.693**	**62.068**	**62.068**
	Grand Total	**4176.11**		**26.723**	**62.128**	**62.128**
III	**2nd Crop**					
1	Pulses (Rice Fallow)	0.00	209	0.00	0.00	0.00
	TOTAL	**0.00**		**0.00**	**0.00**	**0.00**
	Great Grand Total	**4176.11**		**26.723**	**62.128**	**62.128**

CROP WATER REQUIREMENT WITH OUT PROJECT:-

Combined Statement:-

Sl.No	Name of Crop	Area in Ha	Crop water requirement in mm	Crop water requirement in Mcm	Irrigation water requirement at Source Eff =43%
I	**Annual Crops**				
1	Sugarcane	16.18	1428	0.230	0.540
	Sub Total	**16.18**		**0.230**	**0.540**
II	**1st Crop (Sep-Jan)**				
1.a	Paddy	4363.59	633	27.620	64.240
1.b	Paddy - SRI	0.00	443	0.000	0.000
2	Cumbu	3.70	335	0.012	0.020
3	Maize	0.00	550	0.000	0.000
4	Black Gram	0.00	293	0.000	0.000
5	Chillies	141.50	833	1.179	2.741
6	Pulses	16.46	351	0.058	0.134
7	Cotton	27.87	635	0.177	0.412
8	Cholam	11.65	346	0.040	0.094
9	Bhendi	25.00	464	0.116	0.270
10	Brinjal	0.00	464	0.000	0.000
11	Tomato	0.00	460	0.000	0.000
12	Fodder Cholam	0.00	352	0.000	0.000
13	Prosophis	0.00	0	0.000	0.000
14	Fallows	0.00	0	0.000	0.000
	Sub Total	**4589.77**		**29.202**	**67.911**
	Grand Total	**4605.95**		**29.432**	**68.451**
III	**2nd Crop**				
1	Pulses (Rice Fallow)	0.00	209	0.00	0.00
	TOTAL	**0.00**		**0.00**	**0.00**
	Great Grand Total	**4605.95**		**29.432**	**68.451**

TOTAL CROP WATER REQUIREMENT WITHOUT PROJECT:-

Virudhunagar District	:	6.30
Ramanathapuram District	:	62.13
Total	**:**	**68.43**

2.14: WATER POTENTIAL:-

Surface Water Potential	:	63.61 M.cum.
Ground Water Potential	:	58.15 M.cum.
Total	**:**	**121.76 M.cum**

2.15: WATER DEMAND WITHOUT PROJECT:

1.	Drinking / Domestic	:	4.14 M Cum
2.	Irrigation WRO Tanks	:	62.13 M Cum
2(A)	Irrigation PU Tanks	:	46.71 M CUM
3.	Industries	:	9.87 M Cum
4.	Live Stocks	:	3.64 M Cum
	Total	**:**	**126.47 M Cum**

2.16: WATER BALANCE WITHOUT PROJECT: 121.76 – 126.47 = - 4.73 M Cum

This is a deficit sub basin. The maximum deficit will be for Irrigation sector.

2.17.1 WATER REQUIREMENT WITH PROJECT:-

Virudhunagar District:-

	Name of Crop	Extent in Ha.	Field Water Requirement		Water requirement in Mm^3			Total MCM
			mm	Mcm	At Source Eff 0.53	Drip Eff 0.8	Sprinkler Eff 0.7	
Annual	**Sugarcane**	14.00	1428	0.20	0.38			
I Crop	a) Paddy	0.00	633	0.00	0.00			
	b) Paddy SRI	285	443	1.26	2.38			
	c) Maize	30.00	550	0.16	0.31			
	d) Pulses	78.89	351	0.28	0.52			
	e) Cotton	10.00	635	0.06	0.12			
	f) Vegetables							
	i) Bendi	45.00	464	0.21	0.39			
	ii) Chillies	20.00	833	0.17	0.31			
	iii) Senna	75.00	438	0.33	0.62			
Total				**2.67**	**5.04**			

2.17.2. CROP WATER REQUIREMENT WITH PROJECT:-

Ramanathapuram District:-

Sl.No	Name of Crop	Area in Ha	Crop water requirement in mm	Crop water requirement in Mcm	Irrigation water requirement at Source Eff =53%	Total Irrigation requirement in Mcm
I	**Annual Crops**					
1	Sugarcane	2.18	1428	0.03	0.06	0.06
	Sub Total	**2.18**		**0.03**	**0.06**	**0.06**
II	**1st Crop (Sep-Jan)**					
	Paddy	3255.08	633	20.605	38.877	38.877
	Cumbu	3.70	335	0.012	0.02	0.02
	Maize	200.00	550	1.100	2.08	2.08
	Black Gram	100.00	293	0.293	0.55	0.55
	Chillies	1052.00	833	8.763	16.534	16.534
	Bendi	50.00	462	0.231	0.436	0.436
	Brinjal	50.00	464	0.232	0.438	0.438
	Tomato	40.00	460	0.184	0.35	0.35
	Fodder Cholam	18.00	352	0.063	0.12	0.12
	Sub Total	**4768.78**		**31.483**	**59.405**	**59.405**
	Grand Total	**4770.96**		**31.513**	**59.465**	**59.465**
III	**2nd Crop**					
1	Pulses	350.00	209	0.732	1.38	1.38
	TOTAL	**350.00**		**0.732**	**1.38**	**1.38**
	Great Grand Total	**5120.96**		**32.245**	**60.845**	**60.845**

TOTAL CROP WATER REQUIREMENT WITH PROJECT:-

Virudhunagar District : 5.04

Ramanathapuram District : 60.84

Total : 65.88

2.18 WATER DEMAND WITH PROJECT:-

i)	Domestic	:	4.14 M.Cum
ii)	Live Stock	:	3.64 M.Cum
iii)	Industrial	:	9.87 M.Cum
iv)	Irrigation WRO	:	65.88 M.cum
v)	Irrigation PU Tank	:	46.71 M.cum
	Total	**:**	**130.24 M .cum**

2.19. WATER BALANCE WITH PROJECT: **121.76 – 130.24 = -8.48 M.Cum**

This is the deficit sub basin after the post project the maximum water demand will for the Irrigation sector.

1.3. HYDRAULICS OF THE COMPONENTS

HYDRAULIC PARTICULARS

a) ANICUT

Sl.No	Name of Anicut	Village	Ayacut	Length of Anicut(M)	Crest level of Anicut (M)	Front (M)	Free Sq.km	Combined Sq.km	Maximum flood discharge Cumecs/ Cusecs	Head sluice Location	Vent(M)	Sill Level sluice (M)	Discharge cumecs	Supply Channel					Remarks
														Length (m)	Bed width (M)	FSD (M)	Bed slope	Sluice	
1	Mandala manickam	Mandala manickam	Nil	115.9	52.32	0	0	1944	4120	RF	2.3*1.2/ 3Nos	50.85	370.47	48250	8.00	--	1 in 1000	3 Nos.	
2	Gundar	Kamudhi	Nil	0	0	0	0	0	0	0	3.0*1.8/ 5Nos	29.72	396.43	41100	33.22	1.80	1 in 1000	5 Nos.	
3	Malattar	Sengapadai	Nil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	LMC 4 Nos. RMC 2 Nos.	
4	Sangarathevan	Kovilankulam	Nil	109	58.2	0	0	0	0	RF	0	56.53	0	13070	0.75	0.75	1:1	2 Nos.	

TANKS (Separate statement for system and non-system tanks)

Sl.No	District	Taluk	Name of Tank	Ayacut in Hectares	Capacity in MCFT	Number of Fillings	Free Catchment in SqKm	Combined Catchment in Sq Km	Water spread Area in Sq kms	FTL in Metre	MWL in Metre	No.of Sluices	Nos and length of weir (m)		Discharge in Cusecs	Length of Bund in 'm'	Length of supply channel in 'm'	Upper tank	Lower Tank
													Nos	Length in 'm'					
1	Virudunagar	Aruppukottai	Kullampatty	40.60.0	4.18	2	3.3656	3.3656	0.1881	49.800	50.000	2	1	14	524.33	1200	1000	….	Aladipatty tank
2		Aruppukottai	Paralachi	193.35.0	51.00	2	17.899	42.9757	1.4864	50.000	50.600	5	1	95.1	2620	4330	9000	Kanjampatty tank	P. Vagaikulam Tank
3		Thiruchuli	Seelampatty	78.51.0	8.11	2	6.7208	6.7208	0.689	103.100	103.700	2	1	28.5	1047.1	2000	3000	Narayanakaveri	Narayanakaveri
4		Aruppukottai	Senkulam	56.50.0	8.02	2	5.4367	5.4367	0.288	50.000	50.600	6	1	24.1	733.68	1995	0	….	Poolankal Tank
5		Aruppukottai	Poolangal	74.32.0	14.94	2	2.0452	21.9798	0.5881	50.000	50.600	3	1	30.15	1626.7	2745	4500	Senkulam Tank , Chinnamanakulam Tank	Keelkudi Tank
6		Aruppukottai	Keelkudi	64.63.0	20.02	2	11.1841	111.5039	0.7042	50.000	50.900	3	1	29.4	1980.9	2135	7500	Pooankal Tank , K. Vagaikulam Tank	Pammanendal Tank
7		Aruppukottai	Purasalur	49.98.0	10.38	2	3.1067	18.6401	0.445	50.000	50.600	4	2	30.15 , 15.25	932.71 , 448.99	3200	4500	Asur Tank , Mustakurichi Tank	K. vagaikulam tank
8		Kamuthi	Mandalamanickam	576.11.00	73.81	2	2.356	2.356	1.89	48.650	49.250	6	0	0	473.93	6850	0	Nil	Nil
9		Kamuthi	Marakualm Pudukulam	41.30.00	16.72	2	4.33	8.06	3.44	15.700	16.300	3	1	22	844	1200	0	Marakulam	Gundar
10		Kamuthi	Neeravi	48.5	22.67	1.26	6.48	20.25	7.67	15.240	15.840	4	2	7.5, 33.0	42.5	2590	6000	Muttankulam	N Veppankulam
11		Kamuthi	N Karisalkulam	46.25	10.0	2	1.3	27.2	2.15	14.225	14.825	2	1	45.7	1740.6	2040	1000	Elumanchikulam	Melaramanadhi
12		Kamuthi	Melaramanathi	50.00.5	13.45	2	3.48	20.7	4.0	30.330	30.930	4	1	78.5	3025	2680	3000	N Karisalkulam	Alankulam
13		Kamuthi	Keelaramanathi	43.92	12.57	2	0.95	2.5	3.1	15.240	15.840	4	2	15.0, 48.75	471.5, 1508.8	2470	3000	Melaramanadhi	Ulaganathapuram
14		Kamuthi	Kamuthi	177.70.5	45.23	2	1.4	1.4	20.6	13.200	13.800	7	1	27.6	859	3290	2800	Narayanacauvery	Gridmal river
15		Kamuthi	Mudal Nadu	40.99.10	17.06	1	2.85	2.85	275.34039	15.000	15.600	3	1	22.85	497	2590	1830	Nil	Kudikiniyan Tank
16		Kamuthi	Mustakuruchi	119.56.50	34.26	2	6.37	6.37	390.3177	15.000	15.600	5	1	55.70	353	2195	2000	Udaikulam Tank	Purasalur Tank
17		Kamuthi	Pappankulam	51.60.05	18.3	2	2.12	7.3	314.67474	14.930	15.530	3	1	33.50	762	5060	4000	Kudikinkyan & Mudalnadu Tanks	Malattar River
18		Kamuthi	O.Karisalkulam	68.61.10	11.42	1	4.66	5.95	172.76853	15.000	15.600	5	1	64.30	1024	3630	1000	Seemanendal, Senthanendal, Kundukulam, Olugapuli tanks	Malattar River
19		Kamuthi	Veppankulam	67.57.50	9.82	2	2.98	2.98	178.21483	28.000	28.600	4	1	24.50	521	2195	0	Narayana Cauvery channel	Narayana Cauvery channel
20	Ramanathapuram	Kamuthi	Kundukulam	45.74.05	9.15	2	3.24	3.24	181.84569	15.100	15.700	2	1	24.70	630	2010	0	Mavilangai & Seemanendal Tank	Nil
21		Kamuthi	Kovilankulam	105.82.5	32.73	2	7.25	13.46	491.98185	13.860	14.460	5	1	20.00	1194	3810	1000	Kundukulam, Mustakurichi, Usampotal, Pasikulam tank	Narayana Cauvery channel
22		Kamuthi	Kadamangalam	124.70.5	72.03	2	12.42	12.42	278.81	15.24	15.84	5	1	30.1	1289	3660	5000	Pontampuli	Avadhandai

23		Kamuthi	M Pudukkulam	140.46	58.68	2	9.06	22.84	205.02	15.54	16.14	5	2	75.0, 95.0	3624, 205.3	5450	100	Poolapathi & Idivilagi	Thiruvarai, Kanikkoor, Avadhandai
24		Kamuthi	Erumaikulam	63.55.5	36.04	2	19.19	19.19	92.01	15.00	15.6	6	1	17.8	450.57	2560	200	Ariamangalam	M Pudukkulam
25		Kamuthi	Poolapathi & Idivilagi	52.79.0	26.5	2	11.55	11.55	76.21	14.33	14.925	4	1	57.9	30.12	3500	100	NII	M Pudukkulam
26		Kamuthi	Pammanendhal	50.57.5	12.72	2	4.22	4.22	62.83	30.78	31.38	4	1	17.6	672.22	2130	100	Keelkudi	Padarndhapuli
27		Kamuthi	Ponthampuli	104.75.1	67.57	2	25.38	25.38	210.04	15.24	15.84	3	1	88.4	3361.1	4750	150	Nil	Poolapathi & Idivilagi
28		Kamuthi	Ariamangalam	78.01.0	16.02	2	5.18	16.84	87.45	15.24	15.84	5	1	60.9	1322	2590	100	Velankulam	Nil
29		Kamuthi	Padarnthapuli	45.5	4.53	2	1.3	5.56	23.42	30.18	30.78	2	1	24.4	528	1430	100	Pammanendhal, Sendanandal	Padarndhapuli Cinnakanmoi
30		Mudukulathur	Kathakulam	89.56.50	20.3	2	3.11	3.11	7.86	15.600	16.200	4	1	26	545.36	3962	1479	Nil	Nil
31		Mudukulathur	Keelasakkulam	54.77.00	10.84	1.7	4.92	10.1	6.74	14.300	14.900	5	1	31.7	972	2560	1350	Melasakkulam	Kadambankulam
32		Kadaladi	A Punavasal	116.92	0	2	0.52	1.549	9.49	29.3	29.9	4	1	49	1436	3688	0	Appanur	Paduvanendal
33		Kadaladi	Velankurichi	43.85	4.743	2	0.52	1.549	0.29	14.335	14.935	2	1	39.5	1070	1485	0	Nil	A Punavasal
34		Kadaladi	Mangalam	63.59.5	16.5	1	1.813	1.813	0.389	14.3	14.9	2	1	7.3	6.4	1768	0	Nil	Alampatti
35		Kadaladi	Idaikulam	52.36.5	71	3	1.554	1.554	0.115	30.5	31.1	4	1	7.3	228	890	0	Nil	Nil
36		Mudukulathur	Tulukkankurichi	44.64	9.54	0.39	1.19	1.19	4.835	14.782	15.392	2	1	4.88	150.88	1905	3660	Maravetti	Ilanchembur
37		Mudukulathur	Ilanchembur	320.49	0	2	7.77	12.95	0	30.178	30.635	6	1	56.39	1116	5486	3400	Regunatha Cauveri	Marandhai
38		Mudukulathur	Keelamanankarai	42.44.5	7.34	0	0.6	0.6	3.375	24.308	24.917	3	1	4.8	81.21	1600	0	Regunatha Cauveri	Nil
39		Kadaladi	Nedunkulam	49.14.5	7.37	1.79	1.19	3.32	23	12.2	12.8	4	1	46	1013.7	2200	1250	Oruvanendal	Punavasal
40		Mudukulathur	Poonkulam	79.65	10.31	0	0.059	0.059	0.542	15.24	15.85	3	1	7	6.14	1798	160	Enathi	Vilathigootam, Oruvanendal
41		Kadaladi	Selvanur	395.95	162.92	2	10.36	26.29	6.05	5.8	6.4	13	2	42,38.1	2276	7296	15000	Regunatha Cauveri	Nil
42		Kadaladi	Kaduhusandai	43.88.5	11.76	8	4.403	130.095	0.43	15.4	16	4	2	26.2,75	1323	1350	2000	Poothankudi	Nil
43		Kadaladi	Kannan Poduvan	47.84.5	7.2	0			12.66	50	50.6	3	0	49	0	1250	0	Tuticorin	Purasankulam
44		Kadaladi	Nattan kulam	41.71.5	10.89	3	0.53	14.73	5.43	14.8	15.1	2	1	61	1612	1988	500	Velankurichi,Punavasal	Panaikulam
45		Kadaladi	Panaikulam	91.54.5	12.15	3	1.399	7.659	0.52	12.5	13.1	4	1	80	2157	1830	0	Nattan	Sathankudi
46		Kadaladi	Orivayal	154.36	15.49	4	10.619	11.655	1.08	14.9	15.5	4	1	43	1320	2438	2250	Regunatha Cauveri	Nil
47		Kadaladi	Purasankulam	42.94.5	11.4	0	1.81	32.89	0.53	14.34	14.94	3	1	58.5	1840	1585	1200	Punavasal	Kidaikulam
48		Kadaladi	Poothankudi	48.23	8.65	2	2.279	15.488	0.482	29.6	30.2	3	1	60.4	1216	1520	1000	Kadayankulam	Kadukusandai
49		Kadaladi	Paduvanendhal	46.15	13.44	2	2.33	19.94	0.678	30.35	30.95	3	1	46.4	1432	1600	250	Nil	Purasankulam
50		Kadaladi	Kadayankulam	45.81	9.25	4	1.24	56.825	0.45	14.85	15.45	4	1	74.7	2831	1037	400	Nil	Nil
51		Kadaladi	Meenankudi	78.16.5	20.38	2	3.885	103.6	0.94	30.5	31.1	2	1	68.88	1250	2682	800	Nil	Nil
52		Kadaladi	Sathankudi	45.365	9.83	2	0.932	19.112	0.64	5.18	5.78	4	1	44.5	1376	1480	1300	Panaikulam	Kadukusandai
53		Kadaladi	Marandhai	230.70.5	71.34	5	19.63	150.14	3.07	21.8	22.4	3	1	83.5	2058	5480	6832	Ilanchembur	Surigudi
54		Kadaladi	Karunkulam	61.59	12.51	1	2.098	2.098	2.88	30.5	31.1	4	1	8.53	261.3	2758	300	Nil	Nil
55		Kadaladi	Sayalkudi	205.27	268.7	0	4.921	5.698	216.2	8.2	9.5	3	2	7.6	23.2	3444	0	Sangarathevan Anicut	Nil
56		Kadaladi	Mookkaiyur	57.7	52.3	1.3	7.666	7.925	100.1	14.5	15.1	3	1	30	26.4	2820	0	Nil	Nil
57		Kadaladi	Iruveli	56.39.5	41.2	1.67	4.662	21.497	77.1	13.6	14.2	6	2	49.7	43.8	2360	3500	S Vagaikulam	Nil
58		Kadaladi	Avadhandaikulam	62.73	53	1.35	5.232	18.13	71.5	15.2	15.85	4	1	64.3	39.43	2896	1300	Kadambankulam	S Vagaikulam
59		Kadaladi	S.Vagaikulam	52.86	76	0.76	0.89	2.486	76.2	13.7	14.3	5	1	51	44.5	2212	2000	Avadhandaikulam	Iruveli
60		Kadaladi	S.Keerandhai	43.21.5	66	0.85	5.491	10.023	162.5	8.2	8.8	4	1	31.7	27.7	1091	1800	Sangarathevan Anicut	Ilandhaikulam
61		Kadaladi	Kadaladi	47.92	27.6	2.1	1.554	1.554	50.7	14.8	15.4	7	1	7.5	6.676	1600	4313	Appanur	Nil
62		Kadaladi	Karisalkulam	43.89.5	11.6	0	1.683	1.683	23.9	14.5	15.1	2	1	18.9	5.93	1850	800	Appanur	Malattar River

Ramanathapuram

1.4. Participatory Irrigation Management (PIM)

Participatory Irrigation Management (PIM) Under IAM WARM Project in Lower Gundar Sub basin

1. **The Sub-Basin :** This is one of the nine sub-basins of the Gundar Basin. Totally 62 irrigation tanks are under the control of Water Resources Organisation (WRO) of Public Works Department (PWD) in this sub-basin. The list of Tanks covered with more details are furnished in the Annexure-1. These 62 tanks are located within the sub-basin's hydraulic boundary spread over 47 villages of Aruppukottai & Tiruchuli Taluks in Virudhunagar District and Kamudhi, Mudhukulathur and Kadaladi Taluks in Ramnad District. The total Command area under these 62 tanks works out to 5592.86.90 Ha. (Annexure 1)

2. **Command Area :**

i) Under system tanks	:	Nil
ii) Under Non-system tanks (62 tanks)	:	5592.86.90 Ha
Total 62 Tanks)		**5592.86.90 Ha**

3. **An assessment of number of WUAs**

i)	Associations already formed under WRCP	Nil
ii)	Associations proposed to be formed under IAMWARM Project covering 66 tanks	47 Nos. (5592.86.90 Ha)
iii)	The total command area covered	5592.86.90 Ha

4. **On account of "Awareness creation" among the farming community:**

Activities undertaken and "Walkthrough Surveys" carried out:

i) There are 62 tanks in the sub-basin spread over 47 village, 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.

ii) Details of villages covered, walkthrough surveys conducted, farmers attended, and list of works suggested by the farmers, list of works analysed 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:

i) Form – I : Details to be notified by District Collectors (End of March –09)

ii) Form – II : WUA document to be notified by District Collectors (End of April – 09)

iii) Completion of preparatory works for the conduct of Elections for WUAs (End of May – 09)

6. Schedule for Conduct of Elections in the sub-basin for forming Management Committees

7. Support Organisations (SOs) :

i) Initiating and completing the process of publishing EOI to hire Support Organisation at Sub-basin level (End of February 2009)

ii) Short listing and providing Request for Proposals (RFPs) to all the short listed agencies and obtaining Technical and Cost Proposals (End of May 2009)

iii) Selection and deployment of Support Organisation to the sub-basin (End of June 2009)

8. Appointment and the Role of Competent Authorities :

i) 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 farmers organizations (WUA, Distributory Committee and Project Committee), in the Implementation and execution of all decisions taken by such farmers organization. Similarly, every farmer's organization shall extend such co-operation or assistance, as may be required by the Competent Authority, for carrying out all the tasks related to implementation of TNFMIS Act.

ii) 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 Lower Gundar Sub basin

Er. K. Gurusamy, M.E.,
Asst. Exe.Engineer, WRO/PWD.,
IRP Sub Division-III,
Mudukulathur

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 "Modernisation" under IAMWARM project was discussed with 1920 Nos. of farmers from 47 villages. The final list of tanks 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 tanks to be taken up under scheme modernisation finalized.

ii) During the meeting, the farmers present were also informed that soon after finalization of contract for carrying out "Modernization 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 the work, as well as in the Panchayat Office of the Villages concerned for information of the farmers. They have also been informed that they are free to supervise the work by the contractor and any lapse in the quality of work may be reported to the field officers of WRO, as well as the Executive Engineer of WRO, who has been designated as the Nodal Officer for the sub-basin concerned.

iii) The field officers of WRO 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 tanks 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 after completing the tanks related to modernization of 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 (36 numbers out of47 villages) located with in the sub-basin the normal water charges recovery as informed by the VAO

ii) With the proposal to form new WUAs under IAMWARM in 'Lower Gundar 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 tanks and handing over of the O & M responsibilities to WUAs.

11. "Capacity Building" of the WUA farmers :

i) The "Support Organisation 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" programmes 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 organizing 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 there by the farmer's income.

iii) The support organisation will also conduct necessary "awareness programme" and impart training to educate the farmers of the WUAs in all aspects of the TNFMIS Act, TNFMIS Rules and Election procedures for constituting the "Managing Committees" of the WUAs.

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

AN ASSESSMENT OF COMMAND AREA AND WUAs UNDER THE CONTROL OF WRO OF PWD IN LOWER GUNDAR BASIN

Annexure-1

WUA No	Name of Irrigation systems and tanks	Command Area in Ha	Location of the Command Area			Coverage of Command Area under different projects (Ha)		Status of formation of WUAs in the sub-basin		Name of Officer Incharge
			Villages	Taluk	District	WRCP and others	IAMWARM	Formed under WRCP	To be Formed under IAMWARM	
WUA - 1	Kullampatty	40.60.00	Kullampatty	Aruppukkottai	Virudunagar	Nil	40.60.00	Nil	Yes	Er. Viswamithran, AE., V.B.S.Dn., APK
WUA - 2	Paralachi	193.35.00	Paralachi	Aruppukkottai		Nil	193.35.00	Nil	Yes	
WUA - 3	Senkulam	56.50.00	Senkulam	Aruppukkottai		Nil	56.50.00	Nil	Yes	
WUA - 4	Poolangal	74.32.00	Poolangal	Aruppukkottai		Nil	74.32.00	Nil	Yes	
WUA - 5	Keelkudi	64.63.00	Keelkudi	Aruppukkottai		Nil	64.63.00	Nil	Yes	
WUA - 6	Purasalur	49.98.00	Purasalur	Aruppukkottai		Nil	49.98.00	Nil	Yes	
WUA - 7	Seelampatty, Mandalamanickam Anicut	78.51.00	Velan Oorani	Thiruchuli		Nil	78.51.00	Nil	Yes	Er. Viswamithran, AE., V.B.S.Dn., APK
WUA - 8	Kadamangalam	124.70.50	Kadamangalam	Kamudhi	Ramanathapuram	Nil	124.70.50	Nil	Yes	Er.M.Ilango, A.E., I.R.P. and Er.Kayathiri Section.I/I, Sattur
WUA - 9	M Pudukkulam	140.46.00	M Pudukkulam	Kamudhi		Nil	140.46.00	Nil	Yes	
WUA - 10	Ponthampuli	104.75.10	Ponthampuli	Kamudhi		Nil	104.75.10	Nil	Yes	
WUA - 11	Ariamangalam	78.01.00	Ariamangalam	Kamudhi		Nil	78.01.00	Nil	Yes	
WUA - 12	Erumaikulam	63.55.50	Erumaikulam	Kamudhi		Nil	63.55.50	Nil	Yes	
WUA - 13	Padarnthapuli, Pammanendhal	96.07.50	Pammanendhal	Kamudhi		Nil	96.07.50	Nil	Yes	
WUA - 14	Mustakuruchi	119.56.50	Mustakuruchi	Kamudhi		Nil	119.56.50	Nil	Yes	Er.JayakumarAE & Rajakavitha., Gridhamal (A) Sub Dn., Kamuthi
WUA - 15	Pappankulam	51.60.05	Pappankulam	Kamudhi		Nil	51.60.05	Nil	Yes	
WUA - 16	Mudal Nadu	40.99.10	Mudal Nadu	Kamudhi		Nil	40.99.10	Nil	Yes	
WUA - 17	Keelaramanathi	43.92.00	Keelaramanathi	Kamudhi		Nil	43.92.00	Nil	Yes	Er. Kalyanasundaram J.E., Gundar Sub Dn., Kamuthi
WUA - 18	Neeravi	48.50.00	Neeravi	Kamudhi		Nil	48.50.00	Nil	Yes	
WUA - 19	Poolapathi & Idivilagi	52.79.00	Idivilagi	Kamudhi		Nil	52.79.00	Nil	Yes	Er.M.Ilango, A.E., I.R.P. and Er.Kayathiri Section.I/I, Sattur
WUA - 20	Melaramanathi	50.00.50	Melaramanathi	Kamudhi		Nil	50.00.50	Nil	Yes	Er. Kalyanasundaram J.E.,&Suresh kumar Gundar Sub Dn., Kamuthi
WUA - 21	N Karisalkulam	46.25.00	N Karisalkulam	Kamudhi		Nil	46.25.00	Nil	Yes	
WUA - 22	Mandalamanickam	576.11.00	Mandalamanickam	Kamudhi		Nil	576.11.00	Nil	Yes	

WUA - 23	Mrarakkulampudukulam	41.30.00	Mrarakkulam	Kamudhi		Nil	41.30.00	Nil	Yes	
WUA - 24	Kundukulam/Veppankulam	113.31.55	Veppankulam	Kamudhi		Nil	113.31.55	Nil	Yes	Er.JayakumarAE & Rajakavitha., Gridhamal (A) Sub Dn., Kamuthi
WUA - 25	Kovilankulam	105.82.50	Kovilankulam	Kamudhi		Nil	105.82.50	Nil	Yes	
WUA - 26	O.Karisalkulam,Malattar Anicut, Kamudhi Regulator	68.61.10	O Karisalkulam Sengapadai	Kamudhi		Nil	68.61.10	Nil	Yes	Er.JayakumarAE & Rajakavitha., Gridhamal (A) Sub Dn., Kamuthi
WUA - 27	Kamuthi	177.70.50	Kamuthi	Kamudhi		Nil	177.70.50	Nil	Yes	Er. Kalyanasundaram J.E., Gundar Sub Dn., Kamuthi
WUA - 28	Nedunkulam	49.14.50	Oruvanendhal	Kadaladi		Nil	49.14.50	Nil	Yes	Er.SP.Srinivasan, A.E. I.R.P.Section 2/3, Mudhukulathur
WUA - 29	Marandhai	230.70.50	Marandhai	Kadaladi		Nil	230.70.50	Nil	Yes	M.B.Thangajailani A.E., I.R.P.section 4/3, Mudhukulathur
WUA - 30	Nattan kulam, Paduvanendhal, Velankurichi,Punavasal	248.63.50	Punavasal	Kadaladi		Nil	248.63.50	Nil	Yes	S.Murugesan, J.E., I.R.P.Section 1/3, Mudhukulathur
WUA - 31	Panaikulam, Orivayal	245.90.50	Orivayal	Kadaladi		Nil	245.90.50	Nil	Yes	V.Ramanathan, J.E., I.R.P.Section 3/2, Kamuthi
WUA - 32	Selvanur	395.95.00	Selvanur	Kadaladi		Nil	395.95.00	Nil	Yes	
WUA - 33	Sathankudi, Meenankudi, Kadayankulam	169.34.00	Meenankudi	Kadaladi		Nil	169.34.00	Nil	Yes	M.B.Thangajailani A.E., I.R.P.section 4/3, Mudhukulathur
WUA - 34	Karunkulam, Poothankudi, Purasankulam, Karisaikulam, Kadaladi	244.58.00	Kadaladi	Kadaladi		Nil	244.58.00	Nil	Yes	
WUA - 35	Mangalam, Idaikulam, Kannan Poduvan	163.80.50	K Veppankulam	Kadaladi	Ramanathapuram	47.84.50	115.96.00	Nil	Yes	S.Murugesan, J.E., I.R.P.Section 1/3, Mudhukulathur
WUA - 36	Kadukusandai	43.88.50	Kadukusandai	Kadaladi		Nil	43.88.50	Nil	Yes	
WUA - 37	Iruveli	56.39.50	Iruveli	Kadaladi		Nil	56.39.50	Nil	Yes	Er.Jeyakumar & Rajakavitha., I.R.P. Section 3/3, Mudhukulathur
WUA - 38	S.Vagaikulam,	42.56.50	S.Vagaikulam	Kadaladi		Nil	42.56.50	Nil	Yes	
WUA - 39	Avadhandaikulam	62.73.00	Avadhandaikulam	Kadaladi		Nil	62.73.00	Nil	Yes	
WUA - 40	Sayalkudi	205.27.00	Sayalkudi	Kadaladi		Nil	205.27.00	Nil	Yes	
WUA - 41	Mookkaiyur	57.70.00	Mookkaiyur	Kadaladi		Nil	57.70.00	Nil	Yes	
WUA - 42	Poonkulam	79.65.00	Enathi	Mudukulathur		Nil	79.65.00	Nil	Yes	Er.SP.Srinivasan, A.E. I.R.P.Section 2/3, Mudhukulathur
WUA - 43	Keelamanankarai, Tulukkankurichi	87.08.50	Kandilan	Mudukulathur		Nil	87.08.50	Nil	Yes	
WUA - 44	Ilanchembur	320.49.00	Ilanchembur	Mudukulathur		Nil	320.49.00	Nil	Yes	
WUA - 45	S.Keeranthai	42.76.50	S.Keeranthai	Kadaladi		Nil	42.76.50	Nil	Yes	Er.Jeyakumar & Rajakavitha., I.R.P. Section 3/3, Mudhukulathur
WUA - 46	Keelasakkulam	54.77.00	Keelasakkulam	Mudukulathur		Nil	54.77.00	Nil	Yes	Er.SP.Srinivasan, A.E. I.R.P.Section 2/3, Mudhukulathur
WUA - 47	Kathakulam	89.56.50	Kathakulam	Mudukulathur		Nil	89.56.50	Nil	Yes	
	TOTAL	5592.86.90				47.84.50	5545.02.40			

ABSTRACT

1.	Command area already covered under WRCP and other project / schemes.	-	Nil
2.	Command area proposed to the covered under IAMWARM Project	-	5592.86.90 Hectares
3.	Total command area controlled by WRD of PWD in the sub basin	-	5592.86.90 Hectares
4.	Total No. of WUAs already formed under WRCP	-	Nil
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	-	47 Nos.

DETAILS OF AWARENESS CREATION ACTIVITIES AND WALK-THROUGH SURVEY

Annexure-2

Sl.No	Date of Visit	Names of the villages visited	Awareness Programme (No. of farmers attended) (Prepare the list of farmers with acknowledgement seperately and attach)	Walk through survey (No. of farmers attended) (Prepare the list of farmers with acknowledgement seperately and attach)	Remarks
1	11.10.2008 WT/IAMWARM/01	M Pudukkulam, Ponthampuli, Pammanendhal, Padarnthapuli	Nil	15	
2	20.11.2008 WT/IAMWARM/04 AP/IAMWARM/01	Kadamangalam, Poolapathi & Idivilagi, Erumaikulam	15	16	
3	22.11.2008 WT/IAMWARM/05	Mudal Nadu, Mustakurichi	Nil	12	
4	25.11.2008 WT/IAMWARM/06	Kundukulam, Pappankulam, Veppankulam, Ariamangalam	Nil	12	
5	28.11.2008 WT/IAMWARM/07	Iruveli, S Keeranthai, Avathandaikulam	Nil	20	

6	02.12.2008 WT/IAMWARM/08 AP/IAMWARM/02	Sayalkudi, Mookaiyur, S Vagaikulam	20	20	
7	05.12.2008 WT/IAMWARM/09	Neeravi, N Karisalkulam, Melaramanathi, Keelaramanathi, Kamudhi	Nil	15	
8	15.12.208 WT/IAMWARM/10	Paralachi, Sengulam, Poolangal, Keelkudi, Purasalur	Nil	10	
9	16.12.2008 WT/IAMWARM/11	Seelampatty	Nil	10	
10	17.12.2008 WT/IAMWARM/12	Kaduhusandhai, Poothankudi, Karunkulam, Meenankudi,Sathankudi	Nil	15	
11	19.12.2008 WT/IAMWARM/13 AP/IAMWARM/03	Kadayankulam, Marandhai, Nattan, Panaikulam, Orivayal, Sevanoor	20	15	
12	22.12.2008 WT/IAMWARM/14	Idaikulam, Kadaladi, Karisakulam, Mangalam, Kannanpoduvan	Nil	12	
13	23.12.2008 WT/IAMWARM/15	Kovilankulam, O Karisalkulam	Nil	10	
14	24.12.2008	Tevarkurichi,	25	20	

	AP/IAMWARM/04	Purasankulam, Paduvanendhal, A Punavasal, Appanur, Velankurichi, P Kadambankulam, Pothikulam			
15	26.12.2008 WT/IAMWARM/16	Kullampatty	Nil	10	
16	30.12.2008 WT/IAMWARM/17	Nedunkulam, Poonkulam, Keelamanankarai, Tulukkankurichi, Ilanchembur	Nil	12	
17	13.03.2009 WT/IAMWARM/17	Madalamanickam, Marakulampudukulam, Kathakulam, Keelasakkum	Nil	15	

Details of Modernisation works as suggested by the farmers and as finalized by the officals of WRD

Annexure-3

Sl.No	Date of Visit	Name of the villages visited	Outcome of walk through survey and discussions with farmers	
			Works suggested by **farmers**	Works finalised by WRO **officials**
1	26.12.2008	Kullampatty	Bund strengthening, Sliding of Bund's earth on road, Sluice repairs, field channel lining.	Bund strengthening, Sluice repairs and fitment of measuring devices.
2	15.12.2008	Paralachi	Bund strengthening, Reconstruction of sluices and sluice repairs, Desilting of supply channel, field channel lining, Construction of retaining wall.	Sluice Reconstruction, Sluice Repair, Erection of boundary stones and fitment of measuring device.
3	16.12.2008	Seelampatty	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, field channel lining.	Bund strengthening, Sluice repairs, Repair of weir and fitment of measuring device.
4	15.12.2008	Senkulam	Bund strengthening, Reconstruction of Sluice, Repair of weir, Padded shutter provisioning.	Bund strengthening, Reconstruction of Sluice, Repair of sluices, Repair of weir and fitment of measuring device.
5	15.12.2008	Poolangal	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Provisioning of retaining wall.	Bund strengthening, Sluice repairs, Repair of weir and fitment of measuring device.
6	15.12.2008	Keelkudi	Bund strengthening, Sluice repairs and reconstruction, Repair of weir, Desilting of supply channel.	Bund strengthening, Sluice repairs and reconstruction, Repair of weir and fitment of measuring device.
7	15.12.2008	Purasalur	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Provisioning of retaining wall.	Bund strengthening, Sluice repairs and fitment of measuring devices.
8	13.03.2009	Mandala Manickam	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Provisioning of retaining wall.	Bund strengthening, Repair of sluice, Weir repair, Strengthening the vulnerble breached portion, Provision of bathing ghat and fitment of measuring device.
9	13.03.2009	Marakualm Pudukulam	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Provisioning of retaining wall.	Bund strengthening, Repair of sluice, Repair of weir, Supply channel desilting, Provision of bathing ghat and fitment of measuring device.

10	05.12.2008	Neeravi	Bund strengthening, Reconstruction of sluices, Reconstruction of weir, Desilting of supply channel.	Bund strengthening, Repair of weir, Provision of bathing ghat and fitment of measuring device.
11	05.12.2008	N Karisalkulam	Bund strengthening, Reconstruction of sluices, Reconstruction of weir, Desilting of supply channel.	Bund strengthening, Repair of sluice, Repair of weir, Provision of bathing ghat and fitment of measuring device.
12	05.12.2008	Melaramanathi	Bund strengthening, Reconstruction of sluices, Reconstruction of weir, Desilting of supply channel.	Bund strengthening, Repair of sluice, Strengthening the vulnerble breached portion, Provision of bathing ghat and fitment of measuring device.
13	05.12.2008	Keelaramanathi	Bund strengthening, Reconstruction of sluices, Reconstruction of weir, Desilting of supply channel.	Bund strengthening, Repair of sluice, Repair of weir, Provision of bathing ghat and fitment of measuring device.
14	05.12.2008	Kamuthi	Bund strengthening, Reconstruction of sluices, Reconstruction of weir, Desilting of supply channel.	Bund strengthening, Repair of sluice, Repair of weir, Provision of bathing ghat and fitment of measuring device.
15	22.11.2008	Mudal Nadu	Bund strengthening, Reconstruction of Sluice, Weir Repair, Lining of field channel, Widening of supply channel, Obstruction to road by sliding bund's earth, field channel lining	Bund strengthening, Reconstruction of sluice, Repair of weir and fitment of measuring device.
16	22.11.2008	Mustakuruchi	Bund strengthening, Sluice reconstruction, Sluice repair, Weir repair, Desilting of supply channel, Provision of bathing Ghat, field channel lining	Bund strengthening, Reconstruction and repair of sluices, Repair of weir and fitment of measuring device.
17	25.11.2008	Pappankulam	Bund strengthening, sluice repair, Provision of bathing Ghat, Desilting of supply channel, field channel lining.	Repair of sluice, Strengthening the vulnerble breached portion and fitment of measuring device.
18	23.12.2008	O.Karisalkulam	Bund strengthening, Reconstruction of sluices and sluice repairs, Reconstruction of weir, Forming of supply channel, field channel lining.	Bund strengthening, Repair of sluice, Repair of weir and fitment of measuring device.
19	25.11.2008	Veppankulam	Bund strengthening, Sluice Repair, reconstruction of sluice, field channel lining, Construction of wall in the Narayana Cauvery Channel offtake point.	Reconstruction and Repair of sluice, Provision of bathing Ghat and fitment of measuring device.

20	25.11.2008	Kundukulam	Strengthenig of bund, Sluice reconstruction, Sluice Repair, Damage of wier, field channel lining, Construction of wall in the Narayana Cauvery Channel offtake point.	Bund strengthening, Repair of sluice, Weir repair, Strengthening the vulnerble breached portion and fitment of measuring device.
21	23.12.2008	Kovilankulam	Bund strengthening, Sliding of Bund's earth on road, Reconstruction of sluices and sluice repairs, Reconstruction of weir, Provision of bathing Ghat, Forming of supply channel, field channel lining.	Bund strengthening, Repair of sluice, Repair of weir and fitment of measuring device.
22	20.11.2008	Kadamangalam	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Bund strengthening, Reconsturction and repair of sluices, Weir repair, Strengthening the vulnerble breached portion, Provisioning of bathing ghat and fitment of measuring device.
23	11.10.2008	M Pudukkulam	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Bund strengthening, Reconsturction and repair of sluices, Weir repair, Provisioning of bathing ghat and fitment of measuring device.
24	20.11.2008	Erumaikulam	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Reconsturction and repair of sluices, Provisioning of bathing ghat and fitment of measuring device.
25	20.11.2008	Poolapathi & Idivilagi	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Repair of sluice, Weir repair, Provisioning of bathing ghat and fitment of measuring device.
26	11.10.2008	Pammanendhal	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Reconstruction and repair of sluices, Weir repair, Provisioning of bathing ghat and fitment of measuring device.
27	11.10.2008	Pontahmpuli	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Repair of sluices, Weir repair, Strengthening the vulnerble breached portion, Provisioning of bathing ghat and fitment of measuring device.
28	25.11.2008	Ariamangalam	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Reconsturction and repair of sluices, Weir repair,Provisioning of bathing ghat and fitment of measuring device.
29	11.10.2008	Padarnthapuli	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Bund strengthening, Reconsturction and repair of sluices, Weir repair, Provisioning of bathing ghat and fitment of measuring device.

30	13.03.2009	Kathakulam	Bund Strengtheneing, Reconstruction of 02 sluices, construction of sluice in ragunatha kauveri offtake, provision of bathing Ghat	Bund Strengtheneing and Reconstruction of sluices.
31	13.03.2009	Keelasakkulam	Provision of Plug and Plug rod in existing 04 sluices and plastering and pointing of exposed surfaces.	Construction of measuring devices for sluices.
32	24.12.2008	A Punavasal	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Field channel lining, Provision of Bathing Ghat, Requirement of retaining wall in localized breached sections	Bund strengthening and Sluices reconstruction.
33	24.12.2008	Velankurichi	Bund strengthening, Weir repair, Reconstruction of sluice, Provision of bathing Ghat, field channel lining	Reconstruction of sluices and repair to weir.
34	22.12.2008	Mangalam	Bund strengthening, Desilting of tank, Weir repair, Repair of sluice	Standardisation of bund, Weir repair, Repair of sluices.
35	22.12.2008	Idaikulam	Bund strengthening, Sluice repair, Weir repair, Field channel lining, Provision of Bathing Ghat	Bund strengthening, repair to weir, repair to sluices.
36	30.12.2008	Tulukkankurichi	Bund strengthening, Weir repair, Reconstruction of sluice, Provision of bathing Ghat, Desilting of supply channel, field channel lining	Standardisation of tank bund, Reconstruction of Sluices, Weir repair, Desilting of supply channel, Provision of bathing Ghat and Fitment of measuring devices.
37	30.12.2008	Ilanchembur	Bund strengthening, Sluice Repair, Damage of wier, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat, field channel lining	Repair of Sluices, Weir repair, Desilting of supply channel, Provision of bathing Ghat, Protection for vulnerable breached sections and fitment of measuring devices.
38	30.12.2008	Keelamanankarai	Sluice Repair, Damage of wier in full, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat, field channel lining	Sluice Repair, Repair of weir,Construction of Bathing Ghat, Standardisation of bund partially and fitment of measuring devices.
39	30.12.2008	Nedunkulam	Reconstruction of Sluice, Sluice Repair, Weir Repair, Lining of field channel, Widening of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat, field channel lining	Reconstruction of Sluice, Sluice Repair , Repair to weir, Construction of Bathing Ghat, Protection for vulnerable breached sections and fitment of measuring devices.

40	30.12.2008	Poonkulam	Bund strengthening, Relaying of WBM road, Sluice repair, Weir repair, Desilting of supply channel, Provision of bathing Ghat, field channel lining	Standardisation of tank bund for the entire length and overlaying of WBM road, Sluice repair, Repair of weir, Provision of bathing Ghat and fitment of measuring device.
41	19.12.2008	Selvanoor	Bund strengthening, Sluice Repair and reconstruction, Repair of wier, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat, field channel lining	Part of bund strengthening, Repair & Reconstruction of sluices, Weir repair, Construction of measuring device and bathing Ghat. Provision made for casing soil for frequent breach portion for a length of 40m.
42	17.12.2008	Kaduhusandhai	Bund strengthening, Desilting of tank,, Sluice Repair, Damage of wier in full, Desilting of supply channel, Obstruction to road by sliding bund's earth, field channel lining	Standardisation of tank bund, Repair & Reconstruction of sluices, Weir repair, Construction of measuring device and bathing Ghat. Provision made for casing soil for frequent breach portion for a length of 40m.
43	22.12.2008	Kannanpoduvan	Nil	Nil
44	19.12.2008	Nattan	Bund strengthening, Desilting of tank, Weir repair, Reconstruction of sluice, Repair of sluice, field channel lining, localized breach, Desilting of supply channel	Standardisation of tank bund, Repair & Reconstruction of sluices, Weir repair, Construction of measruing devices.
45	19.12.2008	Panaikulam	Bund strengthening, Desilting of tank, Weir repair, Reconstruction of sluice, Repair of sluice, field channel lining, localized breach, Provision of bathing Ghat,	Standardisation of tank bund, Repair & Reconstruction of sluices, Weir repair, Construction of measruing devices and bathing ghat.
46	19.12.2008	Orivayal	Bund strengthening, Desilting of tank,, Sluice Repair, Damage of wier in full, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat, field channel lining	Standardisation of tank bund, Repair & Reconstruction of sluices, Weir repair, Construction of measruing devices and bathing ghat.
47	24.12.2008	Purasankulam	Bund strengthening, Sluice Repair and reconstruction, Repair of wier, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Sluices reconstruction, repair of weirs, Construction of Bathing Ghat and measuring devices.

48	17.02.2008	Poothankudi	Bund strengthening, Sluice Repair and reconstruction, Repair of wier, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat	Sluice reconstruction and Repair of weir.
49	24.12.2008	Paduvanendal	Bund strengthening, Sluice Reconstruction, Weir repair, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Repair to weir, Reconstruction of sluices, Construction of Bathing Ghat & measuring devices. Provision made for casing soil for frequent breach portion for a length of 40m
50	19.12.2008	Kadayankulam	Bund strengthening, Desilting of tank, Weir repair, Reconstruction of sluice, Repair of sluice	Standardisation of bund, Desilting of tank, Weir repair, Construction of bathing ghat.
51	17.12.2008	Meenankudi	Bund strengthening, Sluice Reconstruction, Desilting of supply channel, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Sluices reconstruction, Construction of Bathing Ghat, repair of weir and measuring devices.
52	17.12.2008	Sathankudi	Bund strengthening, Sluice Reconstruction, Desilting of supply channel, Provision of Bathing Ghat	Weir repair and construction of measuring devices.
53	19.12.2008	Marandhai	Bund strengthening, Desilting of tank, Weir repair, Reconstruction of sluice, Repair of sluice	Reconstruction of sluice and construction of measuring devices.
54	17.12.2008	Karunkulam	Bund strengthening, Sluice Repair, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat	Repair to sluices, construction bathing ghat and measuring devices. Provision made for casing soil for frequent breach portion for a length of 40m.
55	02.12.2008	Sayalkudi	Bund strengthening, Sluice Reconstruction , Weir repair, Desilting of supply channel, Field channel lining, Provision of Bathing Ghat, Sliding of earth on road side	Bund strengthening, Reconstruction of sluices, Weir repair,and fitment of mesuing devices.
56	02.12.2008	Mookkaiyur	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Field channel lining, Provision of Bathing Ghat	Bund strengthening, Reconstruction of sluice, Weir repair,and fitment of mesuing devices.
57	28.11.2008	Iruveli	Bund strengthening, Sluice Reconstruction and repair, Weir reconstruction 01 No and Regulator reconstruction, Field channel lining	Reconstruction and repair of sluices, weir repair, and fitment of measuring device.

58	28.11.2008	Avathandaikulam	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Field channel lining, Provision of Bathing Ghat, Requirement of retaining wall in localized breached sections	Reconstruction and Repair of Sluices, Weir repair, Protection for vulnerable breached sections and fitment of measuring devices.
59	02.12.2008	S Vagaikulam	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Field channel lining, Provision of Bathing Ghat	Reconstruction and repair of sluices, weir repair, and fitment of measuring device.
60	28.11.2008	S Keeranthai	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Field channel lining, Provision of Bathing Ghat	Reconstruction of sluice and fitment of mesuing devices.
61	22.12.2008	Kadaladi	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Desilting of supply channel, Field channel lining, Provision of Bathing Ghat	Reconstruction and Repair of Sluices, Weir repair, and fitment of measuring devices.
62	22.12.2008	Karisalkulam	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Desilting of supply channel, Field channel lining, Provision of Bathing Ghat	Repair of sluice and fitment of measuring device.
63	05.01.2009	Sangarathevan Anicut	Desilting of supply channel, Shutter repalcement from wooden to steel, Improvement works in Apron	Desilting of supply channel, Renewal of Shutter, Improvement works in Apron, Protection wall on upstream side and river training works on both sides.
64	13.01.2009	Mandalamanickam Anicut	Desilting of supply channel, Shutter repalcement from wooden to steel, Renovation works in Dam structure and also to provide additional Apron arrangement in lower area	Desilting of supply channel, Renewal of Shutter, Improvement works in Apron, Protection wall on upstream side and river training works on both sides.
65	29.01.2009	Gundar Regulator	Shutter repalcement from wooden to steel	Shutter repalcement from wooden to steel for scour vents.
66	29.01.2009	Malattar Regulaor	Nil Request	Nil Proposal

WALK THROUGH SURVEY

Sl. No	Walk Through Survey		Farmers request	Technical Solution								Proposals in Plan							
	Date	Location		WRO	Agri	Horti	AED	TNAU	AGMT	AHD	Fisheries	WRO	Agri	Horti	AED	TNAU	AGMT	AHD	Fisheries
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	26.12.2008	Kullampatty	Bund strengthening, Sliding of Bund's earth on road, Sluice repairs, field channel lining.	Bund strengthening, Sliding of Bund's earth on road, Sluice repairs, field channel lining.								Bund strengthening, Sluice repairs and fitment of measuring devices.							
2	15.12.2008	Paralachi	Bund strengthening, Reconstruction of sluices and sluice repairs, Desilting of supply channel, field channel lining, Construction of retaining wall.	Bund strengthening, Reconstruction of sluices and sluice repairs, Desilting of supply channel, field channel lining, Construction of retaining wall.								Sluice Reconstruction, Sluice Repair, Erection of boundary stones and fitment of measuring device.							
3	16.12.2008	Seelampatty	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, field channel lining.	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, field channel lining.								Bund strengthening, Sluice repairs, Repair of weir and fitment of measuring device.							
4	15.12.2008	Senkulam	Bund strengthening, Reconstruction of Sluice, Repair of weir, Padded shutter provisioning.	Bund strengthening, Reconstruction of Sluice, Repair of sluice, Repair of weir.			Lining of field channel work may be taken up.		Post projrct technologies, thrashing floor	Providing fodder and Imparting latest technology		Bund strengthening, Reconstruction of Sluice, Repair of sluices, Repair of weir and fitment of measuring device.			Command area development work proposed.		Post projrct technologies, thrashing floor	Command area development work proposed.	
5	15.12.2008	Poolangal	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Provisioning of retaining wall.	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Construction of retaining wall.								Bund strengthening, Sluice repairs, Repair of weir and fitment of measuring device.							
6	15.12.2008	Keelkudi	Bund strengthening, Sluice repairs and reconstruction, Repair of weir, Desilting of supply channel.	Bund strengthening, Sluice repairs and reconstruction, Repair of weir, Desilting of supply channel.								Bund strengthening, Sluice repairs and reconstruction, Repair of weir and fitment of measuring device.							
7	15.12.2008	Purasalur	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Provisioning of retaining wall.	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Construction of retaining wall.								Bund strengthening, Sluice repairs and fitment of measuring devices.							
8	13.03.2009	Mandala Manickam	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Provisioning of retaining wall.	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Provisioning of retaining wall.								Bund strengthening, Repair of sluice, Weir repair, Strengthening the vulnerble breached portion, Provision of bathing ghat and fitment of measuring device.							
9	13.03.2009	Marakualm Pudukulam	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Provisioning of retaining wall.	Bund strengthening, Sluice repairs, Repair of weir, Desilting of supply channel, Provisioning of retaining wall.								Bund strengthening, Repair of sluice, Repair of weir, Supply channel desilting, Provision of bathing ghat and fitment of measuring device.							
10	05.12.2008	Neeravi	Bund strengthening, Reconstruction of sluices, Reconstruction of weir, Desilting of supply channel.	Bund strengthening, Repair of weir,Desilting of supply channel.								Bund strengthening, Repair of weir, Provision of bathing ghat and fitment of measuring device.							
11	05.12.2008	N Karisalkulam	Bund strengthening, Reconstruction of sluices, Reconstruction of weir, Desilting of supply channel.	Bund strengthening, Repair of sluices, Desilting of supply channel.								Bund strengthening, Repair of sluice, Repair of weir, Provision of bathing ghat and fitment of measuring device.							

12	05.12.2008	Melaramanathi	Bund strengthening, Reconstruction of sluices, Reconstruction of weir, Desilting of supply channel.	Bund strengthening, Repair of sluices,Desilting of supply channel.								Bund strengthening, Repair of sluice, Strengthening the vulnerble breached portion, Provision of bathing ghat and fitment of measuring device.								
13	05.12.2008	Keelaramanathi	Bund strengthening, Reconstruction of sluices, Reconstruction of weir, Desilting of supply channel.	Bund strengthening, Repair of sluice and weir, Desilting of supply channel.								Bund strengthening, Repair of sluice, Repair of weir, Provision of bathing ghat and fitment of measuring device.								
14	05.12.2008	Kamuthi	Bund strengthening, Reconstruction of sluices, Reconstruction of weir, Desilting of supply channel.	Bund strengthening, Repair of weir, Desilting of supply channel.								Bund strengthening, Repair of sluice, Repair of weir, Provision of bathing ghat and fitment of measuring device.								
15	22.11.2008	Mudal Nadu	Bund strengthening, Reconstruction of Sluice, Weir Repair, Lining of field channel, Widening of supply channel, Obstruction to road by sliding bund's earth, field channel lining	Strengthening of tank Bund,Reconstruction of Sluice, Repair to weir Apron & Body wall, Desilting of supply channel, Construction of retaining wall.								Bund strengthening, Reconstruction of sluice, Repair of weir and fitment of measuring device.								
16	22.11.2008	Mustakuruchi	Bund strengthening, Sluice reconstruction, Sluice repair, Weir repair, Desilting of supply channel, Provision of bathing Ghat, field channel lining	Strengthening of tank bund, Sluice reconstruction, Sluice repair and fixing SG Plug shutters, Weir repair, Desilting of supply channel, Provision bathing Ghate, Construction of retaining wall..								Bund strengthening, Reconstruction and repair of sluices, Repair of weir and fitment of measuring device.								
17	25.11.2008	Pappankulam	Bund strengthening, sluice repair, Provision of bathing Ghat, Desilting of supply channel, field channel lining.	Strengthening of tank bund, Sluice repair, Desilting of supply channel, Provision of bathing Ghat								Repair of sluice, Strengthening the vulnerble breached portion and fitment of measuring device.								
18	23.12.2008	O.Karisalkulam	Bund strengthening, Reconstruction of sluices and sluice repairs, Reconstruction of weir, Forming of supply channel, field channel lining.	Strengthening of tank bund, Sluice reconstction, sluice repair and fixing SG Plug shutters, reconstruction of weir, Desilting of supply channel.			Lining of field channel work may be taken up.		Post projrct technologies, thrashing floor	Providing fodder and Imparting latest technology		Bund strengthening, Repair of sluice, Repair of weir and fitment of measuring device.			Command area development work proposed.		Post projrct technologies, thrashing floor	Command area development work proposed.	
19	25.11.2008	Veppankulam	Bund strengthening, Sluice Repair, reconstruction of sluice, field channel lining, Construction of wall in the Narayana Cauvery Channel offtake point.	Strengthening of tank bund, Sluice reconstruction, Sluice repair and fixing SG Plug shutters, Construction of wall in the Narayana Cauvery Channel offtake point.								Reconstruction and Repair of sluice, Provision of bathing Ghat and fitment of measuring device.								
20	25.11.2008	Kundukulam	Strengthenig of bund, Sluice reconstruction, Sluice Repair, Damage of wier, field channel lining, Construction of wall in the Narayana Cauvery Channel offtake point.	Strengthening of tank bund, Sluice reconstruction, Sluice repair and fixing SG Plug shutters, Weir reconstruction, Construction of wall in the Narayana Cauvery Channel offtake point.								Bund strengthening, Repair of sluice, Weir repair, Strengthening the vulnerble breached portion and fitment of measuring device.								
21	23.12.2008	Kovilankulam	Bund strengthening, Sliding of Bund's earth on road, Reconstruction of sluices and sluice repairs, Reconstruction of weir, Provision of bathing Ghat, Forming of supply channel, field channel lining.	Strengthening of tank bund, Sluice reconstction, sluice repair and fixing SG Plug shutters, reconstruction of weir, Desilting of supply channel, Construction of Bathing Ghat, Construction of retaining wall.								Bund strengthening, Repair of sluice, Repair of weir and fitment of measuring device.								
22	20.11.2008	Kadamangalam	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Desilting the surplus course rapairs to sluice and fixing S.G plug shutter to arrest leakages. Reconstruction of RCC Barrel type of sluie Reparis to								Bund strengthening, Reconsturction and repair of sluices, Weir repair, Strengthening the vulnerble breached portion, Provisioning of bathing ghat and fitment of								

				bodywall and abutment.								measuring device.								
23	11.10.2008	M Pudukkulam	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Desilting the surplus course rapairs to sluice and fixing S.G plug shutter to arrest leakages. Reconstruction of RCC Barrel type of sluie Reparis to bodywall and abutment. Bund standardisation.								Bund strengthening, Reconsturction and repair of sluices, Weir repair, Provisioning of bathing ghat and fitment of measuring device.								
24	20.11.2008	Erumaikulam	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Desilting the surplus course rapairs to sluice and fixing S.G plug shutter to arrest leakages. Reconstruction of RCC Barrel type of sluie Reparis to bodywall and abutment.								Reconsturction and repair of sluices, Provisioning of bathing ghat and fitment of measuring device.								
25	20.11.2008	Poolapathi & Idivilagi	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Desilting the surplus course rapairs to sluice and fixing S.G plug shutter to arrest leakages. Reconstruction of RCC Barrel type of sluie Reparis to bodywall and abutment.								Repair of sluice, Weir repair, Provisioning of bathing ghat and fitment of measuring device.								
26	11.10.2008	Pammanendhal	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Desilting the surplus course rapairs to sluice and fixing S.G plug shutter to arrest leakages. Reconstruction of weir.								Reconstruction and repair of sluices, Weir repair, Provisioning of bathing ghat and fitment of measuring device.								
27	11.10.2008	Pontahmpuli	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Desilting the surplus course. Rpairs to sluice and fixing S.G plug shutter. Reparis to Weir.								Repair of sluices, Weir repair, Strengthening the vulnerble breached portion, Provisioning of bathing ghat and fitment of measuring device.								
28	25.11.2008	Ariamangalam	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Desilting the surplus course rapairs to sluice and fixing S.G plug shutter to arrest leakages. Reconstruction of RCC Barrel type of sluie Reparis to bodywall and abutment.			Lining of field channel work may be taken up.		Post projrct technologies, thrashing floor	Providing fodder and Imparting latest technology		Reconsturction and repair of sluices, Weir repair,Provisioning of bathing ghat and fitment of measuring device.			Command area development work proposed.		Post projrct technologies, thrashing floor	Command area development work proposed.	
29	11.10.2008	Padarnthapuli	Flood water enter into field near weir due to abstruction in surplus course. Sluice reconstruction, sluice repair, weir repair.	Desilting the surplus course rapairs to sluice and fixing S.G plug shutter to arrest leakages. Reconstruction of RCC Barrel type of sluie								Bund strengthening, Reconsturction and repair of sluices, Weir repair, Provisioning of bathing ghat and fitment of measuring device.								
30	13.03.2009	Kathakulam	Bund Strengtheneing, Reconstruction of 02 sluices, construction of sluice in ragunatha kauveri offtake, provision of bathing Ghat	Bund Strengtheneing, Reconstruction of 02 sluices, construction of sluice in ragunatha kauveri offtake, provision of bathing Ghat								Bund Strengtheneing and Reconstruction of sluices.								
31	13.03.2009	Keelasakkulam	Provision of Plug and Plug rod in existing 04 sluices and plastering and pointing of exposed surfaces.	Provision of Plug and Plug rod in existing 04 sluices and plastering and pointing of exposed surfaces.								Construction of measuring devices for sluices.								
32	24.12.2008	A Punavasal	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Field channel lining, Provision of Bathing Ghat, Requirement of retaining wall in localized breached sections	Bund strengthening, Desilting of tank, Partial repair to weir,Sluice reconstruction and repair, Construction of Bathing Ghat, Construction of retaining wall.								Bund strengthening and Sluices reconstruction.								

33	24.12.2008	Velankurichi	Bund strengthening, Weir repair, Reconstruction of sluice, Provision of bathing Ghat, field channel lining	Strengthening of tank bund, Construction of Sluice, Weir repair, Provision of bathing Ghat								Reconstruction of sluices and repair to weir.											
34	22.12.2008	Mangalam	Bund strengthening, Desilting of tank, Weir repair, Repair of sluice	Bund strengthening, Desilting of tank, Weir repair, Repair of sluice								Standardisation of bund, Weir repair, Repair of sluices.											
35	22.12.2008	Idaikulam	Bund strengthening, Sluice repair, Weir repair, Field channel lining, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Partial repair to weir, Sluice repair on 02 Nos, Construction of Bathing Ghat.								Bund strengthening, repair to weir, repair to sluices.											
36	30.12.2008	Tulukkankurichi	Bund strengthening, Weir repair, Reconstruction of sluice, Provision of bathing Ghat, Desilting of supply channel, field channel lining	Strengthening of tank bund, Construction of Sluice, Weir repair, Desilting of supply channel, Provision of bathing Ghat								Standardisation of tank bund, Reconstruction of Sluices, Weir repair, Desilting of supply channel, Provision of bathing Ghat and Fitment of measuring devices.											
37	30.12.2008	Ilanchembur	Bund strengthening, Sluice Repair, Damage of wier, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat, field channel lining	Sluice Repair, Repair of weir , Desilting of supply channel, Construction of Bathing Ghat, Construction of retaining wall.								Repair of Sluices, Weir repair, Desilting of supply channel, Provision of bathing Ghat, Protection for vulnerable breached sections and fitment of measuring devices.											
38	30.12.2008	Keelamanankarai	Sluice Repair, Damage of wier in full, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat, field channel lining	Sluice Repair, Repair of weir , Construction of Bathing Ghat, Construction of retaining wall.								Sluice Repair, Repair of weir,Construction of Bathing Ghat, Standardisation of bund partially and fitment of measuring devices.											
39	30.12.2008	Nedunkulam	Reconstruction of Sluice, Sluice Repair, Weir Repair, Lining of field channel, Widening of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat, field channel lining	Reconstruction of Sluice, Sluice Repair and fixing of SG plug Shutter, Repair to weir Apron & Body wall, Desilting of supply channel, Construction of Bathing Ghat, Construction of retaining wall.								Reconstruction of Sluice, Sluice Repair , Repair to weir, Construction of Bathing Ghat, Protection for vulnerable breached sections and fitment of measuring devices.											
40	30.12.2008	Poonkulam	Bund strengthening, Relaying of WBM road, Sluice repair, Weir repair, Desilting of supply channel, Provision of bathing Ghat, field channel lining	Strengthening of tank bund, Relaying of WBM road, Sluice repair and fixing SG Plug shutters, Weir repair, Desilting of supply channel, Provision of bathing Ghat								Standardisation of tank bund for the entire length and overlaying of WBM road, Sluice repair, Repair of weir, Provision of bathing Ghat and fitment of measuring device.											
41	19.12.2008	Selvanoor	Bund strengthening, Sluice Repair and reconstruction, Repair of wier, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat, field channel lining	Bund strengthening, Desilting of tank,Sluice Repair 09 Nos, Sluice reconstruction 04 Nos, Repair of weir , Desilting of supply channel, Construction of retaining wall, Construction of Bathing Ghat.								Part of bund strengthening, Repair & Reconstruction of sluices, Weir repair, Construction of measuring device and bathing Ghat. Provision made for casing soil for frequent breach portion for a length of 40m.											
42	17.12.2008	Kaduhusandhai	Bund strengthening, Desilting of tank,, Sluice Repair, Damage of wier in full, Desilting of supply channel, Obstruction to road by sliding bund's earth, field channel lining	Bund strengthening, Desilting of tank,Sluice Repair, Repair of weir , Desilting of supply channel, Construction of retaining wall.			Lining of field channel work may be taken up		Post project technologies, threshing floor	Providing fodder and Imparting latest technology		Standardisation of tank bund, Repair & Reconstruction of sluices, Weir repair, Construction of measuring device and bathing Ghat. Provision made for casing soil for frequent breach portion for a length of 40m.			Command area development work proposed		Post project technologies, threshing floor	Post project technologies, threshing floor	
43	22.12.2008	Kannanpoduvan	Nil	Nil								Nil											

44	19.12.2008	Nattan	Bund strengthening, Desilting of tank, Weir repair, Reconstruction of sluice, Repair of sluice, field channel lining, localized breach, Desilting of supply channel	Strengthening of tank bund, Sluice reconstction 01 No, Repair to sluice and fixing of SG Plug shutter to arrest leakage, Repair of body wall in weir, Construction of retaining wall, Desilting of supply channel								Standardisation of tank bund, Repair & Reconstruction of sluices, Weir repair, Construction of measruing devices.											
45	19.12.2008	Panaikulam	Bund strengthening, Desilting of tank, Weir repair, Reconstruction of sluice, Repair of sluice, field channel lining, localized breach, Provision of bathing Ghat,	Strengthening of tank bund, Sluice reconstction , Repair to sluice and fixing of SG Plug shutter to arrest leakage, Repair of body wall in weir, Construction of retaining wall, Provision of bathing Ghat,								Standardisation of tank bund, Repair & Reconstruction of sluices, Weir repair, Construction of measruing devices and bathing ghat.											
46	19.12.2008	Orivayal	Bund strengthening, Desilting of tank,, Sluice Repair, Damage of wier in full, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat, field channel lining	Bund strengthening, Desilting of tank,Sluice Repair, Repair of weir , Desilting of supply channel, Construction of Bathing Ghat, Construction of retaining wall.								Standardisation of tank bund, Repair & Reconstruction of sluices, Weir repair, Construction of measruing devices and bathing ghat.											
47	24.12.2008	Purasankulam	Bund strengthening, Sluice Repair and reconstruction, Repair of wier, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Sluice reconstruction 03 Nos, Repair of weir , Desilting of supply channel, Construction of retaining wall, Construction of Bathing Ghat.								Bund strengthening, Desilting of tank, Sluices reconstruction, repair of weirs, Construction of Bathing Ghat and measuring devices.											
48	17.02.2008	Poothankudi	Bund strengthening, Sluice Repair and reconstruction, Repair of wier, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat	Desilting of supply channel, Construction of Bathing Ghat.								Sluice reconstruction and Repair of weir.											
49	24.12.2008	Paduvanendal	Bund strengthening, Sluice Reconstruction, Weir repair, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Partial repair to weir,Sluice reconstruction 03 Nos, Desilting of supply channel, Construction of retaining wall, Construction of Bathing Ghat.								Bund strengthening, Desilting of tank, Repair to weir, Reconstruction of sluices, Construction of Bathing Ghat & measuring devices. Provision made for casing soil for frequent breach portion for a length of 40m											
50	19.12.2008	Kadayankulam	Bund strengthening, Desilting of tank, Weir repair, Reconstruction of sluice, Repair of sluice	Bund strengthening, Desilting of supply channel, Weir repair								Standardisation of bund, Desilting of tank, Weir repair, Construction of bathing ghat.											
51	17.12.2008	Meenankudi	Bund strengthening, Sluice Reconstruction, Desilting of supply channel, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Sluice reconstruction 02 Nos, Desilting of supply channel, Construction of Bathing Ghat.								Bund strengthening, Desilting of tank, Sluices reconstruction, Construction of Bathing Ghat, repair of weir and measuring devices.											
52	17.12.2008	Sathankudi	Bund strengthening, Sluice Reconstruction, Desilting of supply channel, Provision of Bathing Ghat	Sluice reconstruction 02 Nos, Desilting of supply channel.								Weir repair and construction of measuring devices.											
53	19.12.2008	Marandhai	Bund strengthening, Desilting of tank, Weir repair, Reconstruction of sluice, Repair of sluice	Weir repair, Reconstruction of sluice 01 No, Desilting of supply channel								Reconstruction of sluice and construction of measuring devices.											
54	17.12.2008	Karunkulam	Bund strengthening, Sluice Repair, Desilting of supply channel, Obstruction to road by sliding bund's earth, Provision of Bathing Ghat	Desilting of supply channel, Construction of retaining wall, Construction of Bathing Ghat.								Repair to sluices, construction bathing ghat and measuring devices. Provision made for casing soil for frequent breach portion for a length of 40m.											

55	02.12.2008	Sayalkudi	Bund strengthening, Sluice Reconstruction , Weir repair, Desilting of supply channel, Field channel lining, Provision of Bathing Ghat, Sliding of earth on road side	Bund strengthening, Sluice Reconstruction 03 Nos , Weir repair, Provision of Bathing Ghat, Construction of retaining wall (200m).			Lining of field channel work may be taken up.		Post projrct technologies, thrashing floor	Providing fodder and Imparting latest technology		Bund strengthening, Reconstruction of sluices, Weir repair,and fitment of mesuing devices.			Command area development work proposed.		Post projrct technologies, thrashing floor	Post projrct technologies, thrashing floor	
56	02.12.2008	Mookkaiyur	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Field channel lining, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Partial repair to weir,Sluice reconstruction and repair, Construction of Bathing Ghat.								Bund strengthening, Reconstruction of sluice, Weir repair,and fitment of mesuing devices.							
57	28.11.2008	Iruveli	Bund strengthening, Sluice Reconstruction and repair, Weir reconstruction 01 No and Regulator reconstruction, Field channel lining	Bund strengthening, Desilting of tank, Reconstruction of weir and regulator in full,Sluice reconstruction and repair								Reconstruction and repair of sluices, weir repair, and fitment of measuring device.							
58	28.11.2008	Avathandaikulam	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Field channel lining, Provision of Bathing Ghat, Requirement of retaining wall in localized breached sections	Bund strengthening, Desilting of tank, Partial repair to weir,Sluice reconstruction and repair, Construction of Bathing Ghat, Construction of retaining wall.								Reconstruction and Repair of Sluices, Weir repair, Protection for vulnerable breached sections and fitment of measuring devices.							
59	02.12.2008	S Vagaikulam	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Field channel lining, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Partial repair to weir,Sluice reconstruction and repair, Construction of Bathing Ghat.								Reconstruction and repair of sluices, weir repair, and fitment of measuring device.							
60	28.11.2008	S Keeranthai	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Field channel lining, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Partial repair to weir,Sluice reconstruction and repair, Construction of Bathing Ghat.								Reconstruction of sluice and fitment of mesuing devices.							
61	22.12.2008	Kadaladi	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Desilting of supply channel, Field channel lining, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Partial repair to weir,Sluice reconstruction 03 Nos (2,5 &7) and repair on 04 Nos, Desilting of supply channel, Construction of Bathing Ghat.								Reconstruction and Repair of Sluices, Weir repair, and fitment of measuring devices.							
62	22.12.2008	Karisalkulam	Bund strengthening, Sluice Reconstruction and repair, Weir repair, Desilting of supply channel, Field channel lining, Provision of Bathing Ghat	Bund strengthening, Desilting of tank, Partial repair to weir,Sluice reconstruction and repair, Desilting of supply channel, Construction of Bathing Ghat.								Repair of sluice and fitment of measuring device.							

1.5. IRRIGATION INFRASTRUCTURE

List of Anicuts

Sl. No	Anicuts	Village	Block	Taluk	District	Direct Ayacut Area in Ha	Capacity
1	Mandalamanickam	Mandalamanickam	Kamudhi	Kamudhi	Ramanathapuram	Nil	Nil
2	Gundar	Kamudhi	Kamudhi	Kamudhi	Ramanathapuram	Nil	Nil
3	Malattar	Sengapadai	Kamudhi	Kamudhi	Ramanathapuram	Nil	Nil
4	Sangarathevan	Kovilankulam	Kamudhi	Kamudhi	Ramanathapuram	Nil	Nil

LIST OF TANKS (Separate statement for System and Non System tanks)							
Sl. No	Tank	Village	Block	Taluk	District	Direct Ayacut Area in Ha	Capacity (MCFt)
1	Kullampatty	Kullampatti	Thiruchuli	Aruppukottai	Virudhunagar	40.60.00	4.18
2	paralachi	Paralachi	Thiruchuli	Aruppukottai	Virudhunagar	193.35.00	51.00
3	Seelampatty	Seelampatti	Narikudi	Thiruchuli	Virudhunagar	78.51.00	8.11
4	Senkulam	Senkulam	Thiruchuli	Aruppukottai	Virudhunagar	56.50.00	8.02
5	Poolangal	Poolangal	Thiruchuli	Aruppukottai	Virudhunagar	74.32.00	14.94
6	Keelkudi	Keelkudi	Thiruchuli	Aruppukottai	Virudhunagar	64.63.00	20.02
7	Purasalur	Purasalur	Thiruchuli	Aruppukottai	Virudhunagar	49.98.00	10.38
8	Mandalamanickam	Mandalamanickam	Kamuthi	Kamuthi	Ramanathapuram	576.11.00	73.81
9	Marakualm Pudukulam	Marakualm	Kamuthi	Kamuthi	Ramanathapuram	41.30.00	16.72
10	Neeravi	Neeravi	Kamuthi	Kamuthi	Ramanathapuram	48.50.00	22.67
11	N Karisalkulam	N Karaisalkulam	Kamuthi	Kamuthi	Ramanathapuram	46.25.00	10.00
12	Melaramanathi	Melaramanathi	Kamuthi	Kamuthi	Ramanathapuram	50.00.00	13.45
13	Keelaramanathi	Keelaramanathi	Kamuthi	Kamuthi	Ramanathapuram	43.92.00	12.57
14	Kamuthi	Kamuthi	Kamuthi	Kamuthi	Ramanathapuram	207.16.00	45.23
15	Mudal Nadu	Muthalnadu	Kamuthi	Kamuthi	Ramanathapuram	40.99.10	17.06
16	Mustakuruchi	Mustakurichi	Kamuthi	Kamuthi	Ramanathapuram	119.56.50	34.26
17	Pappankulam	Pappankulam	Kamuthi	Kamuthi	Ramanathapuram	51.60.00	18.30
18	O.Karisalkulam	O Karisalkulam	Kamuthi	Kamuthi	Ramanathapuram	68.61.00	11.42
19	Veppankulam	K Veppankulam	Kamuthi	Kamuthi	Ramanathapuram	45.74.00	9.82
20	Kundukulam	K Veppankulam	Kamuthi	Kamuthi	Ramanathapuram	45.74.00	9.15

21	Kovilankulam	Kovilankulam	Kamuthi	Kamuthi	Ramanathapuram	105.85.00	32.73
22	Kadamangalam	Kadamangalam	Kamuthi	Kamuthi	Ramanathapuram	124.70.50	72.03
23	M Pudukkulam	M Pudukkulam	Kamuthi	Kamuthi	Ramanathapuram	140.46.00	58.68
24	Erumaikulam	Erumaikulam	Kamuthi	Kamuthi	Ramanathapuram	52.79.00	36.04
25	Poolapathi & Idivilagi	Idivilagi	Kamuthi	Kamuthi	Ramanathapuram	63.55.50	26.50
26	Pammanendhal	Pammanendal	Kamuthi	Kamuthi	Ramanathapuram	50.57.50	12.72
27	Pontahmpuli	Pondampuli	Kamuthi	Kamuthi	Ramanathapuram	104.75.10	67.57
28	Ariamangalam	Ariyamangalam	Kamuthi	Kamuthi	Ramanathapuram	78.01.00	16.02
29	Padarnthapuli	Pammanendal	Kamuthi	Kamuthi	Ramanathapuram	45.50.00	4.53
30	Kathakulam	Kathakulam	Kadaladi	Mudukulathur	Ramanathapuram	89.56.50	20.30
31	Keelasakkulam	Keelasakkulam	Kadaladi	Mudukulathur	Ramanathapuram	54.77.00	10.84
32	A Punavasal	A Punavasal	Kadaladi	Kadaladi	Ramanathapuram	116.92.00	11.50
33	Velankurichi	A Punavasal	Kadaladi	Kadaladi	Ramanathapuram	43.85.00	4.74
34	Mangalam	K Veppankulam	Kadaladi	Kadaladi	Ramanathapuram	63.59.50	16.50
35	Idaikulam	K Veppankulam	Kadaladi	Kadaladi	Ramanathapuram	52.36.50	71.00
36	Tulukkankurichi	Kandilan	Kadaladi	Mudukulathur	Ramanathapuram	44.64.00	9.54
37	Ilanchembur	Ilanchembur	Kadaladi	Mudukulathur	Ramanathapuram	320.49.00	60.00
38	Keelamanankarai	Kandilan	Kadaladi	Mudukulathur	Ramanathapuram	42.44.50	7.34
39	Nedunkulam	Oruvanendhal	Kadaladi	Kadaladi	Ramanathapuram	49.14.50	7.37
40	Poonkulam	Enathi	Kadaladi	Mudukulathur	Ramanathapuram	79.65.00	10.31
41	Selvanur	Selvanur	Kadaladi	Kadaladi	Ramanathapuram	395.95.00	162.92
42	Kaduhusandai	Kadugusanthai	Kadaladi	Kadaladi	Ramanathapuram	43.88.50	11.76
43	Kannan Poduvan	K Veppankulam	Kadaladi	Kadaladi	Ramanathapuram	47.84.50	7.20
44	Nattan kulam	A Punavasal	Kadaladi	Kadaladi	Ramanathapuram	41.71.50	10.89

45	Panaikulam	Orivayal	Kadaladi	Kadaladi	Ramanathapuram	91.54.50	12.15
46	Orivayal	Orivayal	Kadaladi	Kadaladi	Ramanathapuram	154.36.00	15.49
47	Purasankulam	Kadaladi	Kadaladi	Kadaladi	Ramanathapuram	42.94.50	11.40
48	Poothankudi	Kadaladi	Kadaladi	Kadaladi	Ramanathapuram	48.23.00	8.65
49	Paduvanendhal	A Punavasal	Kadaladi	Kadaladi	Ramanathapuram	46.15.00	13.44
50	Kadayankulam	Meenankudi	Kadaladi	Kadaladi	Ramanathapuram	45.81.00	9.25
51	Meenankudi	Meenankudi	Kadaladi	Kadaladi	Ramanathapuram	78.16.50	20.38
52	Sathankudi	Meenankudi	Kadaladi	Kadaladi	Ramanathapuram	45.365.00	9.83
53	Marandhai	Marandhai	Kadaladi	Kadaladi	Ramanathapuram	230.70.50	71.34
54	Karunkulam	Kadaladi	Kadaladi	Kadaladi	Ramanathapuram	61.59.00	12.51
55	Sayalkudi	Sayalkudi	Kadaladi	Kadaladi	Ramanathapuram	205.27.00	268.70
56	Mookkaiyur	Mookkaiyur	Kadaladi	Kadaladi	Ramanathapuram	57.70.00	52.30
57	Iruveli	Iruveli	Kadaladi	Kadaladi	Ramanathapuram	56.39.50	41.20
58	Avadhandaikulam	Avadhandaikulam	Kadaladi	Kadaladi	Ramanathapuram	62.73.00	53.00
59	S.Vagaikulam	S Vagaikulam	Kadaladi	Kadaladi	Ramanathapuram	52.86.00	76.00
60	S.Keerandhai	S Keerandhai	Kadaladi	Kadaladi	Ramanathapuram	43.21.50	66.00
61	Kadaladi	Kadaladi	Kadaladi	Kadaladi	Ramanathapuram	47.92.00	27.60
62	Karisalkulam	Kadaladi	Kadaladi	Kadaladi	Ramanathapuram	43.89.50	11.60
					Total	**5592.86.90**	

List of tanks/Anicuts executed under various schemes (Viz, Part II Scheme, NABARD, WRCP I etc.,) since 2000.

Sl.No.	Name of Anicut / Tank	Ayacut	Scheme in which executed	Amount in lakhs	Details of components executed	Remarks
1	Nedunkulam	49.14.5	IWRM/ ESTIMATE Rs. 428.54 Lakhs DR No.18CE/MDU/2003-04	11.91	Tank Bund,Reconstruction of sluice, Lining of field channel, Cattle feed Pond	
2	Marandhai	230.70.5		25.12	Tank Bund,Reconstruction of sluice,Weir repair, Lining of field channel, Cattle feed Pond	
3	Sathankudi	45.365		8.31	Tank Bund,Reconstruction of sluice,Lining of field channel, Cattle feed Pond	
4	Panaikulam	91.54.5		10.99	Tank Bund,Reconstruction of sluice,Lining of field channel, Cattle feed Pond	
5	Selvanur	395.95		50.23	Tank Bund,Reconstruction of sluice,Lining of field channel, Cattle feed Pond	
6	Kannan Poduvan	47.84.5	IWRM ESTIMATE Rs. 342.63 Lakhs CR No.28CE/WRO/MDU/2005-06	8.35	Tank Bund,Reconstruction of sluice,Lining of field channel, Cattle feed Pond	
7	Pappankulam	51.60.00	IWRM/ ESTIMATE Rs.136.4 Lakhs CR No.26CE/MDU/2003-04	26.71	Tank Bund,Supply Channel, Reconstruction and repair of sluice,Reconstruction of weir, Lining of field channel, Cattle feed Pond	
8	O.Karisalkulam	68.61.00		9	Tank Bund,Supply Channel, Repair of sluice,Cattle feed Pond	

9	Poolapathi	63.55.5		27.52	Tank Bund,Supply Channel, Reconstruction of sluice,Reconstruction of weir, Lining of field channel, Cattle feed Pond	
10	Keelaramanathi	43.92		14.99	Tank Bund,Supply Channel, Repair of sluice,Lining of field channel, Cattle feed Pond	
11	Pappanam	54.15.5	IWRM/ ESTIMATE Rs.165.22 Lakhs CR No.29CE/MDU/2005-06	7.03	Tank Bund,Reconstruction of sluice,Lining of field channel, Cattle feed Pond	
12	Mustakurichi	119.56.5	NABARD/ ESTIMATE Rs.36.84 Lakhs CR No.5SE/VBC/2000-01	36.84	Tank Bund,Repair of sluice,Repair of weir	
13	Paralachi	193.35	Restoration and Deepening Programme for traditional irrigation tank/ Plan-II Estimate Rs. 167.05 Lakhs CR NO: 10CE/WRO/MDU/2005-06	29.01	Tank Bund,Supply Channel, Reconstruction and repair of sluice,Lining of field channel	
14	Poolangal	74.32		11.58	Supply Channel, Repair of sluice,Lining of field channel	
15	Karungulam	61.59	Restoration and Deepening Programme for traditional irrigation tank/ Plan-II Estimate Rs. 56.33 Lakhs CR NO: 12SE/VBC/2005-06	14.07	Tank Bund,Reconstruction of sluice, Lining of field channel	
16	Boothankudi	48.23		11.19	Tank Bund,Reconstruction of sluice, Lining of field channel	
17	Neeravi	48.5	NABARD/ ESTIMATE Rs.42.09 Lakhs CR No.16SE/VBC/2005-06	12.13	Repair of sluice,Repair of weir, Gravel over road, Rough stone packing	
18	Purasalur	49.98	NABARD/ RIDF-X	11.09	Lining of field channel, Construction of retaining wall, repair to sluice and weir repairs	

19	Sengulam	56.5	NABARD/ RIDF-X	12.8	Lining of field channel, Reconstruction of sluice and leading channels for 05 sluices, renovation of surplus coarse.	
20	Keelasakkulam	54.77.00	IWRM/ Phase-I, ESTIMATE Rs.428.54 Lakhs CR No.18CE/2003-04	14.32	Tank Bund, Sluice reconstruction 01,02, Field channel lining for 05 sluices each 70 m length	
21	Kathakulam	89.56.5	IWRM/ Phase-I, ESTIMATE Rs.428.54 Lakhs CR No.18CE/2003-04	15.68	Tank Bund, Sluice reconstruction 04Nos, Field channel lining for 04 sluices each 63 m length	
22	Malattar Anicut	---	NABARD RIDF-IX	4200	Construction of anicut, formation of left and right main and distributory canals and constructin of allied C.D works.	

COMPONENTS PROPOSED IN IAMWARM PROJECT IN THE TANKS THAT HAVE BEEN EXECUTED AFTER 2000

Sl.No	Name of Tanks/ Anicut	Components executed under Various Schemes	Components proposed new in I AM WARM Project
1	Nedunkulam	Tank Bund,Reconstruction of sluice, Lining of field channel, Cattle feed Pond	Reconstruction of Sluice, Sluice Repair , Repair to weir, Construction of Bathing Ghat, Protection for vulnerable breached sections and fitment of measuring devices.
2	Marandhai	Tank Bund,Reconstruction of sluice,Weir repair, Lining of field channel, Cattle feed Pond	Reconstruction of sluice and construction of measuring devices.
3	Sathankudi	Tank Bund,Reconstruction of sluice,Lining of field channel, Cattle feed Pond	Weir repair and construction of measuring devices.
4	Panaikulam	Tank Bund,Reconstruction of sluice 2Nos Lining of field channel, Cattle feed Pond	Standardisation of tank bund, Repair & Reconstruction of sluices, Weir repair, Construction of measruing devices and bathing ghat.
5	Selvanur	Tank Bund,Reconstruction of sluice 10Nos,Lining of field channel, Cattle feed Pond	Part of bund strengthening, Repair & Reconstruction of sluices, Weir repair, Construction of measuring device and bathing Ghat. Provision made for casing soil for frequent breach portion for a length of 40m.
6	Kannan Poduvan	Tank Bund,Reconstruction of sluice,Lining of field channel, Cattle feed Pond	Nil works undertaken in IAMWARM
7	Pappankulam	Tank Bund,Supply Channel, Reconstruction and repair of sluice,Reconstruction of weir, Lining of field channel, Cattle feed Pond	Repair of sluice, Strengthening the vulnerble breached portion and fitment of measuring device.
8	O.Karisalkulam	Tank Bund,Supply Channel, Repair of sluice,Cattle feed Pond	Bund strengthening, Repair of sluice, Repair of weir and fitment of measuring device.
9	Poolapathi	Tank Bund,Supply Channel, Reconstruction of sluice,Reconstruction of weir, Lining of field channel, Cattle feed Pond	Repair of sluice, Weir repair, Provisioning of bathing ghat and fitment of measuring device.
10	Keelaramanathi	Tank Bund,Supply Channel, Repair of sluice,Lining of field channel, Cattle feed Pond	Bund strengthening, Repair of sluice, Repair of weir, Provision of bathing ghat and fitment of measuring device.
11	Mustakurichi	Tank Bund,Repair of sluice,Repair of weir	Bund strengthening, Reconstruction and repair of sluices, Repair of weir and fitment of measuring device.

12	Paralachi	Tank Bund,Supply Channel, Reconstruction and repair of sluice,Lining of field channel	Sluice Reconstruction, Sluice Repair, Erection of boundary stones and fitment of measuring device.
13	Poolangal	Supply Channel, Repair of sluice,Lining of field channel	Bund strengthening, Sluice repairs, Repair of weir and fitment of measuring device.
14	Karungulam	Tank Bund,Reconstruction of sluice, Lining of field channel	Repair to sluices, construction bathing ghat and measuring devices. Provision made for casing soil for frequent breach portion for a length of 40m.
15	Boothankudi	Tank Bund,Reconstruction of sluice, Lining of field channel	Sluice reconstruction and Repair of weir.
16	Neeravi	Repair of sluice,Repair of weir, Gravel over road, Rough stone packing	Bund strengthening, Repair of weir, Provision of bathing ghat and fitment of measuring device.
17	Keelasakkulam	Tank Bund, Sluice reconstruction 01,02, Field channel lining for 05 sluices each 70 m length	Construction of measuring devices for sluices.
18	Kathakulam	Tank Bund, Sluice reconstruction 04Nos, Field channel lining for 04 sluices each 63 m length	Bund Strengtheneing and Reconstruction of sluices.
19	Purasalur	Lining of field channel, Construction of retaining wall, repair to sluice and weir repairs	Bund strengthening, Sluice repairs and fitment of measuring devices.
20	Sengulam	Lining of field channel, Reconstruction of sluice and leading channels for 05 sluices, renovation of surplus coarse.	Bund strengthening, Reconstruction of Sluice, Repair of sluices, Repair of weir and fitment of measuring device.
21	Malattar Anicut	Construction of anicut, formation of left and right main and distributory canals and constructin of allied C.D works.	---

Abstract on the details of irrigation infrastructure available and works takeup under IAMWARM project

Name of Sub Basin: Lower Gundar

Sl.No	Details	ANICUT			SYSTEM TANK			NON- SYSTEM TANK			ANY OTHER SUPPLY CHANNEL		REMARKS
		Nos	supply channel in KM	DIRECT AYACUT	Nos	supply channel in KM	AYACUT	NOS	supply channel in KM	AYACUT in Ha	Length	direct ayacut	
1	Available Infrastructure in sub basin	4	60.25	Nil	Nil			62	143.37	5592.86.9	Nil		The tanks executed under various schemes after 2000 (except Kannanpoduvan tank) are also included in this project for the cause of some of the components were not taken up for improvement in the earlier schemes.
2	Infrastructure carried out under various schemes from 2000	1	10.55	Nil				21	52.17	1938.76.50			
3	Infrastructures that does not require any rehabilitation works	Nil	36.63	Nil				Nil	86.10	Nil			
4	Works taken up in iamwarm project	3	13.07	Nil				61	5.10	5545.02.4			
4(a)	Works executed in other schemes but also proposed in IAMWARM Project	Nil	Nil	Nil	Nil	Nil	Nil	20	Nil	1890.92.0	Nil	Nil	Nil
4(b)	Works proposed in IAMWARM project alone	3	13.07	Nil	Nil	Nil	Nil	41	5.10	3654.10.4	Nil	Nil	Nil
	Total	3	13.07	Nil	Nil	Nil	Nil	61	5.10	5545.02.4	Nil	Nil	Nil

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

2. Certified that the tanks and their components executed under various schemes (Viz, WRCP I, NABARD, PART II schemes etc.,) since 2000 were not proposed in this project.

1.6. REHABILITATION OF IRRIGATION INFRASTRUCTURE

PRESENT STATUS OF THE SYSTEM

2.1 General

The deficiencies in the structure and functions of irrigation network caused the inefficient functioning of the Lower Gundar sub basin and creates hardship to the farming community.

2.2 System deficiency:

In most of the command areas of the channels, tanks, distribution are taken up to a certain limit only. Beyond this, the water is left and required to be conveyed by the farmers themselves to the fields for irrigation. No technical attention is paid on the application of water to the fields. The farmers without proper awareness of irrigation, leaves most of the fields with zigzag boundaries and the field bunds are abnormal in size, which reduces the cultivable area considerably.

In this sub basin there are some un-controlled structures in damaged condition. Tanks are also required to be desilted, since for a long period, these tanks have not been desilted.

The other major problems being experienced in the Lower Gundar sub basin are as follows.

- Lack of efficiency on farm water management.
- Poor infrastructure facilities.
- Non-adoption of modern micro irrigation methods and new agricultural practices.
- Inadequate farm mechanization.
- Inadequate coordination among rural agencies, Government departments and other financial institution etc.
- Lower crop yield.
- Traditional method of farming
- Excess use of chemical fertilizers and pesticides.
- Inadequate post harvest management facilities.

2.3 Scope of the project

The Water Resources Organisation in coordination with the following Line Departments have been proposed to improve the irrigation efficiencies service delivery and productivity of irrigated agriculture with effective integrated water resources management in this sub basin. The Line departments are.

1. Agriculture Department
2. Department of Horticulture
3. Agriculture Engineering Department
4. Department of Agricultural Marketing and Agribusiness services
5. Agriculture University
6. Fisheries Department
7. Environmental cell of Water Resources Organization.
8. Ground Water wing of water Resources Organization.

2.4 Water Resources Organisation:

In order to improve the conveyance and operational efficiency, it is now proposed to improve and modernize the structural components in Lower Gundar Sub-basin.

- Reconstruction of damaged and dilapidated portions of weirs such as body wall, abutments, wing walls and return walls.
- Rectification of repairs in the scour vents and to the shutters of scour vents and sluices.
- Desilting the Supply courses.
- Providing Revetment with graded filter at the weaker sections / breached portions of tank bund for 12 tanks to a length of 688 m as per the guidelines given by the Chief Engineer, D R & C S.
- Strengthening the tank bund with free board and side slope requirements to the Indian standards.
- Reconstruction of dilapidated Sluices to bring it to the conveyance efficiencies .
- Repairs to the damaged sluices
- Providing model sections, revetments and Bathing ghats walls in selective area of the tanks
- Providing S.G. shutter / Plug arrangements to Sluices, Head sluices, Scour vents etc.,

- Removing, Repairing and refixing of existing damaged S.G. shuttering arrangements and providing locking arrangements etc., in weirs/ sluices in tanks.
- Rehabilitation and anicuts such as improvements of apron, providing skin wall and improvements of body wall and repacking of revetment etc.
- Providing measuring device to every sluices of the tank so as to measure the requisite water to the fields.
- Rehabilitation and anicuts such as improvements of apron providing skin wall and improvements of body wall and repairing or revetment etc.,

OUTCOME OF THE PROJECT

1. The conveyance efficiency will be increased from 43 % to 53 %.

2. The present Gap area in the ayacut land are 986.92hec of which 722.90 hec. area are being to the cultivation. The balance area of 264.02 hec. will be kept as a prosofis.

The following irrigation infrastructures development works are proposed in this Project.

1. Rehabilitation works of 3 Nos of anicuts.

2.Rehabilitation and standardization of feeder channel from anicuts to a length of 13070 metres.

3. Rehabilitation and improvements to tank bund for 41 number of tanks to a length of 93291 metres.

4. Improvements to tank sluices for 113 numbers.

5. Reconstruction of tank sluices for 5 numbers.

6. Improvements to tank weirs for 49 numbers.

7. Reconstruction of tank weirs for 2 numbers.

8. Improvements to weaker / breached portion of tank bund by providing revetments and grade filter to 688 metres.

9. Providing 40 numbers of bathing ghat in 35 numbers of tanks.

10. Providing 241 numbers of measuring devices in 61 number of tanks.

11. Rehabilitation and standardization of supply channel to the tanks to a length of metres

Details of Proposals in each infrastructure of the sub basin

Name of Sub basin: LOWER GUNDAR																											
																		Package No: 05									
Sl.No	Name of tanks	Tank Bund			Bathing ghat		Sluice					Shutter for Sluice		Weir					Shutter for Weir		Supply Channel				Measuring device		Total Amount in Lakhs
		Total length	Proposed Length	Amount in Lakhs	Nos.	Amount in lakhs	Total No.of Sluices	Sluices to be reconstruct	Amount in Lakhs	No of Sluices to be repaired	Amount in Lakhs	Nos	Amount in Lakhs	Total No.of Weir	to be reconstruct	Amount in Lakhs	No of Weirs to be repaired	Amount in Lakhs	Nos	Amount in Lakhs	Length to be desilted (m)	Amount in Lakhs	ng for frequent breach (Length in	Amount in Lakhs	Nos	Amount in Lakhs	
1	Kullampatti	1200	1000	6.58	0	0.00	2	0	0	2	0.02	2	0.5	1	0	0	0	0	0	0	0	0	0	0	2	0.66	7.76
2	Seelampatti	2000	2000	12.92	0	0.00	2	0	0	2	1.81	2	0.5	1	0	0	1	3.82	0	0	0	0	0	0	2	0.66	19.71
3	Paralachi	4330	100	1.23	0	0.00	5	2	14.02	1	0.82	2	0.5	1	0	0	0	0	0	0	0	0	0	0	5	1.74	18.31
4	Senkulam	1975	1975	12.50	0	0.00	6	1	4.31	4	1.26	0	0	1	0	0	1	0.36	0	0	0	0	0	0	6	2.11	20.54
5	Poolangal	2745	2745	16.18	0	0.00	3	0	0	3	1.28	0	0	1	0	0	1	0.28	0	0	0	0	0	0	3	1.06	18.80
6	Keelkudi	2135	935	6.11	0	0.00	3	1	9.4	2	1.91	0	0	1	0	0	1	1.99	0	0	0	0	0	0	3	1.06	20.47
7	Purasalur	3200	3200	16.34	0	0.00	4	0	0	2	2.63	0	0	1	0	0	0	0	0	0	0	0	0	0	4	1.4	20.37
8	Kamuthi	3290	3290	22.62	1	1.36	7	0	0	0	0	5	1.75	1	0	0	1	2.23	0	0	0	0	0	0	7	1.52	29.48
9	M Pudukkulam	1200	1200	7.97	1	1.36	3	0	0	0	0	3	1.05	1	0	0	1	0.85	0	0	1500	3.5	0	0	3	0.65	15.34
10	Mandalamanickam	6850	6850	41.38	1	1.36	6	0	0	0	0	6	2.1	1	0	0	1	0.24	0	0	0	0	150	10.66	6	1.3	54.87
11	Keelaramanathi	2470	2470	17.87	1	1.36	6	0	0	0	0	6	2.1	1	0	0	1	1.23	0	0	0	0	0	0	6	0.87	23.43
12	Neeravi	2590	2590	19.31	1	1.36	4	0	0	0	0	0	0	1	0	0	1	3.45	0	0	0	0	0	0	4	0.86	24.98
13	N Karisalkulam	2040	2040	22.62	1	1.36	2	0	0	0	0	2	0.7	1	0	0	1	1.24	0	0	0	0	0	0	2	0.43	26.35
14	Melaramanathi	2680	2680	20.02	1	1.36	4	0	0	0	0	4	1.4	1	0	0	0	0	0	0	0	0	0	0	4	0.87	25.94
15	Mudalnadu	2590	2590	15.21	0	0.00	3	1	2.89	0	0	1	0.35	1	0	0	1	0.09	0	0	0	0	0	0	3	0.75	19.29
16	Mustakurichi	2195	2195	14.19	0	0.00	5	1	2.63	4	3.78	1	0.35	1	0	0	1	0.11	0	0	0	0	0	0	5	1.25	22.31
17	Pappankulam	5060	0	0.00	0	0.00	3	0	0	3	1.13	0	0	1	0	0	0	0	0	0	0	0	40	0.74	3	0.75	2.62
18	O Karisalkulam	3630	3630	20.56	0	0.00	5	0	0	5	2.78	0	0	1	0	0	1	0.9	0	0	0	0	0	0	5	1.25	25.49
19	K Veppankulam	2195	0	0.00	1	1.37	4	1	2.63	3	2.31	1	0.35	1	0	0	0	0	0	0	0	0	0	0	4	1	7.66
20	Kundukulam	2010	2010	11.67	0	0.00	2	0	0	2	2.19	0	0	1	0	0	1	0.7	0	0	0	0	40	0.95	2	0.5	15.92
21	Kovilankulam	3810	3810	21.68	0	0.00	5	0	0	5	3.3	0	0	1	0	0	1	0.09	0	0	0	0	0	0	5	1.25	26.32
22	Kadamangalam	3660	1100	7.54	2	3.84	5	2	8.99	3	2.36	5	1.25	1	0	0	1	10.29	4	2.6	0	0	40	1.16	5	1.29	39.32
23	M.Pudukulam	5450	5450	36.20	1	1.92	5	2	4.32	3	1.59	5	1.25	1	0	0	1	1.91	0	0	0	0	0	0	5	1.29	48.48
24	Padarndapuli	1430	1100	6.09	1	1.92	2	1	2.16	1	0.07	2	0.5	1	0	0	1	3.89	0	0	0	0	0	0	2	0.56	15.19
25	Poolapathi Idivilagi	3500	0	0.51	1	1.92	6	0	0	6	0.42	6	1.5	1	0	0	1	4.28	2	1.3	0	0	0	0	6	1.49	11.42
26	Pondampulli	4750	0	0.66	1	1.92	3	0	0	3	2.85	3	0.75	1	0	0	1	2.41	0	0	0	0	40	1.04	3	0.76	10.40
27	Pammenendal	2130	0	0.37	1	1.92	4	1	2.21	3	1.48	4	1	1	0	0	1	2.88	0	0	0	0	0	0	4	1.04	10.90
28	Ariyamangalam	2590	0	0.40	1	1.92	5	2	4.41	0	0	5	1.25	1	0	0	1	3.86	0	0	0	0	0	0	5	1.29	13.13
29	Erumaikulam	2560	0	0.37	1	1.92	4	2	4.3	0	0	4	1	1	0	0	0	0	0	0	0	0	0	0	4	1.06	8.65
30	Kathakulam	3962	3962	24.48	0	0.00	4	2	5.86	0	0	2	0.7	1	0	0	0	0	0	0	0	0	0	0	4	1.39	32.43
31	Keelasakkulam	2560	0	0.00	0	0.00	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	1.73	1.73
32	Tulukkankurichi	1905	1905	16.11	1	1.35	5	2	5.86	0	0	2	0.7	1	0	0	1	2.66	0	0	600	0.6	0	0	5	1.73	29.04

33	Ilanchembur	5486	0	0.00	1	1.35	6	0	0	4	0.27	2	0.7	1	0	0	1	0.58	0	0	3000	3	40	0.94	6	2.08	8.96
34	Keelamanankarai	1600	300	2.21	1	1.35	3	0	0	1	0.66	1	0.35	1	0	0	1	3.34	0	0	0	0	0	0	3	1.04	8.95
35	Nedunkulam	2200	600	4.37	1	1.35	4	2	5.85	2	1.32	4	1.4	1	0	0	1	2.98	0	0	0	0	40	0.49	4	1.39	19.16
36	Poonkulam	1798	1798	22.24	1	1.35	3	0	0	3	1.98	3	1.05	1	0	0	1	2.66	0	0	0	0	0	0	3	1.04	30.32
37	Punavasal	3688	3688	22.99	0	0.00	4	2	5.2	0	0	2	0.7	1	0	0	0	0	0	0	0	0	0	0	4	1.4	30.29
38	Velankurichi	1465	0	0.00	0	0.00	2	2	5.9	0	0	2	0.7	1	0	0	1	3.06	0	0	0	0	0	0	2	0.7	10.36
39	Idaikulam	890	890	8.29	0	0.00	2	0	0	2	1.33	2	0.7	1	0	0	1	0.03	0	0	0	0	0	0	2	0.7	11.05
40	Mangalam	1768	1768	13.77	0	0.00	2	0	0	2	1.33	2	0.7	1	0	0	1	0.03	0	0	0	0	0	0	2	0.7	16.53
41	Nattan	1988	1988	13.29	0	0.00	2	1	2.32	1	0	2	0.7	1	0	0	1	0.79	0	0	0	0	0	0	2	0.52	17.62
42	Panaikulam	1830	1830	12.38	1	1.45	4	1	3.01	3	1.64	4	1.4	1	0	0	1	1.59	0	0	0	0	0	0	4	1.05	22.52
43	Orivayal	2438	2438	19.78	1	1.60	4	1	2.32	3	2.9	4	1.4	1	0	0	1	0.65	0	0	0	0	0	0	4	1.05	29.70
44	Kadugusandhai	1350	1350	10.48	1	1.45	4	1	3.01	3	0.98	4	1.4	2	0	0	2	3.16	0	0	0	0	40	0.86	4	1.05	22.39
45	Selvanoor	7296	3000	23.40	2	2.84	13	3	7.99	9	6.7	12	4.2	2	0	0	2	1.97	0	0	0	0	40	0.96	13	3.41	51.47
46	Purasankulam	1585	1585	15.00	1	1.38	3	1	2.41	2	1.05	3	1.05	1	0	0	1	0.8	0	0	0	0	0	0	3	0.76	22.45
47	Paduvanendhal	1600	1600	12.74	2	2.76	3	3	8.25	0	0	3	1.05	1	0	0	1	4.2	0	0	0	0	40	1.05	3	0.76	30.81
48	Kadayankulam	1037	1037	8.49	2	2.76	2	0	0	0	0	0	0	1	0	0	1	4.39	0	0	0	0	0	0	2	0.5	16.14
49	Meenankudi	2682	2682	26.06	1	1.38	2	2	5.5	0	0	2	0.7	1	0	0	1	4.34	0	0	0	0	0	0	2	0.5	38.48
50	Sathankudi	1480	0	0.00	0	0.00	2	0	0	0	0	0	0	1	0	0	1	4.06	0	0	0	0	0	0	2	0.5	4.56
51	Karunkulam	2758	0	0.00	2	2.76	4	0	0	4	2.14	4	1.4	1	0	0	0	0	0	0	0	0	40	0.73	4	1.01	8.04
52	Marandhai	5480	0	0.00	0	0	3	1	2.75	0	0	1	0.35	1	0	0	0	0	0	0	0	0	0	0	3	0.76	3.86
53	Poothankudi	1520	0	0.00	0	0	3	1	2.75	0	0	1	0.35	1	0	0	1	4.24	0	0	0	0	0	0	3	0.76	8.10
54	Sayalkudi	3444	3090	30.73	1	1.65	3	3	9.74	0	0	3	1.05	2	0	0	2	1.07	3	2	0	0	0	0	3	0.77	46.96
55	Mookkiyur	2820	2820	17.61	1	1.10	3	2	3.99	1	0	3	1.05	1	0	0	1	0.42	0	0	0	0	0	0	3	0.76	24.93
56	S.keeranthai	1091	0	0.00	1	1.27	4	1	2.48	0	0	1	0.35	1	0	0	0	0	0	0	0	0	0	0	4	1.02	5.12
57	Irruveli	2360	0	0.00	0	0.00	6	2	5.62	4	3.16	6	2.1	3	2	12.5	0	0	3	2.9	0	0	0	0	6	1.53	27.78
58	S.Vagaigulam	2212	0	0.00	1	1.27	5	2	7.00	3	3.59	5	1.75	1	0	0	1	1.27	0	0	0	0	0	0	5	1.27	16.15
59	Avathandaikulam	2896	0	0.00	1	1.27	4	1	2.37	3	0.99	4	1.4	1	0	0	1	2.44	0	0	0	0	38	1.79	4	1.02	11.28
60	Kadaladi	1600	0	0.00	0	0.00	7	3	6.88	4	3.41	7	2.45	1	0	0	1	0.76	0	0	0	0	0	0	7	1.78	15.28
61	Karisalkulam	1850	0	0.00	0	0.00	2	0	0	2	0.91	2	0.7	1	0	0	0	0	0	0	0	0	0	0	2	0.51	2.12
		164904	93291	663.52	40	59.86	241	56	169.33	113	68.35	162	52.7	66	2	12.5	49	98.59	12	8.8	5100	7.1	688	21.37	241	65.91	1228.03

TANK DETAILS WITH FREE BOARD PROVIDED

Sl.No	Name of the Tank	Maximum Height of Bund	Free Board		Length of Bund
			Provided previously	Provided now	
1	Kullampatti	2.900	1.0	1.25	1200
2	Seelampatti	3.500	1.0	1.50	2000
3	Senkulam	3.130	1.0	1.50	1995
4	Poolangal	3.880	1.0	1.50	2745
5	Keelkudi	3.480	1.0	1.50	2135
6	Purasalur	3.600	1.0	1.50	3200
7	Mandalamanickam	3.500	1.0	1.50	6850
8	Marakualm Pudukulam	2.200	1.0	1.25	1200
9	Neeravi	2.410	1.0	1.25	2590
10	N Karaisalkulam	3.290	1.0	1.50	2040
11	Melaramanathi	3.940	1.0	1.50	2680
12	Keelaramanathi	3.430	1.0	1.50	2470
13	Kamuthi	3.400	1.0	1.50	3290
14	Muthalnadu	3.750	1.0	1.50	2590
15	Mustakurichi	4.100	1.0	1.50	2195
16	Pappankulam	4.000	1.0	1.50	5060
17	O Karisalkulam	2.800	1.0	1.25	3630
18	Veppankulam	3.367	1.0	1.50	2195
19	Kundukulam	3.175	1.0	1.50	2010
20	Kovilankulam	3.440	1.0	1.50	3810
21	Kadamangalam	3.420	1.0	1.50	3660
22	M Pudukkulam	3.150	1.0	1.50	5450
23	Pammanendal	3.115	1.0	1.50	2130
24	Padanthapuli	3.210	1.0	1.50	1430
25	Kathakulam	3.045	1.0	1.50	3962
26	Punavasal	4.080	1.0	1.50	3688
27	Velankurichi	2.975	1.0	1.25	1485
28	Mangalam	2.860	1.0	1.25	1768
29	Idaikulam	3.600	1.0	1.50	890
30	Tulukkankurichi	3.500	1.0	1.50	1905

31	Poonkulam	1.610	1.0	1.25	1798
32	Selvanur	4.510	1.0	1.50	7296
33	Kadugusanthai	1.600	1.0	1.25	1350
34	Nattankulam	3.140	1.0	1.50	1988
35	Panaikulam	3.580	1.0	1.50	1830
36	Orivayal	2.800	1.0	1.25	2438
37	Purasankulam	3.430	1.0	1.50	1585
38	Paduvanendhal	3.280	1.0	1.50	1600
39	Kadayankulam	1.600	1.0	1.25	1037
40	Meenankudi	3.450	1.0	1.50	2682
41	Sayalkudi	4.690	1.0	1.50	3444
42	Mookkaiyur	2.960	1.0	1.25	2820
43	Avadhandaikulam	3.76	1.0	1.50	2896
44	Karisalkulam	3.150	1.0	1.50	1850

Out of 62 tanks, free board standardisation are not given for 18 tanks since the component of bund standardisation is not proposed for these tanks to the entire length.

B. WRO COST TABLE

Sl. No	Description of work	Quantity	Amount in Lakhs	Remarks
I. Tank Component				
	Bund	93291 m	663.52	
	Sluice Reconstruction	56	169.33	
	Sluice Repair	113	68.35	
	Weir Reconstruction	2	12.50	
	Weir Repair	49	98.59	
	Protection of vulnerable breached sections	688m	21.37	
	Construction of Bathing Ghat	40	59.86	
	Supply Channel	5100m	7.10	
	Shutter for sluice	162	52.70	
	Shutter for weir	12	8.80	
	Measuring Device	241	65.91	
	Anicut	3 Nos	96.51	
	Sub Total		**1324.54**	
	Environment cell		7.0	
	Ground water		0	
	Total		**1331.54**	

1). Tank component		**1324.54**	Lakhs
2). Non-Tank component		**-**	Lakhs
Environment cell		**7.00**	Lakhs
	Total	**1331.54**	lakhs

Package – 1		
Sl. No.	**Name of Tank / Anicut**	**Amount in Lakhs**
1	Kullampatti	7.76
2	Paralachi	18.31
3	Seelampatti	19.71
4	Senkulam	20.54
5	Poolangal	18.80
6	Keelkudi	20.47
7	Purasalur	20.37
	Sub Total	**125.96**
Package -2		
Sl. No.	**Name of Tank / Anicut**	**Amount in Lakhs**
1	Mandalamanickam	54.87
2	Marakualm Pudukulam	15.34
3	Neeravi	24.98
4	N Karaisalkulam	26.35
5	Melaramanathi	25.94
6	Keelaramanathi	23.43
7	Kamuthi	29.48
	Total	**200.39**
Package -3		
Sl. No.	**Name of Tank / Anicut**	**Amount in Lakhs**
1	Muthalnadu	19.29
2	Mustakurichi	22.31
3	Pappankulam	2.62
4	O Karisalkulam	25.49
5	Veppankulam	7.66
6	Kundukulam	15.92
7	Kovilankulam	26.32
	Total	**119.61**
Package -4		
Sl. No.	**Name of Tank / Anicut**	**Amount in Lakhs**
1	Kadamangalam	39.32
2	M Pudukkulam	48.48
3	Erumaikulam	8.65
4	Poolapathi & Idivilagi	11.42
5	Pammanendal	10.90
6	Pondampuli	10.40
7	Ariyamangalam	13.13
8	Padanthapuli	15.19
	Total	**157.49**

Package – 5		
Sl. No.	**Name of Tank / Anicut**	**Amount in Lakhs**
1	Kathakulam	32.43
2	Keelasakkulam	1.73
3	Punavasal	30.29
4	Velankurichi	10.36
5	Mangalam	16.53
6	Idaikulam	11.05
7	Tulukkankurichi	29.04
8	Ilanchembur	8.96
9	Keelamanankarai	8.95
10	Nedunkulam	19.16
11	Poonkulam	30.32
12	Selvanur	51.47
13	Kadugusanthai	22.39
14	Kannanpoduvan	0.00
15	Nattankulam	17.62
16	Panaikulam	22.52
17	Orivayal	29.70
18	Purasankulam	22.45
19	Poothankudi	8.10
20	Paduvanendhal	30.81
21	Kadayankulam	16.14
22	Meenankudi	38.48
23	Sathankudi	4.56
24	Marandhai	3.86
25	Karunkulam	8.04
26	Sayalkudi	46.96
27	Mookkaiyur	24.93
28	Iruveli	27.78
29	Avadhandaikulam	11.28
30	S Vagaikulam	16.15
31	S Keerandhai	5.12
32	Kadaladi	15.28
33	Karisalkulam	2.12
	Total	**624.58**

Package -6		
Sl. No.	**Name of Tank / Anicut**	**Amount in Lakhs**
1	Mandalamanickam Anicut	40.37
2	Sangarathevan Anicut	43.14
3	Gundar regulator	13.00
4	Malattar Anicut	0.00
	Total	96.51

Abstract		
Sl. No.	**Name of Package**	**Amount in Lakhs**
1	Package -1	125.96
2	Package -2	200.39
3	Package -3	119.61
4	Package -4	157.49
5	Package -5	624.58
6	Package -6	96.51
	Total	**1324.54**

PACKAGE 1
Calculation of machineries Requirement

Hydraulic excavator &			
4 Tippers / Lorries		8 Hours / Day	
	(4 No x 4 loads/ hour x 8 Hr x 4 m^3/ trip)		512 m^3 /Day
For 1 month (20 Working days)		20 x 512 m^3	10240 m^3/ month
Total quantity of earth work		1.30 Lakh Cu.M	
Working period for earth work		10 months + 3 Months rainy season	

Machineries required for earth work:

1. Hydraulic excavator - 01 nos
2. Tippers / Lorries - 04 nos
3. Power roller - 01 nos
4. Vibrated compactor - 01 nos
5. Water lorries - 01 nos

Mixer machine	2 m^3 / hour	For 6 hours / day	12 m^3 / day
Total quantity of concrete		1740 m^3	
Mixer machine required		**1 No** for 10 days / month – 6 months	
	Material conveyance	**Tippers / Lorries**	
Cement	10 mt / Trip	1 trip / day	10 mt / day
Sand	5.66 m^3 / Trip	2 trips / day	11.32m^3 /day
Metal / stone	5.60 m^3 / Trip	3 trips / day	16.80 m^3 /day
Total quantity of cement		400 mt	
Lorry required for conveyance		400/10	40 Lorries
Total quantity of sand		983 m^3	
Lorry required for conveyance		983/11.20	88 Lorries
Total quantity of metal		1566 m^3	
Lorry required for conveyance		1566 /16.80	93 Lorries
Total quantity of stone		200 m^3	
Lorry required for conveyance		200 /16.80	12 Lorries
Tipper / Lorries for conveyance of materials		**5 Nos** for 10 days for 06 months	

PACKAGE 2

Calculation of machineries Requirement

02 Hydraulic excavator & 08 Tippers / Lorries		8 Hours / Day	
(02x08 x 4 loads/ hour x 8 Hr x 4 m^3/ trip)			2048 /Day
For 1 month (20 Working days)		20 x 2048 m^3	40960 m^3/ month
Total quantity of earth work		2,84,000 Cu.M	
Working period for earth work		06 months + 3 Months rainy season	

Machineries required for earth work:

1. Hydraulic excavator - 02 nos
2. Tippers / Lorries - 08 nos
3. Power roller - 02 nos
4. Vibrated compactor - 02 nos
5. Water lorries - 02 nos

Mixer machine	2 m^3 / hour	For 6 hours / day	12 m^3 / day
Total quantity of concrete		350 m^3	
Mixer machine required		**3 No** for 20 days / month – 9 months	

Material conveyance		**Tippers / Lorries**	
Cement	10 mt / Trip	1 trip / day	10 mt / day
Sand	5.66 m^3 / Trip	2 trips / day	11.32m^3 /day
Metal / stone	5.60 m^3 / Trip	3 trips / day	16.80 m^3 /day
Total quantity of cement		81 mt	
Lorry required for conveyance		81/10	8 Lorries
Total quantity of sand		175 m^3	
Lorry required for conveyance		175/11.20	15 Lorries
Total quantity of metal		315 m^3	
Lorry required for conveyance		315 /16.80	18 Lorries
Total quantity of stone		810 m^3	
Lorry required for conveyance		810/16.80	48 Lorries

Tipper / Lorries for conveyance of materials — **5 Nos** for 10 days for 06 months

PACKAGE 3

Calculation of machineries Requirement

02 Hydraulic excavator & 08 Tippers / Lorries		8 Hours / Day	
	(02x08 x 3 loads/ hour x 8 Hr x 4 m^3/ trip)		1536 /Day
	For 1 month (20 Working days)	20 x 1536 m^3	30720 m^3/ month
	Total quantity of earth work	1,54,200 Cu.M	
	Working period for earth work	05 months + 3 Months rainy season	

Machineries required for earth work:

1. Hydraulic excavator - 02 nos
2. Tippers / Lorries - 08 nos
3. Power roller - 02 nos
4. Vibrated compactor - 02 nos
5. Water lorries - 02 nos

Mixer machine	2 m^3 / hour	For 6 hours / day	12 m^3 / day
Total quantity of concrete		1004 m^3	
Mixer machine required		**2 No** for 20 days / month – 6 months	

Material conveyance		**Tippers / Lorries**	
Cement	10 mt / Trip	1 trip / day	10 mt / day
Sand	5.66 m^3 / Trip	2 trips / day	11.32m^3 /day
Metal / stone	5.60 m^3 / Trip	3 trips / day	16.80 m^3 /day
Total quantity of cement		230 mt	
Lorry required for conveyance		230/10	23 Lorries
Total quantity of sand		720 m^3	
Lorry required for conveyance		720/11.20	64 Lorries
Total quantity of metal		900 m^3	
Lorry required for conveyance		900 /16.80	54 Lorries
Total quantity of stone		253 m^3	
Lorry required for conveyance		253 /16.80	15 Lorries

Tipper / Lorries for conveyance of materials — **5 Nos** for 10 days for 06 months

PACKAGE 4

Calculation of machineries Requirement

Hydraulic excavator & 4 Tippers / Lorries		8 Hours / Day	
(4 No x 3 loads/ hour x 8 Hr x 4 m^3/ trip)			384 m^3 /Day
For 1 month (20 Working days)		20 x 384 m^3	7680 m^3/ month
Total quantity of earth work		88,000 Cu.M	
Working period for earth work		08 months + 3 Months rainy season	

Machineries required for earth work:

1. Hydraulic excavator - 01 nos
2. Tippers / Lorries - 04 nos
3. Power roller - 01 nos
4. Vibrated compactor - 01 nos
5. Water lorries - 01 nos

Mixer machine	2 m^3 / hour	For 6 hours / day	12 m^3 / day
Total quantity of concrete		2760 m^3	
Mixer machine required		**2 No** for 15 days / month – 6 months	
Material conveyance		**Tippers / Lorries**	
Cement	10 mt / Trip	1 trip / day	10 mt / day
Sand	5.66 m^3 / Trip	2 trips / day	11.32m^3 /day
Metal / stone	5.60 m^3 / Trip	3 trips / day	16.80 m^3 /day
Total quantity of cement		635 mt	
Lorry required for conveyance		635/10	64 Lorries
Total quantity of sand		2194 m^3	
Lorry required for conveyance		2194/11.20	196 Lorries
Total quantity of metal		2484 m^3	
Lorry required for conveyance		2484/16.80	148 Lorries
Total quantity of stone		1332 m^3	
Lorry required for conveyance		1332 /16.80	80 Lorries
Tipper / Lorries for conveyance of materials		**5 Nos** for 10 days for 07 months	

PACKAGE 5

Calculation of machineries Requirement

05 Hydraulic excavator & 20 Tippers / Lorries		6 Hours / Day	
(5x20 No x 2 loads/ hour x 6 Hr x 4 m^3/ trip)			4800 m^3 /Day
For 1 month (20 Working days)		20 x 4800 m^3	96000 m^3/ month
Total quantity of earth work		5.61 Lakh Cu.M	
Working period for earth work		07 months + 3 Months rainy season	

Machineries required for earth work:

1. Hydraulic excavator - 05 nos
2. Tippers / Lorries - 20 nos
3. Power roller - 05 nos
4. Vibrated compactor - 05 nos
5. Water lorries - 05 nos

Mixer machine	2 m^3 / hour	For 6 hours / day	12 m^3 / day
Total quantity of concrete		9011 m^3	
Mixer machine required		**2 No** for 20 days / month – 8 months	

Material conveyance		**Tippers / Lorries**	
Cement	10 mt / Trip	1 trip / day	10 mt / day
Sand	5.66 m^3 / Trip	2 trips / day	11.32m^3 /day
Metal / stone	5.60 m^3 / Trip	3 trips / day	16.80 m^3 /day
Total quantity of cement		2072 mt	
Lorry required for conveyance		2072/10	207 Lorries
Total quantity of sand		5800 m^3	
Lorry required for conveyance		5800/11.20	518 Lorries
Total quantity of metal		8100 m^3	
Lorry required for conveyance		8100 /16.80	483 Lorries
Total quantity of stone		4920 m^3	
Lorry required for conveyance		4920 /16.80	293 Lorries

Tipper / Lorries for conveyance of materials	**5 Nos** for 20 days for 14 months

PACKAGE 6
Calculation of machineries Requirement

2 Hydraulic excavator

	8 Hours / Day	
(2 x 8 Hr x 70 m^3/hr)		1120 m^3 /Day
For 1 month (20 Working days)	20 x 1120 m^3	22400 m^3/ month
Total quantity of earth work	1.49 Lakh Cu.M	
Working period for earth work	06 months + 3 Months rainy season	

Machineries required for earth work:

1. Hydraulic excavator - 02 nos
2. Tippers / Lorries - Nil nos
3. Power roller - 02 nos
4. Vibrated compactor - 02 nos
5. Water lorries - 02 nos

Mixer machine	2 m^3 / hour	For 6 hours / day	12 m^3 / day
Total quantity of concrete		1100 m^3	
Mixer machine required		**2 No** for 10 days / month – 7 months	
Material conveyance		**Tippers / Lorries**	
Cement	10 mt / Trip	1 trip / day	10 mt / day
Sand	5.66 m^3 / Trip	2 trips / day	11.32m^3 /day
Metal / stone	5.60 m^3 / Trip	3 trips / day	16.80 m^3 /day
Total quantity of cement		253 mt	
Lorry required for conveyance		253/10	25 Lorries
Total quantity of sand		614 m^3	
Lorry required for conveyance		614/11.20	55 Lorries
Total quantity of metal		990 m^3	
Lorry required for conveyance		990 /16.80	59 Lorries
Total quantity of stone		1504 m^3	
Lorry required for conveyance		1504 /16.80	90 Lorries
Tipper / Lorries for conveyance of materials		**5 Nos** for 20 days for 05 months	

REQUIREMENT OF EQUIPMENTS AND MATERIALS

PACKAGE NUMBER	EQUIPMENTS REQUIRED IN NUMBERS							MATERIAL REQUIRED						
	HYDRAULIC EXCAVATOR	POWER ROLLER	VIBRATED COMPACTOR	TIPPER / LORRY	WATER LORRY	CONCRETE MIXER MACHINE	CONCRETE VIBRATOR	CEMENT IN M.T.	SAND IN m3	STEEL IN M.T.	METAL 40MM IN m^3	METAL 20MM IN m3	RR IN m3	FUEL
Package-1	1	1	1	6	1	1	1	400	983	4.97	400	1166	200	148650
Package-2	2	2	2	6	2	3	2	80	175	0	75	240	810	127200
Package-3	2	2	2	6	2	2	2	230	720	7.2	225	675	253	131700
Package-4	1	1	1	6	1	2	1	635	2194	11	621	1863	1332	124950
Package-5	5	5	5	14	5	2	5	2072	5800	15.4	2028	6082	4720	581500
Package-6	0	2	2	5	2	2	2	253	614	10	250	740	1504	29500

PACKAGE - 1

Construction Methodology

	Description of item	Rainy Season			Working Months									Rainy Season						Total
		10/2009	11/2009	12/2009	01/2010	02/2010	03/2010	04/2010	05/2010	06/2010	07/2010	08/2010	09/2010	10/2010	11/2010	12/2010	01/2011	02/2011	03/2011	
Earth Work excavation																				
1	Channel	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	..
2	Foundation	--	--	--	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.22	--	--	--	--	--	--	2.22 TH M^3
3	Embankment	--	--	--	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	--	--	--	0.12	0.10	…	1.3 Lakhs M^3
Cocrete																				
4	M 7.5 grade	--	--	--	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.07	--	--	--	--	--	--	0.47 TH M^3
5	M 20 grade	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	0.01	….	--	--	--	--	--	--	0.07TH M^3
6	M 10 grade	--	--	--	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.03	….	--	--	--	--	--	--	0.38TH M^3
5	M 15 grade	--	--	--	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	….	--	--	--	--	--	--	0.82TH M^3
5	RR Masonry	--	--	--	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	….	--	--	--	--	--	--	0.20TH M^3
5	Plastering	--	--	--	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.11	….	--	--	--	--	--	--	0.60TH M^3

PACKAGE - 2

Construction Methodology

Sl.No	Description of item	Rainy Season			Working Months									Rainy Season						Total
		10/2009	11/2009	12/2009	01/2010	02/2010	03/2010	04/2010	05/2010	06/2010	07/2010	08/2010	09/2010	10/2010	11/2010	12/2010	01/2011	02/2011	03/2011	
Earth Work excavation																				
1	Channel	--	--	--	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	--	--	--	0.12	0.12	0.12	1.44 TH M^3
2	Foundation	--	--	--	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.15	--	--	--	--	--	--	1.75 TH M^3
3	Embankment	--	--	--	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	--	--	--	0.24	0.24	0.2	2.84 Lakhs M^3
Cocrete																				
4	M 7.5 grade	--	--	--	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	--	--	--	0.03	0.03	0.02	0.35 TH M^3
5	Random rubble masondry	--	--	--	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	--	--	--	--			0.81 TH M^3
6	Plastering	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	--	--	--	--	--	0.06	0.60 TH M^2

PACKAGE - 3

Construction Methodology

Sl.No	Description of item	Rainy Season			Working Months									Rainy Season						Total
		10/2009	11/2009	12/2009	01/2010	02/2010	03/2010	04/2010	05/2010	06/2010	07/2010	08/2010	09/2010	10/2010	11/2010	12/2010	01/2011	02/2011	03/2011	
Earth Work excavation																				
1	Foundation	--	--	--	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.17	--	--	--	--	--	--	1.46 TH M^3
2	Embankment	--	--	--	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	--	--	--	0.19	--	--	1.542 Lakhs M^3
Cocrete																				
3	M 7.5 grade	--	--	--	0.03	0.04	0.05	0.04	0.04	0.04	0.03	0.02		--	--	--	--	--	--	0.29 TH M^3
4	M 10 grade	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	--	--	--	0.05	…	--	0.41 TH M^3
5	M 15 grade	--	--	--	--	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	--	--	--	--	0.02	0.01	0.19 TH M^3
6	M 20 grade	--	--	--	--	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	--	--	--	--	….	….	0.014TH M^3
7	Random rubble masondry	--	--	--	--	--	--	0.05	0.05	0.05	0.05	0.05	….	--	--	--	--	--	--	0.25 TH M^3
8	Plastering	--	--	--	--	--	--	…..	0.10	0.10	0.10	0.20	0.20	--	--	--	--	0.11	..	0.81 TH M^2

PACKAGE - 4

Construction Methodology

Sl.No	Description of item	Rainy Season			Working Months									Rainy Season						Total
		10/2009	11/2009	12/2009	01/2010	02/2010	03/2010	04/2010	05/2010	06/2010	07/2010	08/2010	09/2010	10/2010	11/2010	12/2010	01/2011	02/2011	03/2011	
Earth Work excavation																				
1	Foundation	--	--	--	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.80	-	--	--	--	0.08	--	--	7.108 LA M^3
2	Embankment	--	--	--	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	…	-	--	--	--	--	--	0.88 Lakhs M^3
Concrete																				
3	M 7.5 grade	--	--	--	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	--	--	--	0.09	0.09	--	0.98 TH M^3
4	M 10 grade	--	--	--	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	--	--	--	--	0.12	0.12	--	1.20 TH M^3
5	M 15 grade	--	--	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06	0.06	--	--	--	0.06	0.06	--	0.54 TH M^3
6	M 20 grade	--	--	--	--	--	….	….	0.01	0.01	0.01	…	0.01	--	--	--	…	….	--	0.04 TH M^3
7	Random rubble masondry	--	--	--	--	--	--	0.2	0.2	0.2	0.2	--	0.2	--	--	--	0.2	0.132	--	1.332 TH M^3
8	Plastering	--	--	--	--	--	….	…..	0.40	0.40	0.40	0.40	0.40	--	--	--	0.40	0.49	--	2.89 TH M^2

PACKAGE - 5

Construction Methodology

Sl.No	Description of item	Rainy Season			Working Months									Rainy Seasn			Working Months						Total
		10/2009	11/2009	12/2009	01/2010	02/2010	03/2010	04/2010	05/2010	06/2010	07/2010	08/2010	09/2010	10/2010	11/2010	12/2010	01/2011	02/2011	03/2011	04/2011	05/2011	06/2011	
Earth Work excavation																							
1	Channel	--	--	--	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	--	--	--	1.0	1.0	0.9	..	…	..	11.90 TH M^3
2	Foundation	--	--	--	..	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	--	--	--	2.0	2.0	2.51	--	--	--	22.51 TH M^3
3	Embankment	--	--	--	0.20	0.20	0.50	0.50	0.50	0.50	0.40	0.40	0.40	--	--	--	0.4	0.4	0.4	0.4	0.41	…	5.61 Lakhs M^3
Cocrete																							
4	M 7.5 grade	--	--	--	--	--	--	0.3	0.3	0.3	0.3	0.3	0.3	--	--	--	0.3	0.3	0.3	0.3	0.03	--	3.03 TH M^3
5	M 10 grade	--	--	--	--	--	--	0.25	0.25	0.25	0.25	0.25	0.25	--	--	--	0.25	0.25	0.25	0.25	0.36	--	2.86TH M^3
6	M 15 grade	--	--	--	--	--	--	--	--	--	--	0.30	0.30	--	--	--	0.30	0.30	0.30	0.37	--	--	1.87 TH M^3
7	M 20 grade	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.050	0.050	0.050	0.050	0.051	--	0.251 TH M^3
8	Random rubble masondry	--	--	--	--	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	--	--	--	0.19	0.19	0.04	--	--	--	1.94TH M^3
9	Plastering	--	--	--	--	--	--	0.5	0.5	0.5	0.5	0.5	0.5	--	--	--	0.5	0.5	0.5	0.2	0.2	1.0	4.92 TH M^3

PACKAGE - 6

Construction Methodology

Sl.No	Description of item	Rainy Season			Working Months									Rainy Seasn			Working Months			Total
		10/2009	11/2009	12/2009	01/2010	02/2010	03/2010	04/2010	05/2010	06/2010	07/2010	08/2010	09/2010	10/2010	11/2010	12/2010	01/2011	02/2011	03/2011	
Earth Work excavation																				
1	Channel	--	--	--	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	4.013	--	--	--	--	--	--	84.013 Thousand CM
2	Foundation	--	--	--	0.1	0.1	0.1	0.1	0.135	--	--	--	--	--	--	--	--	--	--	0.535 Thousand CM
3	Embankment	--	--	--	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	--	--	--	--	--	6.00	64.5 Thousand CM
Concrete																				
4	M 7.5 grade	--	--	--	--	0.02	0.02	0.02	0.02	0.012	--	--	--	--	--	--	--	--	--	0.092
5	M 10 grade	--	--	--	--	0.2	0.2	0.2	0.162	--	--	--	--	--	--	--	--	--	--	0.762 Thousand CM
6	M 15 grade	--	--	--	--	0.05	0.05	0.05	0.05	0.045	--	--	--	--	--	--	--	--	--	0.245 Thousand CM
7	M 20 grade	--	--	--	--	0.01	0.01	0.01	0.01	0.01	0.01	--	--	--	--	--	--	--	--	0.006 Thousand CM
8	RR masondry	--	--	--	--	0.2	0.2	0.2	0.2	0.2	0.25	0.2	0.2	--	--	--	--	--	0.104	1.504 CM
9	Plastering	--	--	--	--	--	--	--	0.1	0.1	0.1	0.075	--	--	--	--	--	--	--	0.375 CM

1.7. ENVIRONMENTAL COMPONENT

Environmental Monitoring on water and soil quality and creating awareness & updating of "Environmental and Social Assessment report" for LOWER GUNDAR sub-basin in Gundar basin.

INDEX

IAMWARM PROJECT

(ENVIRONMENT COMPONENT IN SUB BASINS)

Name of River Basin:	GUNDAR BASIN
Name of Sub Basin:	LOWER GUNDAR SUB BASIN
Name of WUA:	Yet to be Formed
Name of Division:	**Gundar Basin Division, Madurai-2.**
Name of Sub Division:	**1) Vaippar Basin Sub Division, Aruppukottai.** **2) Irukkankudi Reservoir Project Sub Division-II, Kamudhi**
District:	**1) Ramanathapuram** **2) Virdhunagar**
Taluk:	**1) kadaladi. 2) Mudhukuluthur** **3) Kamudhi 4) Aruppukottai** **5) Thiruchili**
Block:	**1) Kadaladi. 2) Kamudhi 3) Mudhukuluthur.** **4) Thiruchili. 5) Narikudi**
I. Name of the Tank Severly affected by Aquatic weeds	Annexure- I
II. Domestic Sewage:	Annexure -II
III.Municipal Solid Waste:	Annexure -III
III. Industreies:	Annexure -IV
IV. Water Quality Status:	
i. Surface water:	Annexure -V
II. Ground water:	Annexure -VI

ANNEXURE- I

TANKS AFFECTED BY WATER WEEDS

LOWER GUNDAR SUB BASIN

Sl No	Name of Tank	Name of Village	Block	Taluk	District	Ayacut in Ha.	Water weeds
							prosopisJuliflora/Ipomeacarnea/ water Hyacinth
1	Appanur	Appanur	Kadaladi	Kadaladi	Ramanathapuram	303.05	Prosopis Juliflora
2	P.Kadambankulam	P.Kadambankulam				53.02	Prosopis Juliflora
3	Thevankurichi	Thevankurichi				41.79	Prosopis Juliflora
4	Nedunkulam	Nedungulam				50.61	Prosopis Juliflora
5	Nattan	Nattan				41.76	Prosopis Juliflora
6	Panaikulam	Panaikulam				91.54.5	Prosopis Juliflora
7	Orivayal	Orivayal				157.43	Prosopis Juliflora
8	Maranthai	Maranthai				239.68	Prosopis Juliflora
9	Selvanur	Selvanur				176.47	Prosopis Juliflora

10	Sathangudi	Sathangudi				47.60	Prosopis Juliflora
SlNo	Name of Tank	Name of Village	Block	Taluk	District	Ayacut in Ha.	Water weeds prosopisJuliflora/Ipomeacarnea/ water Hyacinth
11	Meenakudi	Meenakudi	Kadaladi	Kadaladi	Ramanath apuram	78.16.5	Prosopis Juliflora
12	Kadugusanthai	Kadugusanthai				40.69.5	Prosopis Juliflora
13	Karunkulam	Karunkulam				60.77	Prosopis Juliflora
14	Poothankudi	Poothankudi				48.24	Prosopis Juliflora
15	Kadayankulam	Kadayankulam				48.31	Prosopis Juliflora
16	Paduvanenthal	Paduvanenthal				46.15	Prosopis Juliflora
17	Purasankulam	Purasankulam				42.96	Prosopis Juliflora
18	Mangulam	Mangulam				63.59	Prosopis Juliflora
19	Karisalkulam	Karisalkulam				48.19	Prosopis Juliflora
20	Edikulam	Edikulam				52.28	Prosopis Juliflora

21	Kannanpothuvarkulam	Kannanpothuvarkulam				47.85	Prosopis Juliflora
22	Velankuruchi	Velankuruchi				43.85	Prosopis Juliflora
SlNo	Name of Tank	Name of Village	Block	Taluk	District	Ayacut in Ha.	Water weeds
							prosopisJuliflora/Ipomeacarnea/ water Hyacinth
23	Punavasal	Punavasal		Kadaladi	Ramanathapuram	116.92	Prosopis Juliflora
24	Pothikulam	Pothikulam				192.61	Prosopis Juliflora
25	Kadaladi	Kadaladi				49.35	Prosopis Juliflora
26	Iruveli	Iruveli				56.32	Prosopis Juliflora
27	S.Vagaikulam	S.Vagaikulam				52.86	Prosopis Juliflora
28	Avathandaikulam	Avathandaikulam				63.09	Prosopis Juliflora
29	S.Keeranthai	S.Keeranthai				44.25	Prosopis Juliflora
30	Sayalkudi	Sayalkudi				209.13	Prosopis Juliflora
31	Mookaiyur	Mookaiyur				57.70	Prosopis Juliflora
32	Kadamangulam	Kadamangulam	Kamudhi	Kamudhi		124.70.5	Prosopis Juliflora

33	M.Pudukulam	M.Pudukulam				140.46	Prosopis Juliflora
34	Pondampuli	Pondampuli				104.75	Prosopis Juliflora
SINo	Name of Tank	Name of Village	Block	Taluk	District	Ayacut in Ha.	Water weeds
							prosopisJuliflora/Ipomeacarnea/ water Hyacinth
35	Ariyamangalam	Ariyamangalam	Kamudhi	Kamudhi	Ramanathapuram	78.01	Prosopis Juliflora
36	Erumaikkulam	Erumaikkulam				63.55	Prosopis Juliflora
37	Padandapuli	Padandapuli				45.50	Prosopis Juliflora
38	Pammanendal	Pammanendal				50.37.5	Prosopis Juliflora
39	Mustakuruchi	Mustakuruchi				119.56.5	Prosopis Juliflora
40	Kundukulam	Kundukulam				45.74.5	Prosopis Juliflora
41	Pappankulam	Pappankulam				51.60.5	Prosopis Juliflora
42	Mudalnadu	Mudalnadu				40.99	Prosopis Juliflora
43	Kilaramanathi	Kilaramanathi				43.92	Prosopis Juliflora
44	Neeravi	Neeravi				48.50	Prosopis Juliflora

45	Pappanam	Pappanam				54.15.5	Prosopis Juliflora
46	Nagarathakruichi	Nagarathakruichi				72.06	Prosopis Juliflora
SlNo	Name of Tank	Name of Village	Block	Taluk	District	Ayacut in Ha.	Water weeds
							prosopisJuliflora/Ipomeacarnea/ water Hyacinth
47	A.Tharaikudi	A.Tharaikudi	Kamudhi	Kamudhi	Ramanathapuram	119.73	Prosopis Juliflora
48	T.Kallikulam	T.Kallikulam				55.17	Prosopis Juliflora
49	Poolapathi & Idivilagi	Poolapathi & Idivilagi				52.79	Prosopis Juliflora
50	Melaramanathi	Melaramanathi				50.00	Prosopis Juliflora
51	N.Karisalkulam	N.Karisalkulam				48.62	Prosopis Juliflora
52	Veppankulam	Veppankulam				45.74.5	Prosopis Juliflora
53	Kovilankulam	Kovilankulam				105.85.5	Prosopis Juliflora
54	O.Karisalkulam	O.Karisalkulam				68.61	Prosopis Juliflora
55	Kamudhi Tank	Kamudhi Tank				207.02	Prosopis Juliflora
56	Keelamanankarai	Keelamanankarai	Mudhukulathur	Mudhukulathur		42.44.5	Prosopis Juliflora

57	Thullakkankuruchi	Thullakkankuruchi				44.64	Prosopis Juliflora
58	Ilanchembur	Ilanchembur				320.49	Prosopis Juliflora
Sl No	Name of Tank	Name of Village	Block	Taluk	District	Ayacut in Ha.	Water weeds
							prosopisJuliflora/Ipomeacarnea/ water Hyacinth
59	Poonkulam	Poonkulam	Mudhu kulathur	Mudhu kulathur	Ramanath apuram	79.65	Prosopis Juliflora
60	Kullampatti	Kullampatti	Thiruchili	Aruppukott ai	Virudhun agar	40.60	Prosopis Juliflora
61	Paralachi	Paralachi				193.35	Prosopis Juliflora
62	Sengulam	Sengulam				56.50	Prosopis Juliflora
63	Poolankal	Poolankal				74.32	Prosopis Juliflora
64	Purasalur	Purasalur				49.98	Prosopis Juliflora
65	Keelkudi	Keelkudi				64.63	Prosopis Juliflora
66	Seelampatti	Seelampatti	Narikudi			303.05	Prosopis Juliflora

ANNEXURE-I I

LOWER GUNDAR SUB BASIN

DOMESTIC SEWAGE

Sl. No.	Name of Town	Sewage Discharged into
1	Mudhuluthur	Partly into sakkulam Tank and Manangarai Tank
2	Kamudhi	Gundar River
3	Kadaldi	Land
4	Aruppukottai	1) Aruppukottai Big Tank 2) Thumbaikulam Tank
5	Sengulam	Sengulam Tank

ANNEXURE- III

LOWER GUNDAR SUB BASIN

SOLID WASTE

Sl No.	Name of place	Solid Waste Qty. in MT	Disposed into
1	Kamudhi	2.5	Urani near Bus stand
2	Thiruchili	1.5	Compost yard
3	Kadaladi	2.5	Compost yard
4	Mudhukuluthur	1.5	Chetti Urani near Bus Stand
5	Aruppukottai	2.5	Partly in to composed yard

ANNEXURE -I V

LIST OF INDUSTRIES IN LOWER GUNDAR SUB BASIN

Sl. No	Name of Industry & Address		Category	Type	
INDUSTRIES IN VIRUDHUNAGAR DISTRICT					
ARUPPUKOTTAI TALUK					
1	Aruppukottai Sri Jaya Vilas Ltd, Melakadambankulam	Aruppukkottai	Spinning	OL	
2	Sri Ayyanar Spinning And Weaving Mills Ltd, Mallanginar.	Aruppukkottai	Spinning	OL	
3	Sri Ramalinga Mills Ltd Textile Division 212 Ramasamy nagar	Aruppukkottai	Spinning	OL	
4	Aruppukottai Sri Ramalinga Roller Flour Mills, Melakandamangalam	Aruppukkottai	Food & Beverage	OM	
5	Sri Ramalinga Food Products, Melamangalam	Aruppukkottai	Food & Beverage	OM	
6	Aruppukottai Sri Jeyakrishna Spinning Mills Aruppukottai	Aruppukkottai	Spinning	OM	
7	Aruppukottai Sri Ramalinga Spinning Mills	Aruppukkottai	Spinning	OM	
8	Govindaraja Mills Limited 258,Tiruchuli Road,	Aruppukkottai	Spinning	OM	
9	Karthikeya Spinning Mills	Aruppukkottai	Spinning	OM	
10	Naganandana Mills Limited Vakkanangundu	Aruppukkottai	Spinning	OM	
11	Sri Venkatesa Mercerisers Thonugal, Vakkanangundu post	Aruppukkottai	Bleaching	OS	
12	V.V.R.Products Valukkalotti village	Aruppukkottai	Lime stone	OS	
13	Sri Ramana Textiles Products Private Limited Mallanginar,	Aruppukkottai	Spinning	OS	
14	Amman Blue Metal Aviyoor, Aruppukkottai.	Aruppukkottai	Stone crusher	OS	
15	Aruppukottai Jeyavilas Spinning Mills Ltd, Aruppukkottai	Aruppukkottai	Power plant	RL	

16	Kannan Oil Mill 252, Thiruchuli road , Aruppukottai	Aruppukkottai	Food & Beverages	RS	
17	Sri Murugan & Co Thiruchuli road Aruppukottai	Aruppukkottai	Food & Beverages	RS	
18	Amar Nursing Home 189 Thiruchuli road Aruppukottai, .	Aruppukkottai	Hospital	RS	
19	Hindu Matches F Unit Mallanginar, Aruppukottai .	Aruppukkottai	Matches	RS	
20	Suriya Match & co, B unit Kalkurichi P.O.	Aruppukkottai	Matches	RS	
21	The Globe Match Works Madurai Tuticorin Road Kalkurichi post. Aruppukottai .	Aruppukkottai	Matches	RS	
22	V.V. Ramasamy and sons Valukkalotti Palavanatham post,Aruppukkottai .	Aruppukkottai	Matches	RS	
TIRUCHULI TALUK					
1	Geetha Chemicals Tamilpadi	Thiruchuli	Lime klin	OS	
2	Sri Magenta Chemicals Tamilpadi	Thiruchuli	Chemicals	RS	
3	Aruppukottai Sri Jayavilas Ltd B unit Tamilpadi	Thiruchuli	Spinning	OM	
INDUSTRIES IN RAMANATHAPURAM DISTRICT					
	MUDUKULATHUR TALUK				
1	Sivakumar Bricks,venneerrvaikkal,	Mudukulathur	Bricks	OS	
2	Sri Palani Andavar Chamber Brick Works,Vilangulattur.	Mudukulathur	Bricks	OS	
3	TNSTC Mudukulathur branch, Mudukulathur , Ramnad.	Mudukulathur	Automobiles	OS	
4	Regurama Renewable Energy Limited, Pambur Village, Mudukulattur .				
	KADALADI TALUK				
1	Muthusamy Engg .Works ,V.V.R. Nagar , K.K.Nagar, Sayalkudi	Kadaladi	Engg Works	OS	
2	Indian Rice & fiower Mill , manirajapuram, Sayalkudi	Kadaladi	Flour Mill	OS	
3	Sri Grihar Foods Ltd,MelaMuthal,Valinokam	Kadaladi	Foods	OS	
4	Sethupathi Modern Rice Mill, Mudukulathur Road,	Kadaladi	Hulling	OS	

5	Tamilnadu Salt Corporation,Mariyur,Valinokam,Sikkal(via)	Kadaladi	Salt	OS	
6	Paravathi Salt Industries,Thanichiam Village, Valinokkam	Kadaladi	Salt Pan	OS	
7	Tamilnadu Magnesium & Marine Chemicals Ltd,Valinokam	Kadaladi	Chemicals	RS	
	KAMUTHI TALUK				
1	A1 Acgua Pipes (india)Ld., Achankulam,	Kamuthi	Acgua Pipes	OS	
2	Jeya Vinayagar Chamber Bricks, Aruppukottai, Neeravi	Kamuthi	Bricks	OS	
3	Murugeswari Chember Bricks,	Kamuthi	Bricks	OS	
4	Siva Palani Chamber Bricks , Partibanur-Kamuthi Roadf,Muthiapuram	Kamuthi	Bricks	OS	
5	Suganya Brick Works, Abiramam	Kamuthi	Bricks	OS	
6	Eswari Flour Mills , Neeravi.	Kamuthi	Flour Mill	OS	
7	Gopi Modern Rice Mill,Mudukulathur road	Kamuthi	Hulling	OS	
8	Sree Vinayaga Modern rice Mill , Thiruchuli Road	Kamuthi	Hulling	OS	
9	Emess Rubber India,Thavashikurichi.	Kamuthi	Lining	OS	
10	Rexien Sea India,Kottaimedu.	Kamuthi	Lining	OS	
11	Ayesha Cottan Mills Ltd, Kamuthi-Parthibanur, Kandankarai Villages Achankulam	Kamuthi	Spinning Mill	OS	
12	Jai bairavan Mills, Vilathikulam Salai, Perunali,	Kamuthi	Spinning Mill	OS	
13	Mannan Cottan Mills Ltd, Abiramam.	Kamuthi	Spinning Mill	OS	
14	Ramnad Dist.,Co-op,Spinning Mill Ltd, Achenkulam	Kamuthi	Spinning Mill	OS	
15	Ramasamy Match Works,South mudukulathur Road,	Kamuthi	Fire works	RS	
16	TNSTCLtd, (div III)	Kamuthi	Automobiles	OS	

ANNEXURE- V

SURFACE WATER SAMPLE TEST RESULTS OF LOWER GUNDAR SUB BASIN

Parameter		Nov.2002	Dec.2002	Nov..2003
		G4	G4	G4
GENERAL	Ph	8.1	7.6	7.4
	EC	210	270	490
	TDS mg/l	129	145	283
	TSS/l	3	4.5	5.5
Nutrients	NO2+NO3 mg/L	2		4
Org.matter	BOD mg/l	2.2	2	0.8
	COD mg/l	14	4	15
Alkalinity	Total CaCo3	75	110	180
Hardness in mg/L	Total CaCo4	55	130	110
	Ca ++ Caco3	50	100	30
Major ions	Ca++ mg/L	20	40	12
	mg++	1	7	19
	Na++	28	5	82
	K++	4	0	5
	Cl++	18	14	32
	SO4++	5	11	24
	HCo3++	92	134	220

Other In-Organic	**Si mg/L**			**17.1**
	F mg/L			**0.3**
	B mg/L			**0.07**
Coliforms	**Total**			**2800**
	Feacal			**1100**
SAR				**3.64**

G4- AT KAMUDHI REGULATOR.

ANNEXURE- VI

LIST OF VILLAGES IN LOWER GUNDAR SUB BASIN HAVING TDS MORE THAN 2000 mg/l

Sl.No	Taluks	Village	TDS > 2000mg/lit
RAMANATHAPURAM DISTRICT			
1	Mudukuluthur	Mattienndal	2098
2		Sengapadai	2194
3		Ervadai	2235
4		Kilaramanadhi	2744
5		Perunali	3796
VIRDHUNAGAR DISTRICT			
1	Aruppukottai	P.Pudupatti	3613
2		Ramanujapuram	2982
3		Kovilankulam	4910
4		Veeracholan	3349

ANNEXURE- VI

LIST OF VILLAGES IN LOWER GUNDAR SUB BASIN HAVING FLUORIDE VALUE MORE THAN 1.50 mg/l

Sl.No	Taluks	Village	Fluoride in mg/l
VIRDHUNAGAR DISTRICT			
1	Aruppukottai	P.Pudupatti	3.60
2		Ramanujapuram	2.50
3		Kovilankulam	2.40

LIST OF VILLAGES IN LOWER GUNDAR SUB BASIN HAVING NITRATE VALUE MORE THAN 50 mg/l

Sl.No	Taluks	Village	Nitrate in mg/l
RAMANATHAPURAM DISTRICT			
1	Ramanathapuram	Sengapadai	53
2		Kamudhi	62
3		Sembadayarkulam	66
4		Kamudhakudi	66
5		Ervadi	142

ENVIRONMENTAL MONITORING ON WATER AND SOIL QUALITY AND CREATING AWARENESS & UPDATING OF

"ENVIRONMENTAL AND SOCIAL ASSESSMENT REPORT" FOR LOWER GUNDAR SUB-BASIN IN GUNDAR BASIN.

ESTIMATE COST RS 7.00LAKHS

INTRODUCTION

Under TNWRCP, with World Bank assistance, special emphasis was given for the first time in WRO, to assess the environmental status and degradation caused for all River basins in Tamilnadu.Environmental and Soil Assessment Study has been conducted by "Environment Protection Training and Research Institute (EPTRI), Hyderabad" in all river basins. The institutes have identified the Environmental issues, social issues; mitigate measures for Gundar Basin and given the recommendations as below:

i)	Environmental Issues:	a) Excess fluoride and Nitrate in ground Water. b) Juliflora Growth c) Sand mining
ii)	Social Issues:	a) Encroachment In catchments area b) Dry land Agriculture c) Reduction in Live stock
iii)	Mitigate Measures:	a) Aquatic weed management b) Solid waste management
iv)	Agency:	a) The above measures can be improved by combined Working of Environmental cell and Water Resources organisation.

The Environmental Cell of WRO assessed soil and water samples in this Gundar river basin. The assessment include Environmental impact on the quality of surface ,Ground water and soil by collecting water & soil Samples and testing them. Moreover, Micro Level Environmental Status Reports for all the River Basins

have also prepared. These works have been carried out with the World Bank Assistance 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 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 environment issues pertaining to that area and remedial action to overcome the problems is must.

DESCRIPTION OF SUB BASIN

Gundar river basin is one of the major river basins of Tamilnadu with a drainage area of 5912 sq.km. Total length of the River from the origin is 150 km. The basin covers part of Madurai, Sivagangai, and Virudhunagar, part of Dindigul, Ramanathapuram and Thoothukudi Districts.

Lower Gundar starts from the Mandalamanickam Anicut near Mandalamanickam Village in Kamudhi Taluk of Ramanathapuram District. After passing about 30 Km along Mudukulattur and Kamudhi Taluk in its natural course, Lower Gundar empties into Palk Strait in Ramanathapuram District. There are four Anicuts across Lower Gundar namely 1) Mandalamanickam Anicut, 2) Gundar Anicut at Kamudhi, 3) Malatar Anicut at Sengapadai and Sankarathevan Anicut at Paraiyankulam Village.

Lower Gundar flows through Thiruchuli taluk of Virudhunagar District and Kamudhi, Mudukulattur Taluks of Ramanathapuram District.

ENVIRONMENTAL PROBLEMS IN THIS SUB BASIN

SAND MINING

In Lower Gundar near Aappanur village Public Works Department is mining sand from river bed. At this location sand deposited over decades forming natural aquifer is being mined indiscriminately at several places by digging pits to depths

more than 10 feet. Without concern for its impact on ground water and to the surrounding environment at that location mining is carried out.

At various places wherever sand is available mining is being carried out in small quantities for local use.

INDUSTRIAL POLLUTION

There are no major industries situated in this sub basin. The Brick Kilns, Flour mills and Textile Industries located within Kamudhi and Kadaladi Taluks. The Pollution of these Industries is meager.

There is one Major Industry located at Pambur village of Mudukulattur Taluk namely “Regurama Renewable Energy Limited”. The major activity of this Industry is by incinerating the Bio-mass fuel (Juliflora and agricultural Waste) electrical energy is received. The Industry was started in the year 2004 with a cost of Rs.75 crores. The capacity of the plant is 18 MW/hour. There are 110 Nos of laborers and 2000 Nos of others are benefited by directly and indirectly. The output of Electric power sold to the Govt. at a cost of Rs.3.15 paisa/unit. The Pollution Control Board monitors the plant regularly.

The details of Industries are given in Annexure-IV.

CATCHMENT DEGRADATION

Forest cover in the basin is only 3.25% of the Gundar Basin area which is quite inadequate. Most of forest is deciduous. Lower Gundar placed in the lower reach of Gundar Basin.

SOLID WASTE DISPOSAL

SOLID WASTE DISPOSAL IN MUNICIPALITIES AND TOWN PANCHYATS

Within this sub basin most of the panchayats have no systematic collection and disposal of solid waste. The local people used to throw the solid waste into the nearby open channels or drains choking them and thereby polluting the water resources.

Scheme for Solid waste Management plan is under implementation by Rural Development Department. Under this scheme, collection tank for disposable and undisputable garbage have been constructed. But in most of the panchayats,

recycling the waste and converting the solid waste into manure and production of energy is yet to come up

SOLID WASTE DISPOSAL IN VILLAGES

Dumping of solid wastes by the villagers is very limited. Usually they are being dumped near the toe of the tank bunds. Major portion of the wastes are mainly animal droppings and leftover animal feeds collected from cattle sheds. These wastes are converted into manure and used in their lands.

Only in urban areas solid wastes are dumped near the roadside drains, nearby irrigation channels and low – lying areas. Even the civic bodies are recklessly dumping the solid waste into water bodies.

Sold waste if allowed to accumulate is health hazard and there is a correlation between improper disposal of solid waste and incidence of vector-borne diseases.

Hence motivating the local bodies for proper implementation of solid waste management in IAMWARM project is must, to protect the water bodies from the accumulation of wastes.

SEWAGE DISPOSAL LET INTO WATER BODIES

In Gundar Basin no other town or village is provided with under ground drainage system except Madurai Corporation and Harvipatti Town Panchayat.

SEWAGE DISPOSAL IN MUNICIPALITY, TOWN PANCHYATS AND VILLAGES.

Mudukulattur, Kamudhi, Kadaladi, Aruppukottai are the standing examples of civic bodies those who are let the sewage into the water bodies. In most of the Villages no safe disposal arrangements of sewage are exist.

WATER WEEDS

"Prosopis Juliflora" plants are multi-stemmed shrubby bushes growing from 3m to 15m tall. Juliflora has been known to send its roots 10, 20 or even 30m to catch water. The roots lift water much higher than it can be lifted by capillary action of the soil. The draft on water supply is greatest during a long, hot growing season, with scanty precipitation and low humidity.

"Prosopis Juliflora has invaded the cultivable lands in Lower Gundar, in the beds of almost all the tanks. Hence, these plants need to be eliminated totally for the conserving precious water resources. But on the contrary, in some villages local people desire to grow this plant in the water spread area of the tanks. Once in

4 or 5 years they get cutting order from the revenue authorities, sale the Juliflora or coal produced from it and keep the money for the common expenses like court case for the litigation with the nearby villages, temple repair and Local festivals etc. This is on account of lack of guidance and ignorance of its ill effects. Hence, this problem has to be addressed in all forms, wherever possible Bio gas plant has to be promoted.

GROUND WATER QUALITY

From the chemical composition data for the observation wells, the ground water in the lower reaches of sedimentary formation is of moderate quality. Except a few patches in major portion of Kamudhi, Mudukulattur, Kadaladi Taluks of this sub basin the quality of Ground Water is poor with total dissolved solids above 2000 mg/L.

In rural areas most wide spread contamination of water is from disease bearing human wastes, usually detected by measuring faecal coli form levels. In these areas human wastes pose great health risks for many people who are compelled to drink and wash in untreated water from tanks, ponds and rivers.

Nearly 75 percent population lives in rural areas “go to the Fields” for defecation and thereby pollutes the environment with human excretement. Even in Urban areas the situation is the same. The people who do not have access to sanitation are subjected to health hazards.

Tuberculosis is the predominant disease within the Gundar Basin. Poverty economic recession and malnutrition make population more vulnerable to tuberculosis. It is a social disease with medical aspects. The social factors include poor quality of life, poor housing and over crowding, under nutrition, lack of education, large families, and lack of awareness cause illnesses

ACTIVITIES PROPOSED

I.WATER QUALITY AND PROJECT WORKS MONITORING

Water samples were collected from six locations and tested in Gundar river basin from December 2002. 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 at the following locations for the period of three years to assess the environmental Impact on the quality of surface water of this sub basin more precisely.

1. **LG1- U/S of Mandalamanickam Anicut in Mandalamanickam Village**

2. **LG2- U/S of Gundar Anicut at Kamudhi**

3. **LG3- U/S of Malatar Anicut at Sengapadai Village**

4. **LG4 - U/S of Sankarathevan Anicut in Paraiyankulam Village**

5. **LG5 - At Cause way in Mudukulattur – Sayalkudi Road near Kadaladi.**

Water Samples in these above locations will be collected and tested once in six months, when flow occurs for physical, chemical and biological characteristics.

II. CREATION OF ENVIRONMENTAL AND SOCIAL KNOWLEDGE BASE FOR LOWER GUNDAR SUB BASIN

Micro Level Environmental Status Report has been prepared for the entire Gundar River Basin. To prepare an Environmental Action Plan of a River basin data regarding environmental issues in sub basin wise is necessary. Hence, provision for collecting the environmental and social issues in village wise and analyzing them and preparing development report has also made in this proposal.

III. ENVIRONMENTAL & SOCIAL AWARENESS CREATION

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. So far two, awareness Programs were conducted in this basin.

Hence, to create and motivate the people, awareness programmes are to be conducted in the villages. It is proposed to conduct, 3 Nos. of awareness programs for public during the study period of three years covering the following subjects in addition to Placing Stickers, Tin sheets, Pham lets and Placing banner containing messages about, the Environmental Awareness.

- **Sanitation.**
- **Solid waste treatment.**

- **Sewage treatment and converting the same into gas**
- **Organic farming.**
- **Conversion of aquatic weeds into manure etc**

As per the instructions of the environmental specialist Mr. Anupham Joshi, the following alterations are made in the proposal,

In addition to the above, pesticides test for water quality is added and test will be carried out for five locations for once in a year.

Moreover, it is proposed to conduct field visits for environmental monitoring of project activities with respect to environmental safe guards.

It is proposed to study the impact due to project investments and hence, provisions for data collection and development reports have now been added.

Provision for preparing environmental atlas is now inserted in the context of marking all environmental and social issues with consultations of stake holders, line departments and NGOS.

MODE OF EXECUTION

All the works proposed are to be carried out by outsourcing through an Educational Institute and NGOS.

TOTAL COST.

The total cost works out to Rs: **7.00 Lakhs (Rupees Seven Lakhs only)**

Environmental Monitoring on water and soil quality and creating awareness , updating of" Environmental & Social assessment report" for LOWER GUNDAR SUB BASIN in GUNDAR BASIN.

DETAILED ESTIMATE

Sl no	Description of work	No	Measurement			Contents
			L	B	D	
I.Water Quality Monitoring and project works Monitoring						
a)	Water Samples from rivers in 5 locations collected once in six months for a period of three years 3x5x2 =30 nos	30 Nos				30 Nos
b)	Water Samples from rivers in 5 locations collected once in a year for a period of three years 3x5 =15 nos (pesticides)	15 Nos				15 Nos
c)	Hiring Jeep driver	1No	3 Months per year X 3 year			9 Man months
d)	Conveyance, Purchases like Ccans,Bottles,Chemicals, engaging labour for collecting water and soil samples etc and Documentation of Water and Soil quality data engaging labour	3yrs	-	-	-	3yrs
e)	Provisions for field visits for environmental Monitoring for project activities with respect to environmental safeguards.	3 years	-	-	-	3 years
II Environmetal, Social Knowledge base						
a)	Village Level Data collection on Environmental And social state regarding other impacts	LS				25 Man months

b)	Expert Analysis and Development Reporting on other impacts	LS				LS
c)	Impact studies due to project investments	LS				10 Man months
d)	Expert Analysis and Development Reporting on project investments	LS				LS
Sl no	**Description of work**	**No**	**Measurement**			**Contents**
			L	**B**	**D**	
III. Environmental Social Awareness Creation						
a)	Propagation through Stickers, Tin Sheets, pamphlets,Banners	3 years				3 years
b)	Awareness Programs for Public	3 Nos				3 Nos
c)	Formation of Herbal Garden in Institutions	1 No				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, hire purchase of LCD and Up gradation of Computer and Accessories, Video films and Web site development and engaging computer operator	3 years				3 years
IV.	**Variation in Rates and unforeseen items**	LS				LS

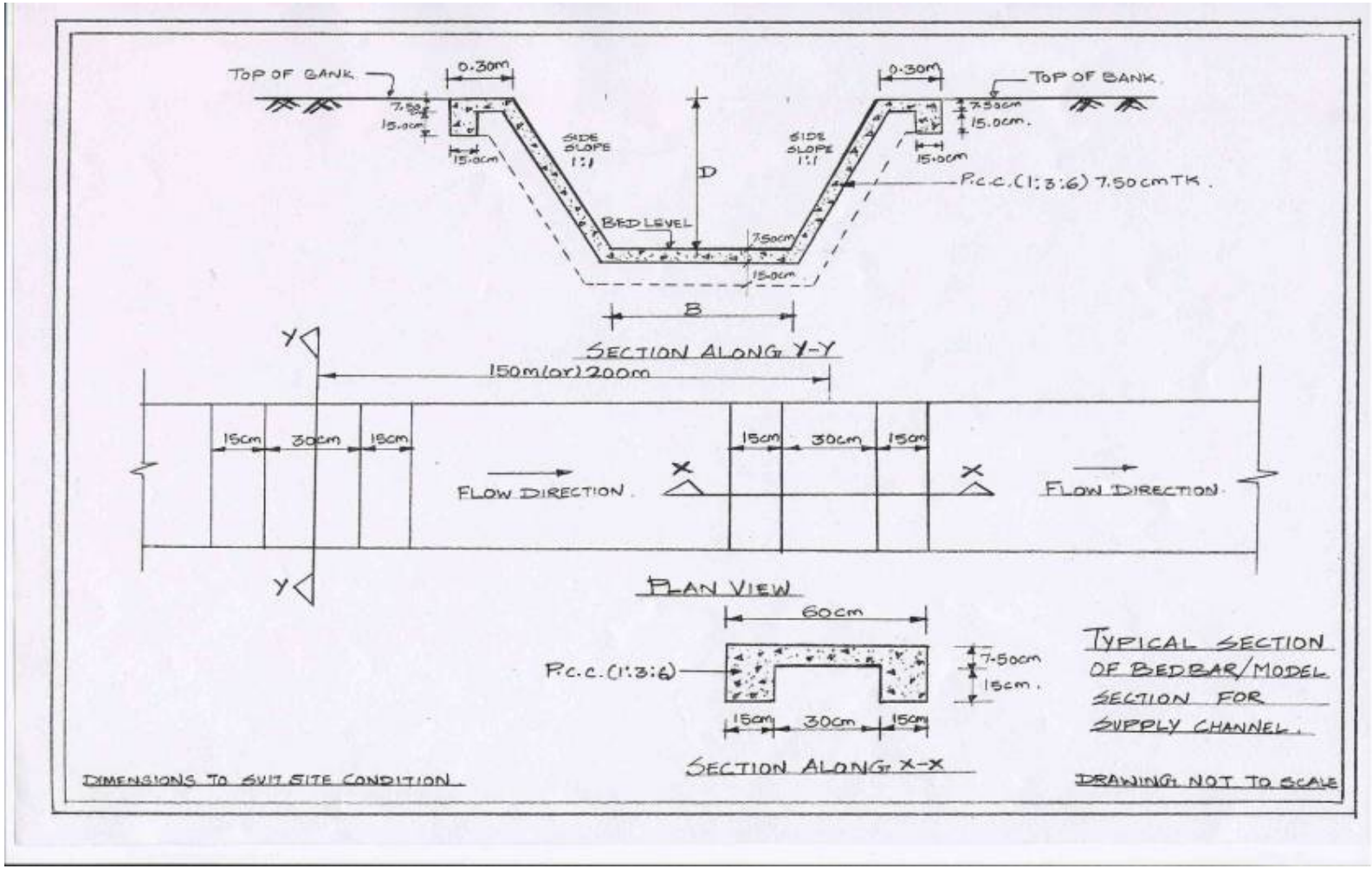
Environmental Monitoring on water and soil quality and Creating awareness, updating of " Environmental and Social Assessment report" for LOWER GUNDAR SUB-BASIN in Gundar Basin.

ABSTRACT ESTIMATE

Sl.No.	Qty.	Description of Work	Rate	Per	Amount
I.Water Quality and project works Monitoring					
a)	30 Nos.	Water Sample Testing	1400	each	42,000
b)	15 Nos	Water Sample Testing (pesticides)	12000	each	180,000
c)	9 Man months	Hiring Jeep Driver	3500	one man month	31,500
d)	3years	Conveyance, Purchases like Cans,Bottles,Chemicals, engaging labour for collecting water and soil samples etc and Documentation of Water and Soil quality data	5000	year	15,000
e)	3 years	Provisions for field visits for environmental Monitoring for project activities with respect to environmental safeguards.	4000	1 yaer	12,000
II.Environmental, Social Knowledge Base, Analysis and Development base					
a)	25 Man months	Village Level Data Collection on Envirnmntal and Social issues regarding other impacts	5000		125,000
b)	L.S	Expert Analysis and Development Reporting on other impacts	L.S		30,000
c)	10 Man months	Impact studies due to project investments	5000	one man month	50,000
d)	L.S	Expert Analysis and Development Reporting due to project investments	L.S		30,000

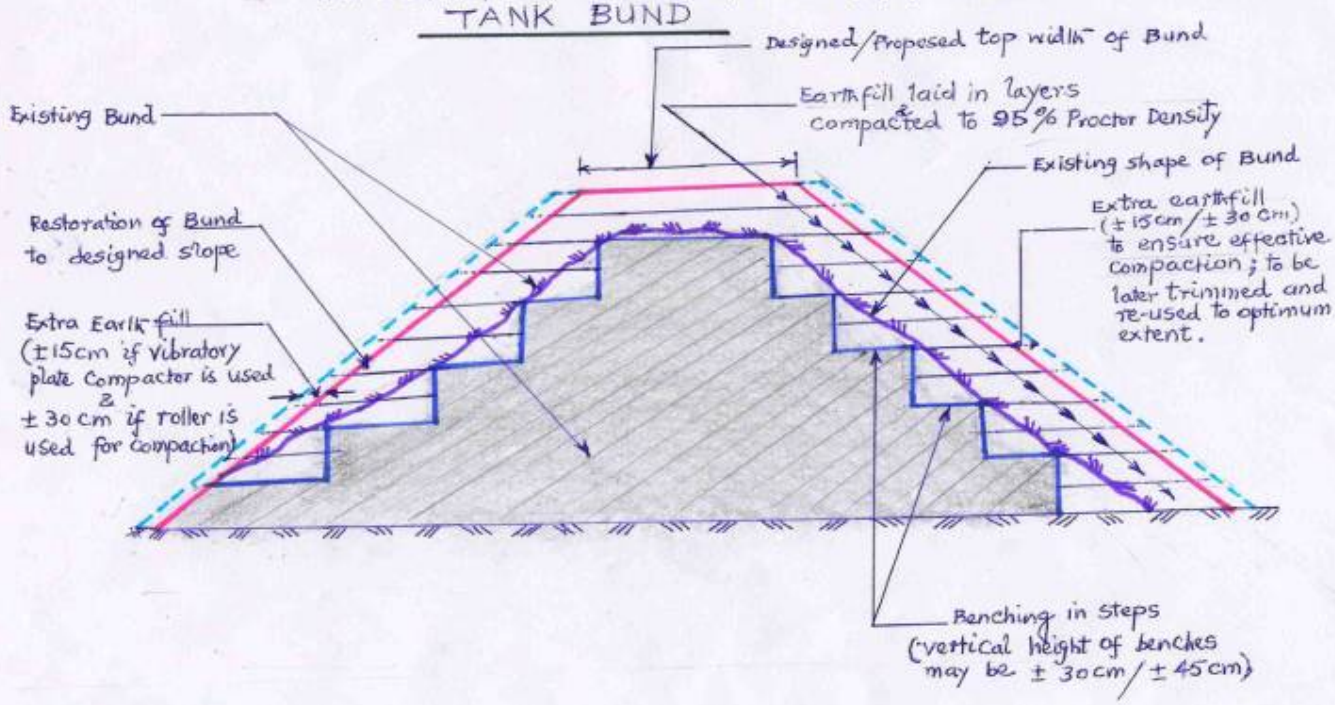
III. Environmental Social Awareness Creation					
a)	3years	Propagation through stickers, Tin Sheets, pamphlets, banners.	3000	year	9000
b)	3 Nos.	Awareness Program for Public	20000		60000
c)	1 Nos	Formation of Herbal Garden in Institutions	25000		25,000
d)	LS	Preparing and Publishing Environmental Atlas for the Sub Basin for the use of Line departments /Institutions for better Management of Sub basin	LS		75,000
e)	3years	Documentation of the entire activities, hire purchase of LCD and Up gradation of Computer and Accessories, Video films and Web site development and engaging computer operator	5000	year	15,000
IV.Variation in rates and unforeseen items.					**500**
Total					**700,000**
Rupees Seven Lakhs only					

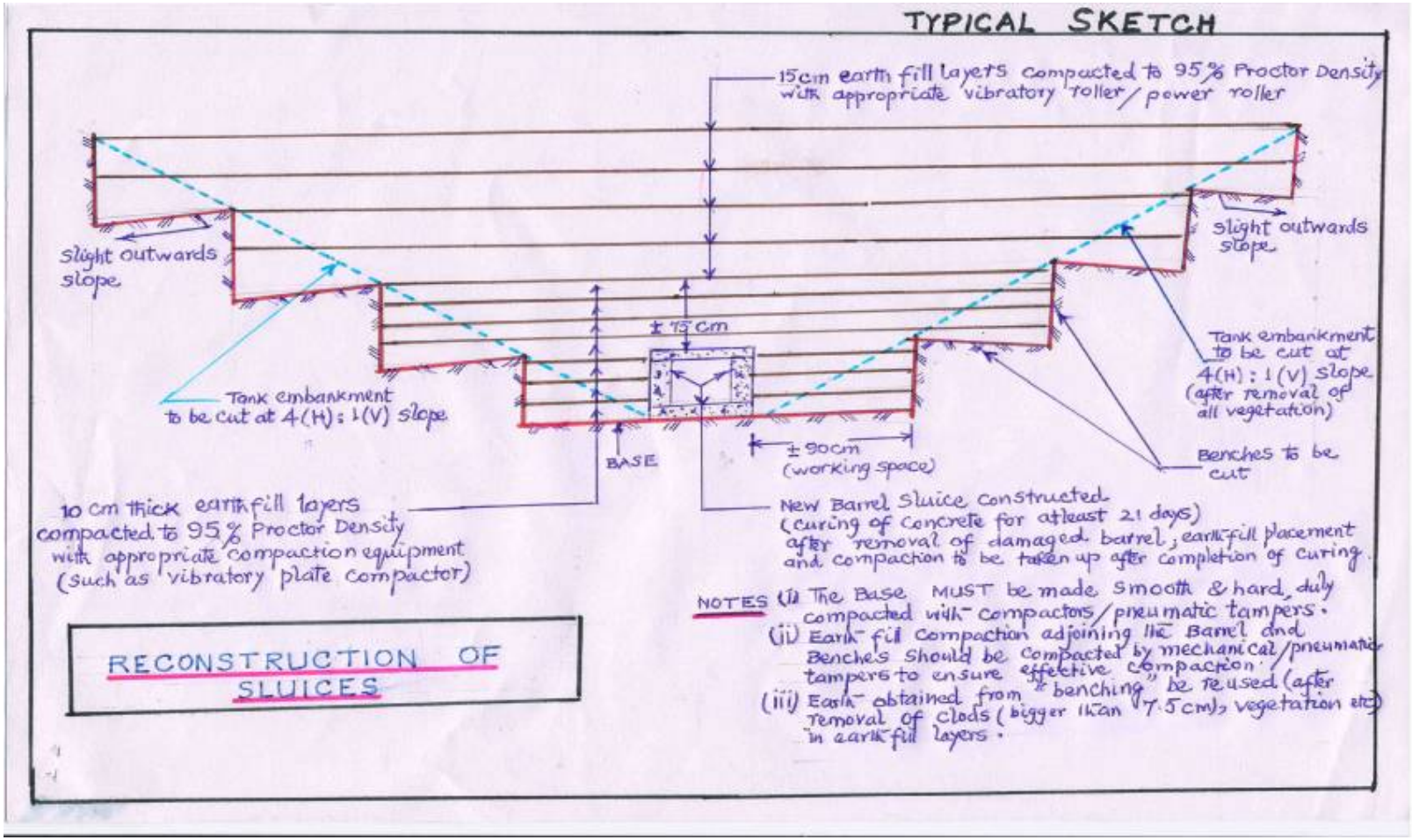
DESIGN AND DRAWINGS


TOP OF BANK
0.30m
7.50cm
15.0cm
15.0cm
SIDE SLOPE 1:1
D
BED LEVEL
7.50cm
15.0cm
B
SIDE SLOPE 1:1
0.30m
TOP OF BANK
7.50cm
15.0cm.
15.0cm
P.c.c.(1:3:6) 7.50cm TK.
SECTION ALONG Y-Y
Y
150m(or)200m
15cm
30cm
15cm
FLOW DIRECTION.
X
X
15cm
30cm
15cm
FLOW DIRECTION.
Y
PLAN VIEW
60cm
P.c.c.(1:3:6)
7.50cm
15cm.
15cm
30cm
15cm
SECTION ALONG X-X
TYPICAL SECTION OF BEDBAR/MODEL SECTION FOR SUPPLY CHANNEL.
DIMENSIONS TO SUIT SITE CONDITION.
DRAWING NOT TO SCALE

TYPICAL SKETCH

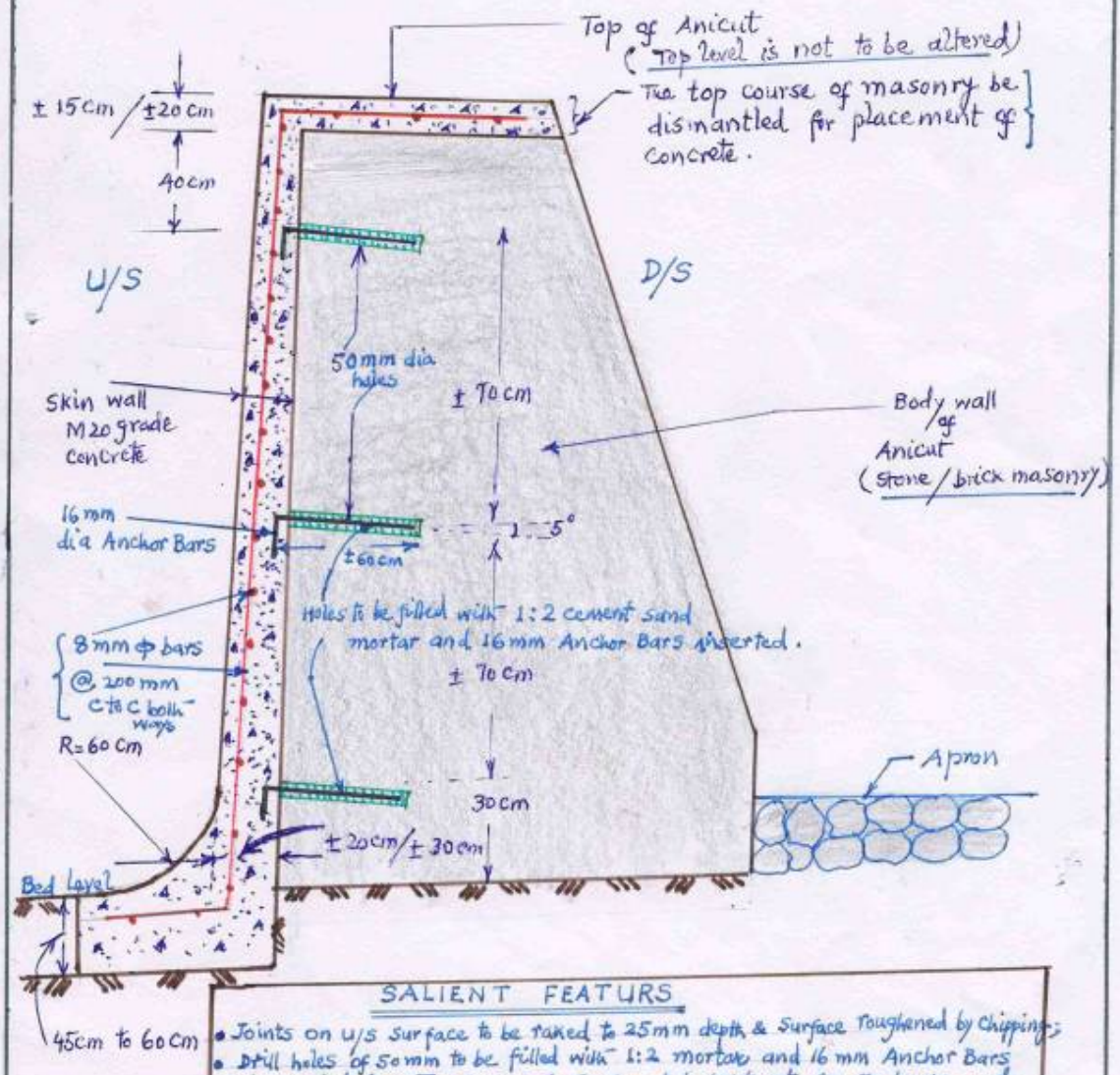
RAISING & STRENGTHENING OF TANK BUND




TYPICAL SKETCH
15cm earth fill layers compacted to 95% Proctor Density with appropriate vibratory roller/power roller
Slight outwards slope
Slight outwards slope
± 75 cm
Tank embankment to be cut at 4(H):1(V) slope
Tank embankment to be cut at 4(H):1(V) slope (after removal of all vegetation)
BASE
± 90cm (working space)
Benches to be cut
10 cm thick earthfill layers compacted to 95% Proctor Density with appropriate compaction equipment (such as vibratory plate compactor)
New Barrel Sluice constructed (curing of concrete for atleast 21 days) after removal of damaged barrel; earthfill placement and compaction to be taken up after completion of curing.
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 7.5cm), vegetation etc) in earthfill layers.
RECONSTRUCTION OF SLUICES

TYPICAL SKETCH

Rehabilitation of Anicut through SKIN WALL Concrete



SALIENT FEATURS

- Joints on u/s surface to be raked to 25mm depth & Surface roughened by Chipping;
- Drill holes of 50mm 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 21 days.
- Thickness of skin Concrete : 15cm at top & 20cm at bottom for Anicuts of height upto ± 1.50 m and 20 cm at top & 30 cm at bottom for Anicuts of height more than ± 1.50m