# TN- IAMWARM PROJECT

# KANAL ODAI SUB BASIN

# WATER RESOURCES DEPARTMENT

# DETAILED PROJECT REPORT

# 1.1. INTRODUCTION

## 1.1 INTRODUCTION

### 1.1.1 GENERAL

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

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

With the above objective, a comprehensive programme has been proposed with a Multi Disciplinary Approach.

### 1.1.2 Description of the GUNDAR Basin

The Gundar river takes rise from the eastern slope of Varusanadu Hills at an altitude of 1273 m near Kottaimalai of Saptur reserve forest on the eastern slopes of Western Ghats in Maduraii District and runs southeast for a distance of 150 km and finally empties into Gulf of Mannar at about 6 km of south east of Sayalkudi of Ramanathapuram District. The Gundar river basin is located between latitude $9^0$ 05' N to $10^0$ 03' N and longitude $77^0$ 35' E to $78^0$ 35' E having an area of 569023 Sq.Km and is surrounded by Vaigai Basin on the South, Vaigai Basin on the West and North and Gulf of Mannar / Bay of Bengal on the east.

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

1 Upper Gundar

2 Therkkar

**3 Kanal Odai**

4 Gridhumal Nadhi

5 Paralaiaru

6 Uthirakosamangaiaru

7 Palar

8 Lower gundar

9 Vembar

### 1.1.3 Description of the Kanal Odai Sub-Basin

The Gundar Basin has been divided into 9 sub basins and Kanal Odai is one of the sub basins. A stream Kanal Odai originates from the catchment from Mudukungualm and Allaperi Tanks in Kariapatti taluk in Virudhunagr District and joins Gundar. This stream receives the surplus of several tanks in Kariapatti, Thiruchuli taluks. Kanal Odai confluences with Gundar near Mandalamanickam Village in Kamuthi Taluk

The Kanal Odai Sub basin is located between latitude $9^0$25'00" N to $9^0$50'00" N and longitude $78^0$05'00" E to $78^0$25'00" E and is surrounded by Girudhumal Sub basin on the North and Upper gundar Sub basin on South. Kanal Odai Sub basin area is 417.57Sq.Km with a plain area. The taluks covered in the sub basin are Kariapatti,Thiruchuli,Thirumangalam,Manamadurai taluk of Virudhunagar,Madurai and Sivagangai District respectively. It receives an annual average rainfall of 796.20mm, with its major share during North-East Moonsoon. The winter water level varies from 5.75-6.25m and the summer water level varies from 6.75-7.50m.

There are **44** tanks situated within the Kanal Odai sub basin catchment area.

Apart from the resources from its own waterspread the Kanal Odai sub basin does not get any other Sources.The length of Tributary in Kanal Odai is 29KM.

# 1.1.1.CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN**

**District :Madruai**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activities | Nos.& length | Activities | Nos /Ha | Activities | Nos/Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **NALLUR CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: I** | MADURAI SOUTH | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Solankuruni Tank | | Solankuruni | | 27 | 29 | | | Paddy Vega table | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | Vegatable | 2.0 | | | | | | | Fodder | 0.2 | | |
| | | | - | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| | | | - | | | | | | | Supply channel | | | | | | | | | | | | | | | |
| 2 | Nallur Periakulam Tank | | Nallur Periakulam | | 90 | 27 | | | Paddy Banana Vega table | Strength tankbund | | SRI | 2 | Banan Vegatable | 2 10 | Drip | 3 | SRI | 2 | CG Dy | 1 1 | Fodder | 0.2 | | |
| | | | - | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | - | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| | | | - | | | | | | | Supply channel | | | | | | | | | | | | | | | |

## CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN** **District :Sivagangai**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activities | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **MUKKUDI CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: II** | THIRUPPUVANAM | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Pudukottai | | Pudukottai | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 2 | Mukkudi | | Mukkudi | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | - | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | - | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 3 | Kanjirankulam | | Kanjirankulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 4 | Sengulam | | Sengulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | - | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |

## CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN** **District :Virudhunagar**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activi ties | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activi ties | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **MUSTAKURICHI CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: III** | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Melakallankulam | KARIAPATTI | Melakallankulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 2 | Mustakurichi | | Mustakurichi | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 3 | K.Alankulam | | K.Alankulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 4 | Thimmapuram | Narikudi | Thimmapuram | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |

## CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN** **District :Virudhunagar**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activities | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activi ties | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| | **PAPPANAM CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: IV** | KARIAPATTI | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Pappanam | | Pappanam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 2 | Pallavarendal | | Pallavarendal | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 3 | V. Nangur | | V. Nangur | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 4 | Anmaiperuki | | Anmaiperuki | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |

## CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN** **District :Virudhunagar**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activi ties | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activi ties | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **ALLALAPERI CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: V** | Kariapatti | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Allalaperi Kanmoy | | Allalaperi | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 2 | M.Ilupaikulam | | M.Ilupaikulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 3 | Veppankulam | | Veppankulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 4 | Mudukkankulam | | Mudukkankulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |

# CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN**

**District :Virudhunagar**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activities | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **SOORANUR CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: VI** | kariapatti | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Thulukkankulam | | Thulukkankulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 2 | S.Maraikulam Tank | | S.Maraikulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 3 | Sooranur | | Sooranur | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 4 | Koovarkulam | kariapatti | Koovarkulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 5 | Karunkulam | | Karunkulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 6 | Ovarkulam | | Ovarkulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |

# CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN**

**District :Virudhunagar**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activities | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **THAMARAIKULAM CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: VII** | kariapatti | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Mela kanchrankulam | | | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| | | | | | | | | | | supply channel | | | | | | | | | | | | | | | |
| 2 | Thamaraikulam | | | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | - | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 3 | Esalimadai | | - | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | - | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | - | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |

# CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN**

**District :Virudhunagar**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activities | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **SENNILAIKUDI CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: VIII** | Thiruchuli | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Sennilaikudi | | Sennilaikudi | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 2 | Kokkulam | | Kokkulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 3 | Ambaneri | | Ambaneri | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | - | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| | | | - | | | | | | | supply channel | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

# CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN**

**District :Virudhunagar**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activi ties | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activi ties | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **VIDATHAKULAM CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: IX** | Thiruchuli | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Vidathakulam | | Vidathakulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 2 | Midhilaikulam | | Midhilaikulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 3 | Vembankudi | | Vembankudi | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 4 | Kuraiaraivasithan | | Kuraiaraivasithan | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |

# CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN**

**District :Virudhunagar**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activities | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **ANIKULAM CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: X** | Narikudi | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Sedhupuram | | Sedhupuram | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 2 | Anaikulam Periakanmoy | | Anaikulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| | | | | | | | | | | supply channel | | | | | | | | | | | | | | | |

# CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN**

**District :Virudhunagar**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activities | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **NALLUKURICHI CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: XI** | Narikudi | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Akkathakulam | | Akkathakulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 2 | V.Alankulam | | V.Alankulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 3 | Nallukurichi | | Nallukurichi | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| | | | | | | | | | | supply channel | | | | | | | | | | | | | | | |
| 4 | Sullankudi | | Sullankudi | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |

# CLUSTER CONVERGENCE TABLE - IIIRD PHASE SUB-BASINS

**Name of the Sub-basin:KANAL ODAI SUB BASIN**

**District :Virudhunagar**

| Sl.No | Clusters with the name of the tank | Name of the Cluster Blocks | Name of the Cluster Revenue Villages | Total Ayacut area in Ha | | | Total Area in Ha | | | WRD | | Agriculture | | Horticulture | | AED | | TNAU | | Agri marketing | | AHD | | Fisheries | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FI | PI | Gap area | WOP | WP | (Focus crop) | Activi ties | Nos.& length | Activities | Nos./ Ha | Activities | Nos./ Ha | Activi ties | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha | Activities | Nos./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 27 | 28 |
| | **PULVOIKARAI CLUSTER** | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CLUSTER: XII** | Narikudi | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | A.Mukkulam | | A.Mukkulam | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 2 | Kottakarai | | Kottakarai | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 3 | Pulvoikarai | | Pulvoikarai | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |
| 4 | Kalathur | | Kalathur | | | | | | | Strength tankbund | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment Sluice | | | | | | | | | | | | | | | |
| | | | | | | | | | | improve-ment weir | | | | | | | | | | | | | | | |

# 1.1.2.CONVERGENT TABLE- ABSTRACT (FOR EACH CLUSTER)

| Sl.No | Name of the cluster/ Infrastructure/Village | Total Ayacut (Ha) | | | Total Area (Ha) | | | WRD Activities | Agriculture | | TNAU | | Horticulture | | Agri marketing | | AED | | Fisheries | | Animal Husbandry | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FI | PI | Gap | Wop | WP | Gap | | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha |
| 1 | **2** | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 1 | I | | | | | | | Proposed Damaged Sluices to be reconstructed,repair works to be carried out for Sluices and weir,Strengthening the Tank Bund and Supply Channels. | | | | | | | | | | | | | | | |
| 2 | II | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| 3 | III | | | | | | | | | | | | | | | | | | | | | |
| 4 | IV | | | | | | | | | | | | | | | | | | | | | |

# CONVERGENT TABLE- ABSTRACT (FOR EACH CLUSTER)

| Sl.No | Name of the cluster/ Infrastructure/Village | Total Ayacut (Ha) | | | Total Area (Ha) | | | WRD Activities | Agriculture | | TNAU | | Horticulture | | Agri marketing | | AED | | Fisheries | | Animal Husbandry | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FI | PI | Gap | Wop | WP | Gap | | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha |
| 1 | **2** | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 5 | V | | | | | | | Proposed Damaged Sluices to be reconstructed,repair works to be carried out for Sluices and weir,Strengthening the Tank Bund and Supply Channels. | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| 6 | VI | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| 7 | VII | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| 8 | VIII | | | | | | | | | | | | | | | | | | | | | |

# CONVERGENT TABLE- ABSTRACT (FOR EACH CLUSTER)

| Sl.No | Name of the cluster/ Infrastructure/Village | Total Ayacut (Ha) | | | Total Area (Ha) | | | WRD Activities | Agriculture | | TNAU | | Horticulture | | Agri marketing | | AED | | Fisheries | | Animal Husbandry | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FI | PI | Gap | Wop | WP | Gap | | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha | Act | No./ Ha |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 9 | XI | | | | | | | Proposed Damaged Sluices to be reconstructed,repair works to be carried out for Sluices and weir,Strengthening the Tank Bund and Supply Channels. | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| 10 | X | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| 11 | XI | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| 12 | XII | | | | | | | | | | | | | | | | | | | | | |

# 1.2. HYDROLOGY

### 1.2.1. GENERAL

Kanal Odai is a separate river in the plain area.

### 1.2.2.LOCATION

The Gundar Basin has been divided into 9 sub basins and Kanal Odai is one of the sub basins. A stream Kanal Odai originates from the catchment from Mudukungualm and Allaperi Tanks in Kariapatti taluk in Virudhunagr District and joins Gundar. This stream receives the surplus of several tanks in Kariapatti, Thiruchuli taluks. Kanal Odai confluences with Gundar near Mandalamanickam Village in Kamuthi Taluk.

Kanal Odai Sub basin area is 417.57Sq.Km with a plain area. The taluks covered in the sub basin are Kariapatti,Thiruchuli,Thirumangalam,Manamadurai taluk of Virudhunagar,Madurai and Sivagangai District respectively.

### 1.2.3 CATCHMENT AREA OF KANAL ODAI SUB-BASIN

The Kanal Odai Sub Basin has a typical climate, owing to the extensive major catchments area in plains. Kanal Odai sub-basin enjoys the benefits of mostly North East monsoon and slightly in summer season.

### 1.2.4 HYDRO METEOROLOGY

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

### 1.2.4 RAIN FALL

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

| Sl No | Name of Rain gauge Station | North East Monsoon | Summer | South west monsoon | Winter | Annual |
|---|---|---|---|---|---|---|
| 1. | Kariapatti | 307 | 89 | 232 | 44 | 673 |
| 2. | Thiruchuli | 361 | 107 | 201 | 32 | 701 |
| 3 | Madurai Airport | 379 | 136 | 304 | 24 | 843 |
| | AVERAGE | 349 | 111 | 246 | 33 | 739 |

## a. CLIMATE

The Kanal Odai Sub basin lies in a low rainfall belt having an annual average rainfall of 739mm. Southwest monsoon contribute 246mm , while NE monsoon contributes 349mm. This basin receives a major share of its rainfall during NE monsoon. This monsoon helps to build up storage in the tanks Non system. This basin lies on the leeward side of Western Ghats on Western sides. Southwest monsoon rainfall, though lesser that the NE monsoon rainfall, still contribute some runoff helping to buildup storage in tanks. For the measurement of Hydro meteorological parameters in the basin area, there is one weather station at Kavalur near Virudhunagar, its data is taken for the study.

## b. SOIL CLASSIFICATION

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

(Change as suited to this sub-basin)

| | | |
|---|---|---|
| Inceptisol | Red or brown or grey soil with surface horizon more developed than sub surface. They are developing soils, moderately deep, coarse loamy to loam moderately drained to well drained | Suited for commonly grown crops with exceptions |
| Alfisol | The red or brown soils having accumulation of alleviated clay in sub surface horizon it well drained, poor water and nutrient holding capacity. | Annual crops with shallow roots systems cum up wells |
| Vertisols | Black soil | Suitable for cotton, Pulses etc |

## c. LAND HOLDINGS

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

| Category | Size of holdings | Numbers | Percentage |
|---|---|---|---|
| Marginal | Below 1.00 Ha | 18445 | 99 |
| Small | 1.00 – 2.00 Ha | 115 | 0.8 |
| Medium | 2.00 – 5.00 Ha | 25 | 0.2 |
| Big | 5.0 ha & above | -- | -- |
| Total | | 18585 | 100 |

Above table revealed that the marginal farmers alone accounted for 28 percent in the sub basin followed by small farmers. Developmental initiatives will be establishment in marginal and small farmers.

**1.2.6 DEMOGRAPHY**

| Name of Sub Basin | Total No. of Blocks | Total No. of Villages | Population | | |
|---|---|---|---|---|---|
| | | | 2005 | 2010 | 2020 |
| Kanal Odai Sub basin | 4 | 44 | 33000 | 35000 | 40000 |

**1.2.7 WATER POTENTIAL**

**Surface water potential** : 26.43 Mcum.

**Ground water yield** : 52.78 Mcum

**Total** : **79.21 Mcum**

**1.2.8 WATER DEMAND**

| | **WITHOUT PROJECT** | **WITH PROJECT** |
|---|---|---|
| i) Domestic | : 1.56 Mcum | 1.56 Mcum |
| ii) Live stock | : 4.39 Mcum | 4.39 Mcum |
| iii) Industrial | : 5.73 Mcum | 5.73 Mcum |
| iv) Irrigation(PWD Tanks) | : 26.90 Mcum | 27.44 Mcum |
| v)P.U.Tanks | : 9.06 Mcum | 9.06 Mcum |
| **Total** | **47.64 Mcum** | **48.18 Mcum** |

**1.2.9 WATER BALANCE**

**Surplus – 31.57 Mcum**

**31.03Mcum**

## CROPPING PATTERN

| | | | | | |
|---|---|---|---|---|---|
| Name of the sub Basin | **: Kanal odai** | Fully Irrigated | : | 1600.24 | Ha |
| Nodal District | : Virudhunagar | Partially Irrigated | : | 786.40 | Ha |
| Registered Ayacut Area | 3686.42 Ha. | Gap | : | 1299.78 | Ha |
| | | Total Ayacut Area | : | **3686.42** | Ha |

| S.No. | Crop | Without Project | | | | With Project | | | | Increas-ing |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FI | PI | RF/G | TOTAL | FI | PI | RF/G | TOTAL | |
| **I** | **Perennial crop** | | | | | | | | | |
| 1 | Jasmine | 4.00 | 0.00 | 0.00 | 4.00 | 8.00 | 0.00 | 0.00 | 8.00 | 4.00 |
| 2 | Fodder Grass | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 2.00 |
| | **Total** | **4.00** | **0.00** | **0.00** | **4.00** | **10.00** | **0.00** | **0.00** | **10.00** | 6.00 |
| **II** | **Annual Crop** | | | | | | | | | |
| 1 | Sugarcane | 29.00 | 0.00 | 0.00 | 29.00 | 29.00 | 0.00 | 0.00 | 29.00 | 0.00 |
| 2 | Banana | 33.31 | 0.00 | 0.00 | 33.31 | 35.00 | 0.00 | 0.00 | 35.00 | 1.69 |
| | **Total** | **62.31** | **0.00** | **0.00** | **62.31** | **64.00** | **0.00** | **0.00** | **64.00** | 1.69 |
| **III** | **1st crop** | | | | | | | | | |
| 1. a | Paddy | 1473.44 | 773.00 | 0.00 | 2246.44 | 0.00 | 0.00 | 0.00 | 0.00 | -2246.44 |
| b | Paddy SRI | 0.00 | 0.00 | 0.00 | 0.00 | 2040.52 | 0.00 | 0.00 | 2040.52 | 2040.52 |
| 2 | Maize | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | -1.00 |
| 3 | Pulses | 0.00 | 0.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 200.00 | 200.00 |
| 4 | Cotton | 0.00 | 4.40 | 0.00 | 4.40 | 4.40 | 0.00 | 0.00 | 4.40 | 0.00 |
| 5 | Cholam | 0.00 | 8.00 | 0.00 | 8.00 | 0.00 | 0.00 | 0.00 | 0.00 | -8.00 |
| 6 | Tomato | 8.51 | 0.00 | 0.00 | 8.51 | 13.00 | 0.00 | 0.00 | 13.00 | 4.49 |
| 7 | Brinjal | 8.23 | 0.00 | 0.00 | 8.23 | 24.60 | 0.00 | 0.00 | 24.60 | 16.37 |
| 8 | Bhendi | 11.15 | 0.00 | 0.00 | 11.15 | 189.00 | 0.00 | 0.00 | 189.00 | 177.85 |
| 9 | Chillies | 14.75 | 0.00 | 0.00 | 14.75 | 314.60 | 0.00 | 0.00 | 314.60 | 299.85 |
| 10 | Onion | 17.25 | 0.00 | 0.00 | 17.25 | 96.00 | 0.00 | 0.00 | 96.00 | 78.75 |
| 11 | Bitter gourd | 0.28 | 0.00 | 0.00 | 0.28 | 0.00 | 0.00 | 0.00 | 0.00 | -0.28 |
| 12 | Bottle gourd | 0.32 | 0.00 | 0.00 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | -0.32 |
| 13 | Senna | 0.00 | 0.00 | 0.00 | 0.00 | 60.00 | 0.00 | 0.00 | 60.00 | 60.00 |
| 14 | Fodder Cholam | 0.00 | 0.00 | 0.00 | 0.00 | 63.00 | 0.00 | 0.00 | 63.00 | 63.00 |
| 15 | Prosophis | 0.00 | 0.00 | 707.30 | 707.30 | 0.00 | 0.00 | 607.30 | 607.30 | -100.00 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 | Fallow | 0.00 | 0.00 | 592.48 | 592.48 | 0.00 | 0.00 | 0.00 | 0.00 | -592.48 |
| | **Total** | **1533.93** | **786.40** | **1299.78** | **3620.11** | **3005.12** | **0.00** | **607.30** | **3612.42** | -7.69 |
| **IV** | **Grand Total (I+II+III)** | **1600.24** | **786.40** | **1299.78** | **3686.42** | **3079.12** | **0.00** | **607.30** | **3686.42** | 0.00 |
| | **2 nd crop** | | | | | | | | | |
| 1. a | Paddy | 20.40 | 0.00 | 0.00 | 20.40 | 0.00 | 0.00 | 0.00 | 0.00 | -20.40 |
| b | Paddy SRI | 0.00 | 0.00 | 0.00 | 0.00 | 60.00 | 0.00 | 0.00 | 60.00 | 60.00 |
| 2 | Maize | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 100.00 | 100.00 |
| 3 | Pulses | 0.00 | 0.00 | 0.00 | 0.00 | 180.00 | 0.00 | 0.00 | 180.00 | 180.00 |
| 4 | Pulses (Rice fallow) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | Groundnut | 0.00 | 28.40 | 0.00 | 28.40 | 50.00 | 0.00 | 0.00 | 50.00 | 21.60 |
| | **Total** | **20.40** | **28.40** | **0.00** | **48.80** | **390.00** | **0.00** | **0.00** | **390.00** | 341.20 |
| | **Great Grand Total** | **1620.64** | **814.80** | **1299.78** | **3735.22** | **3469.12** | **0.00** | **607.30** | **4076.42** | 341.20 |
| | **Cropping Intensity** | | | | **66.07%** | | | | **94.11%** | |

### 1.2.11 LIVE STOCK - POPULATION

| Name of Sub basin | Cattle | Buffalo | Sheep | Goats | Pigs | Dogs | Others |
|---|---|---|---|---|---|---|---|
| **Kanal Odai** | 13234 | 3709 | 18575 | 18220 | 1308 | 1985 | 38 |
| **Requirement** | 0.531 | 0.203 | 0.136 | 0.133 | 0.019 | 0.011 | 0.00 |

**CROP WATER REQUIREMENT ( WITHOUT PROJECT )**

| Sl.No. | Name of Crop<br><br>Ist Crop | Area in Ha | Crop water requirement | | Irrigation requirement in Mcum/Ha @ 53% efficiency |
|---|---|---|---|---|---|
| | | | mm | Mcum/Ha | |
| 1 | Paddy | 2231.44 | 601 | 13.41 | 25.30 |
| 2 | Cholam | 8.00 | 290 | 0.02 | 0.04 |
| 3 | Maize | 1.00 | 290 | 0.003 | 0.006 |
| 4 | Chillies | 11.75 | 656 | 0.08 | 0.15 |
| 5 | Cotton | 4.40 | 486 | 0.021 | 0.04 |
| | **Vegetable** | | | | |
| 6 | Bhendi | 13.15 | 434 | 0.057 | 0.11 |
| 7 | Brinjal | 7.23 | 434 | 0.31 | 0.06 |
| 8 | Tomato | 8.51 | 434 | 0.04 | 0.07 |

| | | | | | |
|---|---|---|---|---|---|
| 9 | Onion | 17.25 | 434 | 0.07 | 0.13 |
| 10 | Bitter Gourd | 0.28 | 434 | 0.001 | 0.002 |
| 11 | Bottle Gourd | 0.32 | 434 | 0.001 | 0.002 |
| 12 | Sugarcane | 29.00 | 845 | 0.25 | 0.46 |
| 13 | Banana | 30.31 | 873 | 0.26 | 0.50 |
| 14 | Flower | 4.00 | 408 | 0.02 | 0.03 |
| | Sub Total | 2366.64 | | | |
| 15 | Fallow / Gap | 612.48 | | | |
| 16 | Prosophis | 707.30 | | | |
| 17 | Total Ayacut | 3686.42 | | | |
| | **IInd crop** | NIL | | | |
| | **Total Requirement Without Project** | | | | **26.90mcum** |

## CROP WATER REQUIREMENT ( WITH PROJECT )

**Ist CROP**

| Sl. No. | Name of Crop | Area in Ha | Crop water requirement | | Irrigation requirement in Mcum/ Ha @ 60 % efficiency | | | Total Mcum |
|---|---|---|---|---|---|---|---|---|
| | | | mm | Mcum/Ha | | | | |
| | | | | | At source n =0.6 | Dripp n=0.80 | Sprinkler n=0.70 | |
| 1 | Paddy SRI | 1797.50 | 601 | 10.80 | 18.00 | | | 18.00 |
| 2 | Pulses(Blackgram) | 210.00 | 284 | 0.60 | 0.99 | | | 0.99 |
| 3 | Fodder Cholam | 63.00 | 290 | 0.182 | 0.30 | | | 0.30 |
| 4 | Chillies | 308.60 | 656 | 2.02 | 3.37 | | | 3.37 |
| 5 | **Vegetable** | | | | | | | |
| | Bhendi | 197.00 | 434 | 0.85 | 1.41 | | | 1.41 |
| | Brinjal | 23.60 | 434 | 0.10 | 0.17 | | | 0.17 |
| | Tomato | 11.51 | 434 | 0.050 | 0.16 | | | 0.16 |
| | Onion | 96.00 | 434 | 0.42 | 0.70 | | | 0.70 |
| | Senna(Cholam) | 60.00 | 290 | 0.17 | 0.29 | | | 0.29 |
| 6 | Sugarcane | 29.00 | 845 | 0.24 | 0.41 | | | 0.41 |
| 7 | Banana | 30.00 | 873 | 0.26 | 0.44 | | | 0.44 |
| | | | | | | | | |
| | | **TOTAL** | | | | | | **26.24** |

**Total Requirement with Project : 26.24Mcum.**

**For IInd CROP**

| Sl. No. | Name of Crop | Area in Ha | Crop water requirement | | Irrigation requirement in Mcum/ Ha @ 60 % efficiency | | | Total Mcum |
|---|---|---|---|---|---|---|---|---|
| | | | mm | Mcum/Ha | | | | |
| | | | | | At source n =0.6 | Dripp n=0.80 | Sprinkler n=0.70 | |
| 1 | Maize | 100.00 | 290 | 0.29 | 0.48 | | | 0.48 |
| 2 | Pulses | 150.00 | 284 | 0.43 | 0.72 | | | 0.72 |
| | | TOTAL | | | | | | 1.20 |

**Grand Total (I-Crop + II-Crop + III-Crop) = 26.24+1.20= 27.44Mcum**

**1.2.15 WATER DEMAND WITH PROJECT = 26.90 MCum**

**1.2.15WATER DEMAND WITHOUT PROJECT = 27.44 Mcum**

**1.2.7 WATER POTENTIAL**

**Surface water potential** : 26.43 Mcum.

**Ground water yield** : 52.78 Mcum

**Total** : **79.21 Mcum**

| **1.2.8 WATER DEMAND** | **WITHOUT PROJECT** | **WITH PROJECT** |
|---|---|---|
| i) Domestic | : 1.56 Mcum | 1.56 Mcum |
| ii) Live stock | : 4.39 Mcum | 4.39 Mcum |
| iii) Industrial | : 5.73 Mcum | 5.73 Mcum |
| iv) Irrigation(PWD Tanks) | : 26.90 Mcum | 27.44 Mcum |
| v)P.U.Tanks | : 9.06 Mcum | 9.06 Mcum |
| **Total** | **47.64 Mcum** | **48.18 Mcum** |

**1.2.9 WATER BALANCE**

**Surplus – 31.57 Mcum** **31.03Mcum**

# 1.3. HYDRAULICS OF THE COMPONENTS

# 1.3.1.HYDRAULIC PARTICULARS

## 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 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | NIL | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

## 1.3.2.System Tanks- Nil

## 1.3.3. Non System Tanks

| Sl.No. | Name of Tank | Ayacut in Ha | Capacity | Catchment area | water spread area | FTL | MWL | No of Sluice | No of Weir | Length of weir | Length of bund | Village benefitted |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| | **Madurai South** | | | | | | | | | | | |
| 1 | Nalur Periyakulam | 117.02 | 32.270 | 14.880 | 0.967 | 121.550 | 121.550 | 4 | 1 | 37.79 | 1560 | Nallur |
| 2 | Cholankurini | 55.85 | 6.640 | 3.391 | 0.584 | 130.300 | 130.300 | 3 | 1 | 34.43 | 1530 | Cholankurini |
| | **Manamadurai** | | | | | | | | | | | |
| 3 | Pudukottai | 42.69 | 27.08 | 9.09 | 4.19 | 15.83 | 16.43 | 4 | 2 | 42.37 | 1250 | Pudukottai |
| 4 | Mukkudi | 82.57 | 36.8 | 1.2 | 7.35 | 15.86 | 14.16 | 3 | 1 | 59.47 | 2438 | Mukkudi |
| 5 | Kanjirankulam | 56.05 | 9.5 | 1.15 | 3.93 | 14.92 | 15.52 | 4 | 1 | 29.27 | 1829 | Kanjirankulam |
| 6 | Sengulam | 59.44 | 10.13 | 12.05 | 4.75 | 12.00 | 12.60 | 3 | 1 | 50.59 | 1463 | Sengulam |
| | **Kariapatty** | | | | | | | | | | | |
| 7 | Allalaperi | 234.09 | 30.31 | 74.46 | 11.33 | 15.240 | 15.845 | 12 | 2 | 61.00 | 3962 | Allalaperi |
| 8 | Anmaiperukki | 45.48 | 15.34 | 26.92 | 4.50 | 14.020 | 14.620 | 3 | 2 | 55.80 | 2314 | Anmaiperukki |
| 9 | Pappanam | 149.40 | 60.00 | 3.57 | 3.00 | 17.680 | 18.280 | 2 | 3 | 100.10 | 1311 | Pappanam |
| 10 | Pallavarendal | 68.17 | 4.87 | 1.81 | 2.92 | 14.020 | 14.620 | 2 | 1 | 18.90 | 1707 | Pallavarendal |
| 11 | Mustakurichi | 133.72 | 10.32 | 12.16 | 0.33 | 98.270 | 98.870 | 2 | 1 | 27.90 | 1320 | Mustakurichi |
| 12 | Melakallankulam | 67.17 | 0.17 | 2.88 | 0.29 | 105.100 | 105.550 | 4 | 1 | 24.22 | 1890 | Melakallankulam |
| 13 | Thimmapuram | 68.37 | 29.74 | 4.507 | 0.64 | 100.045 | 100.645 | 3 | 1 | 15.30 | 2756 | Thimmapuram |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | V. Nangoor | 69.15 | 34.69 | 23.44 | 1.04 | 92.270 | 92.830 | 3 | 2 | 59.50 | 3200 | V. Nangoor |
| 15 | T. Veppankulam | 44.38 | 12.26 | 10.36 | 4.60 | 14.020 | 14.630 | 2 | 1 | 35.00 | 1067 | T. Veppankulam |
| 16 | M. Iluppaikulam | 43.77 | 13.25 | 19.310 | 3.92 | 15.240 | 15.695 | 3 | 2 | 46.00 | 2134 | Iluppaikulam |
| 17 | Mudukkankulam | 186.60 | 38.03 | 60.06 | 12.01 | 30.480 | 31.090 | 5 | 3 | 119.00 | 3018 | Mudukkankulam |
| 18 | S. Maraikulam | 54.63 | 11.37 | 3.1 | -- | 14.175 | 14.775 | -- | 1 | 27.40 | -- | Maraikulam |
| 19 | Karungulam | 71.11 | 8.27 | 3.29 | 3.84 | 15.085 | 15.695 | 3 | 1 | 26.50 | 1402 | Karungulam |
| 20 | Sooranur | 61.75 | 1.87 | 17.86 | 1.36 | 15.085 | 15.695 | 5 | 2 | 43.60 | 2865 | Sooranur |
| 21 | Koovarkulam | 41.85 | 11.36 | 12.69 | 4.70 | 14.935 | 15.535 | 4 | 1 | 33.50 | 2103 | Koovarkulam |
| 22 | Overkulam | 52.17 | 7.72 | 5.86 | 3.31 | 14.935 | 15.535 | 3 | 2 | 64.60 | 2103 | Overkulam |
| 23 | Esalimadai | 66.54 | 22.10 | 22.78 | 8.32 | 15.240 | 15.840 | 3 | 1 | 24.40 | 3249 | Esalimadai |
| 24 | Melakanchirankulam | 41.84 | 14.95 | 5.17 | 5.24 | 14.330 | 14.930 | 4 | 1 | 19.80 | 1981 | Melakanchirankulam |
| 25 | Thamaraikulam | 62.46 | 11.39 | 1.5 | 5.10 | 12.340 | 12.940 | 2 | 1 | 18.00 | 1798 | Thamaraikulam |
| 26 | K. Alangulam | 68.47 | 11.77 | 18.13 | 3.34 | 96.800 | 97.485 | 3 | 1 | 22.90 | 1780 | K. Alangulam |
| 27 | Thulukkankulam | 50.12 | -- | 2.87 | -- | 14.780 | 15.240 | -- | -- | -- | 1000 | Thulukkankulam |
| | **Thiruchuli** | | | | | | | | | | | |
| 28 | Sennilaikudi | 178.76 | 42.47 | | 2.25 | | | 8 | 2 | 57.83 | 5548 | Sennilaikudi |
| 29 | Kokkulam | 53.73 | 11.09 | | 4.20 | | | 1 | 1 | 18.29 | 1890 | Kokkulam |
| 30 | Vidathakulam | 65.25 | 15.39 | 42.70 | 5.77 | 55.00 | 57.00 | 1 | 2 | 70.71 | 2256 | Vidathakulam |
| 31 | Ambaneri | 95.46 | 32.00 | 13.19 | 2.02 | 14.325 | 14.925 | 4 | -- | -- | 4481 | Ambaneri |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | Mithilaikulam | 54.38 | 15.13 | 42.70 | 6.26 | 15.24 | 15.84 | 3 | 2 | 65.53 | 2195 | Mithilaikulam |
| 33 | Sethupuram | 44.07 | 6.05 | 3.44 | 18.15 | 55.805 | 56.405 | 1 | 1 | 5.00 | 3210 | Sethupuram |
| 34 | Anaikulam | 534.86 | 104.83 | 42.70 | 37.00 | 15.24 | 15.84 | 7 | -- | -- | 7220 | Anaikulam |
| 35 | Agathakulam | 43.09 | 4.28 | | 3.21 | | | 3 | 2 | 14.60 | 1960 | Agathakulam |
| 36 | Kurayara vasithan | 63.05 | 13.69 | 37.01 | 4.16 | 11.630 | 15.230 | 5 | 1 | 47.60 | 2235 | Kurayara vasithan |
| 37 | Nallukurichi | 78.10 | 22.90 | 26.64 | 175.00 | 50.00 | 52.00 | 4 | 1 | 28.24 | 2804 | Nallukurichi |
| 38 | Sullankudi | 52.02 | 10.74 | | 4.33 | | | 4 | 1 | 40.54 | 1950 | Sullakudi |
| 39 | Vembankudi | 43.75 | 26.02 | | 7.37 | | | 3 | -- | -- | 1326 | Vembankudi |
| 40 | V. Alangulam | 45.20 | 11.77 | 8.62 | 3.34 | 100.00 | 100.600 | 3 | 1 | 22.90 | 1780 | Alangulam |
| 41 | A.Mukkulam | 40.59 | 12.11 | 5.73 | 5.80 | 92.50 | 93.10 | 4 | -- | -- | 1620 | V. Kidakulam |
| 42 | Kalathur | 46.16 | 11.73 | 18.43 | 4.75 | 15.55 | 16.15 | 4 | 1 | 32.94 | 1708 | Kalathur |
| 43 | Pulvaikarai | 63.21 | 14.8 | 7.98 | 6.49 | 30.48 | 31.08 | 6 | 2 | 53.82 | 2440 | Pulvaikarai |
| 44 | Kottakarai | 89.88 | 9.4 | 3.65 | 4.03 | 30.78 | 31.38 | 4 | 1 | 21.35 | 2074 | K. Nedungulam |
| | **Total** | **3686.42** | | | | | | | | | | |

## 1.3.4. SUPPLY CHANNELS HAVING DIRECT AYACUT

| Sl.NO | Name of supply channel | Start Point | | End Point | | Length in metres | Bed width | Bed slope | Side slope | MFD | Depth of flow | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location | Sill level | Location | Sill level | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| _____ | | | | | | NIL | _____ | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

# 1.4 Participatory Irrigation Management (PIM)

# Salient Features of Implementation of PIM in Kanal Odai Sub-basin

1) **The Sub-basin:** This is one of the nine sub-basins of the Gundar River Basin. Totally 44 irrigation tanks are under the control of Water Resources Department (WRD) of Public Works Department (PWD) in this sub-basin. The list of Tanks covered with more details are furnished in the **Annexure – 1**. These **44** tanks are located within the sub-basin's hydraulic boundary spread over 44villages of Kariapatti,Thiruchuli,Thirumangalam,Manamadurai taluk of Virudhunagar,Madurai and Sivagangai District respectively.Mudulathur and kadaladi of Ramanathapuram District. **The total Command area under these44 tanks works out to 3686.42ha. (Annexure 1)**

2) **Command area:**

| | | |
|---|---|---|
| i. | Under Non-system tanks (44 tanks) | **3686.42ha** |
| Total | (44) Tanks | **3686.42ha** |

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

| | |
|---|---|
| i) Associations **proposed to be formed** under IAMWARM Project covering 44 tanks and villages only | 24 Nos (3686.42 ha) |

4) An account of "Awareness creation".
Activities undertaken and "Walkthrough Surveys" carried out:

i) There are 44 tanks in the sub-basin spread over 44 villages.

ii) As detailed out in Annexure – 01. All these villages were visited by the WRD officials and awareness about various activities, contemplated under IAMWARM project has been created.

iii) Details of villages covered, walkthrough surveys conducted, farmers attended, list of works suggested by the farmers, list of works analysed and finalized by WRD officials, are all furnished in the Annexure – 02.

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 farming Management committees will be completed by end of Jan 2010.
7) Initiating and completing the process of publishing EOI to hire Support Organisation at sub-basin level (End of June 2009)
8) Providing Request for Proposals (RFPs) to all the short listed agencies, and obtaining Technical and Cost Proposals (Middle of August, 2009)
9) Selection and deployment of Support Organisation to the sub-basin (End of May, 2009)
10) Appointment and the Role of Competent Authorities:
   i) Section 26 of the Tamil Nadu Farmers' Management of Irrigation Systems (TNFMIS) Act provides for the appoint 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-option or assistance, as may be required by the Competent Authority, for carrying out all the tasks related to implementation of TNFMIS Act.

   ii) It is proposed to form 24 WUAs only under IAMWARM Project to cover a command area of 3686.42 ha.

   .

   iii) 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 Division

Officers working in the

**Kanal Odai Sub-basin**:

a.Assistant Executive Engineer; W.RO; P.W.D. Gundar Basin Sub Division

Thirumangalam -----WUA's----KO 1-2

Kariapatti ----WUA's-----KO 3-11

Thiruchuli ----WUA's-----KO 12-20

Manamadurai -----WUA's----KO 21-24

.List of Competent Authorities:

| | |
|---|---|
| a. Section Officer, WRD, Irrigation Section,GundarBasin, Madurai. | WUA's KO–1-2 |
| b. Section Officer, WRD, Irrigation Section,Gundar Basin,Kariapatti(I&II). | WUA's KO –3-11 |
| c. Section Officer, WRD, Irrigation Section,Gundar Basin,Kariapatti(II) & Kallikudi Secton. | WUA's KO –12-20 |
| d. Section Officer, WRD, Irrigation Section,(II) LowerGundarBasin, Sivagangai.. | WUA's KO–21-24 |

11) Involvement of farmers in the preparation "Scheme Modernisation Plans".

i) Based on the outcome of the "Awareness Creation Programme" and Walkthrough survey carried out with the involvement of farmers, a list of tasks proposed to be taken up for "Modernization" under IAMWARM project was discussed with No.of farmers from 44 villages and the tasks was also prepared and exhibited in the Notice Board of the Village Administrative Officers Office and Panchayat Office.

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 Panchayath Office, 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 WRD, as well as the Executive Engineer of WRD, who has been designated as the Nodal Officer for the sub-basin concerned.

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

iv) The WRD officers were also informed that hey are personally responsible for handing over the irrigation systems after completing the tasks related to modernization of Irrigation systems.

12) Current status of Recovery of water charges:

i) An enquiry conducted with the "Village Administrative Officers" (VAO's) of randomly selected villages (15 numbers out of 89 villages), the normal water charges recovery as informed by the VAO, works out to 50-60% only, about the expected percentage of 80-90%.

ii) With the proposal to form new WUA's under IAMWARM in Kanal Odai Sub-basin", the Managing Committee **will be trained** to take up the responsibility of improving the **Water charges recovery percentage.** These will be followed up, after completing the modernization tasks and handing over of the O & M responsibilities to WUAs.

**13) "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 WUA's 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 WUA's in all aspects of the TNFMIS Act, TNFMS Rules and Election procedures for constituting the "Managing Committees" of the WUA's.

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

| **DETAILS OF WUAs PROPOSED / EXISTING IN KANAL ODAI SUB-BASIN** | | | | |
|---|---|---|---|---|
| **Sl. No.** | **WUA No.** | **Tank & villages it covers** | **Name of the WUA** | **Ayacut Area in Ha** |
| **Existing WUAs** | | | | |
| | | | **NIL** | |
| **Proposed WUAs** | | | | |
| 1 | KO-1 | Cholankurini | Cholankurini Water Users Association | 55.85 |
| 2 | KO-2 | Nalur Periyakulam | Nallur Water Users Association | 117.02 |
| 3 | KO-3 | K. Alangulam & Melakallankulam | K. Alangulam & Melakallankulam Water Users Association | 132.62.5 |
| 4 | KO-4 | Mudukkangulam & Karungulam | Mudukkangulam & Karungulam Water Users Association | 250.91.0 |
| 5 | KO-5 | Allalaperi & Melakanjirangulam | Allalaperi & Melakanjirangulam Water Users Association | 269.14.00 |
| 6 | KO-6 | Mustakurichi & Pallavarendal | Allalaperi & Melakanjirangulam Water Users Association | 167.49.5 |
| 7 | KO-7 | Thimmapuram | Thimmapuram Water Users Association | 65.34.0 |
| 8 | KO-8 | Thulukkangulam, S. Maraikulam, Sooranur, Koovarkulam & overkulam | Thulukkangulam, S. Maraikulam, Sooranur, Koovarkulam & overkulam Water Users Association | 267.23.9 |

| | | | | |
|---|---|---|---|---|
| 9 | KO-9 | V. Nangoor, T. Veppangulam & M. Illuppaikulam | V. Nangoor, T. Veppangulam & M. Illuppaikulam Water Users Association | 152.36.5 |
| 10 | KO-10 | Thamaraikulam & Esalimadai | Thamaraikulam & Esalimadai Water Users Association | 127.59.5 |
| 11 | KO-11 | Pappanam & Anmaiperukki | Pappanam & Anmaiperukki Water Users Association | 185.53.0 |
| 12 | KO-12 | Anaikulam | Anaikulam Water Users Association | 534.86 |
| 13 | KO-13 | Vidathakulam, Mithilaikulam & Akathakulam | Vidathakulam, Mithilaikulam & Akathakulam Water Users Association | 162.72 |
| 14 | KO-14 | Ambaneri, Kokkulam & Sethupuram | Ambaneri, Kokkulam & Sethupuram Water Users Association | 183.26.0 |
| 15 | KO-15 | Sennilaikudi | Sennilaikudi Water Users Association | 248.78.5 |
| 16 | KO-16 | Kuraiyaravasithan, Nallukurichi, sullangudi & Alangulam | Kuraiyaravasithan, Nallukurichi, sullangudi & Alangulam Water Users Association | 238.37.0 |
| 17 | KO-17 | Vempangudi | Vempangudi Water Users Association | 43.75.0 |
| 18 | KO-18 | Pulvoikarai & Kottakarai | Pulvoikarai & Kottakarai Water Users Association | 153.09.0 |
| 19 | KO-19 | Kalathur | Kalathur Water Users Association | 46.16.0 |
| 20 | KO-20 | A. Mukkulam | A. Mukkulam Water Users Association | 46.59.0 |
| 21 | KO-21 | Pudukottai | Pudukotta Water Users Association | 42.69 |
| 22 | KO-22 | Mukkudui | Mukkudui Water Users Association | 82.57 |
| 23 | KO-23 | Kanjanrankulam | Kanjanrankulam Water Users Association | 56.05 |
| 24 | KO-24 | Sengukulam | Sengukulam Water Users Association | 59.44 |
| | | TOTAL | | **3686.42** |

***KO –** Kanal Odai sub basin Non system tank

.

**Annexure –1**

**An Assessment of Command Area and WUAs under the Control of WRO of PWD in "KANAL ODAI Sub – basin".**

| Sl No. | Name of Irrigation Systems and Tanks | Command area in (ha) | Location of the Command Area | | | Coverage of Command Area under Different project (ha) | | Status of Formation of WUAs in the sub basin | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Village | Taluk | District | WRCP and Others | IAM WARM | Formed under WRCP (Code) | To be formed under IAMWARM (Code) |
| | **Non –system Tanks** | | | | | | | | |
| 1 | Nalur Periyakulam | 117.02 | Nallur | Madurai South | MADURAI | ----- | ----- | ----- | To be formed under IAMWARM |
| 2 | Cholankurini | 55.85 | Cholankurini | | | ----- | ----- | ----- | --do-- |
| 3 | Pudukottai | 42.69 | Pudukottai | Manamadurai | SIVAGANGAI | ----- | ----- | ----- | --do-- |
| 4 | Mukkudi | 82.57 | Mukkudi | | | ----- | ----- | ----- | --do-- |
| 5 | Kanjirankulam | 56.05 | Kanjirankulam | | | ----- | ----- | ----- | --do-- |
| 6 | Sengulam | 59.44 | Sengulam | | | | | | --do-- |
| 7 | Allalaperi | 234.09 | Allalaperi | Kariapatti | VIRUDHUNAGAR | | | | --do-- |
| 8 | Anmaiperukki | 45.48 | Anmaiperukki | | | ----- | ----- | ----- | --do-- |
| 9 | Pappanam | 149.40 | Pappanam | | | ----- | ----- | ----- | --do-- |
| 10 | Pallavarendal | 68.17 | Pallavarendal | | | ----- | ----- | ----- | --do-- |
| 11 | Mustakurichi | 133.72 | Mustakurichi | | | ----- | ----- | ----- | --do-- |
| 12 | Melakallankulam | 67.17 | Melakallankulam | | | ----- | ----- | ----- | --do-- |
| 13 | Thimmapuram | 68.37 | Thimmapuram | | | ----- | ----- | ----- | --do-- |
| 14 | V. Nangoor | 69.15 | V. Nangoor | | | ----- | ----- | ----- | --do-- |
| 15 | T. Veppankulam | 44.38 | T. Veppankulam | | | ----- | ----- | ----- | --do-- |
| 16 | M. Iluppaikulam | 43.77 | Iluppaikulam | | | ----- | ----- | ----- | --do-- |
| 17 | Mudukkankulam | 186.60 | Mudukkankulam | | | ----- | ----- | ----- | --do-- |
| 18 | S. Maraikulam | 54.63 | Maraikulam | | | ----- | ----- | ----- | --do-- |
| 19 | Karungulam | 71.11 | Karungulam | | | ----- | ----- | ----- | --do-- |
| 20 | Sooranur | 61.75 | Sooranur | | | ----- | ----- | ----- | --do-- |
| 21 | Koovarkulam | 41.85 | Koovarkulam | | | ----- | ----- | ----- | --do-- |
| 22 | Overkulam | 52.17 | Overkulam | | | ----- | ----- | ----- | --do-- |
| 23 | Esalimadai | 66.54 | Esalimadai | | | ----- | ----- | ----- | --do-- |
| 24 | Melakanchirankulam | 41.84 | Melakanchirankulam | | | ----- | ----- | ----- | --do-- |
| 25 | Thamaraikulam | 62.46 | Thamaraikulam | | | ----- | ----- | ----- | --do-- |
| 26 | K. Alangulam | 68.47 | K. Alangulam | | | ----- | ----- | ----- | --do-- |
| 27 | Thulukkankulam | 50.12 | Thulukkankulam | | | ----- | ----- | ----- | --do-- |
| 28 | Sennilaikudi | 178.76 | Sennilaikudiikudi | Thu | | ----- | ----- | ----- | --do-- |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 29 | Kokkulam | 53.73 | Kokkulam | h | | ----- | ----- | ----- | --do-- |
| 30 | Vidathakulam | 65.25 | Vidathakulam | | | ----- | ----- | ----- | --do-- |
| 31 | Ambaneri | 95.46 | Ambaneri | i | | ----- | ----- | ----- | --do-- |
| 32 | Mithilaikulam | 54.38 | Mithilaikulam | | | ----- | ----- | ----- | --do-- |
| 33 | Sethupuram | 44.07 | Sethupuram | r | | ----- | ----- | ----- | --do-- |
| 34 | Anaikulam | 534.86 | Anaikulam | | | ----- | ----- | ----- | --do-- |
| 35 | Agathakulam | 43.09 | Agathakulam | u | | ----- | ----- | ----- | --do-- |
| 36 | Kurayara vasithan | 63.05 | Kurayara vasithan | c | | ----- | ----- | ----- | --do-- |
| 37 | Nallukurichi | 78.10 | Nallukurichi | h | | ----- | ----- | ----- | --do-- |
| 38 | Sullankudi | 52.02 | Sullakudi | | | ----- | ----- | ----- | --do-- |
| 39 | Vembankudi | 43.75 | Vembankudi | u | | ----- | ----- | ----- | --do-- |
| 40 | V. Alangulam | 45.20 | Alangulam | | | ----- | ----- | ----- | --do-- |
| 41 | A.Mukkulam | 40.59 | V. Kidakulam | l | | ----- | ----- | ----- | --do-- |
| 42 | Kalathur | 46.16 | Kalathur | | | ----- | ----- | ----- | --do-- |
| 43 | Pulvaikarai | 63.21 | Pulvaikarai | i | | ----- | ----- | ----- | --do-- |
| 44 | Kottakarai | 89.88 | K. Nedungulam | | | ----- | ----- | ----- | --do-- |
| | TOTAL | **3686.4** | | | | | | | |

.

## Annexure-2

**Details of "Awarness Creation Activities and Walk Through Surveys"**

**Name of the Sub Basin:Kanal Odai**

| SI.NO | Date of Visit | Names if the Villages Visited | Awareness Programme(No.of Farmers attended) (Prepare the list of farmers with ackonolwdgement sperately and attach) | Walk Through Survey(No.of Farmers Participated) (Prepare the list of farmers with ackonolwdgement seperately and attach) | Remarks |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | 26.11.08 | Koovarkulam | 9Nos | 9Nos | |
| 2 | 26.11.08 | Sooranur | 11Nos | 11Nos | |
| 3 | 26.11.08 | ovarkulam | 9Nos | 9Nos | |
| 4 | 2.12.08 | Esalimadai | 10Nos | 10Nos | |
| 5 | 2.12.08 | Thamaraikulam | 12Nos | 12Nos | |
| 6 | 2.12.08 | Thulukkankulam | 11Nos | 11Nos | |
| 7 | 2.12.08 | Vidathakulam | 8Nos | 8Nos | |
| 8 | 2.12.08 | Mithilaikulam | 8Nos | 8Nos | |
| 9 | 2.12.08 | Kokkulam | 12Nos | 12Nos | |
| 10 | 3.12.08 | Mustakuruchi | 5Nos | 5Nos | |
| 11 | 11.12.08 | A. Mukkulam | 6Nos | 6Nos | |
| 12 | 18.12.08 | Anaikulam | 10Nos | 10Nos | |
| 13 | 18.12.08 | Sethupuram | 9Nos | 9Nos | |
| 14 | 18.12.08 | Mudukkankulam | 18Nos | 18Nos | |
| 15 | 18.12.08 | M.Illuppaikulam | 5Nos | 5Nos | |
| 16 | 18.12.08 | V.Nangoor | 14Nos | 14Nos | |
| 17 | 23.12.08 | Pulvoikkarai | 8Nos | 8Nos | |
| 18 | 23.12.08 | Kalathur | 4Nos | 4Nos | |
| 19 | 18.1.09 | Cholanguruni | 5Nos | 5Nos | |
| 20 | 27.1.09 | Vembankudi | 4Nos | 4Nos | |
| 21 | 27.1.09 | Kurayaravasithan | 5Nos | 5Nos | |
| 22 | 27.1.09 | Sullankudi | 11Nos | 11Nos | |
| 23 | 27.1.09 | Nallukurichi | 8Nos | 8Nos | |
| 24 | 27.1.09 | V.Alangulam | 6Nos | 6Nos | |
| 25 | 27.1.09 | Akathakulam | 3Nos | 3Nos | |

| | | | | | |
|---|---|---|---|---|---|
| 26 | 27.1.09 | Ambaneri | 5Nos | 5Nos | |
| 27 | 27.1.09 | Sennilaikudi | 10Nos | 10Nos | |
| 28 | 28.1.09 | Pappanam | 8Nos | 8Nos | |
| 29 | 28.1.09 | T.Veppankulam | 12Nos | 12Nos | |
| 30 | 28.1.09 | S. Maraikulam | 7Nos | 7Nos | |
| 31 | 28.1.09 | Karunkulam | 4Nos | 4Nos | |
| 32 | 28.1.09 | Anmaiperukki | 3Nos | 3Nos | |
| 33 | 28.1.09 | Thimmapuram | 10Nos | 10Nos | |
| 34 | 28.1.09 | K.Alankulam | 5Nos | 5Nos | |
| 35 | 28.1.09 | Melakallankulam | 8Nos | 8Nos | |
| 36 | 28.1.09 | Pallavarendal | 4Nos | 4Nos | |
| 37 | 18.2.09 | Kottakarai | 7Nos | 7Nos | |

## Annexure-3

## Details of Modernisation works as suggested by the Farmers and as finalised by the Officials of WRO

**Name of the Sub Basin:Kanal Odai**

| S.No | Date of Visit | Names if the Villages Visited | Outcome of wald through survey and discussions with farmers | |
|---|---|---|---|---|
| | | | Works suggested by Farmers | Works finalized by WRO Officials |
| 1 | 2 | 3 | 4 | 5 |
| 1 | 26.11.08 | Koovarkulam | Farmers requested to reconstruct the retaining walls in weaker portion if tank bund, to desilt the tank, repairs to sluices,and fixing shutters.So that can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 2 | 26.11.08 | Sooranur | Farmers requested to desilt the tank, construction of retaining walls in weater portion of tank bund, repairs to second and third sluices, Demarking and fixing boundary stones, and construction of field bothies.So that can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 3 | 26.11.08 | ovarkulam | Farmers requested to desilt the tank, fromL.S .0mto850m,construction of Retaining wall near second Sluice,Construction of Leading Channel for sluices, Repairs to weir. So that can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 4 | 18.12.08 | V.Nangoor | Farmers requested to reconstrucstion of first Sluice,Providing S.G.Shutters,Reconstruction of Weir.so that can use water at the end of crop peiod without any deficit. | All Works are fulfilled |
| 5 | 2.12.08 | Esalimadai | Farmers requested to reconstrucstion of all Sluices,to Desilt the tank and construcstion of Retaining walls .So that can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 6 | 2.12.08 | Thamaraikulam | Farmers requested to Desilt the tank,Repairs to all Sluices and construcstion of Leading Channels,So that can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 7 | 2.12.08 | Thulukkankulam | Farmers requested to Reconstrucst the two Sluices,construction of Retaining Wall near four Sluice and to Desilt the tank.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |

| | | | | |
|---|---|---|---|---|
| 8 | 2.12.08 | Vidathakulam | Farmers requested to Desilt the tank and construcstion of Retaining Wall on both side of Sluice.so that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 9 | 2.12.08 | Mithilaikulam | Farmers requested to Desilt the tank and construcstion of two Sluices.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 10 | 2.12.08 | Kokkulam | Farmers requested to Desilt the tank,Reconstrucstion of Sluices,construcstion of Retaining wall on both side of sluice and desilt the supply channel.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 11 | 3.12.08 | Mustakuruchi | Farmers requested to Desilt the tank,Repair to Sluicesand Construcstion of Sluice Leading Channels and also construction of Retaining walls in weaker portion of bund .So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 12 | 11.12.08 | A. Mukkulam | Farmers requested to improve the tank bund,Reconstruction of 4 sluices, repairs to weir. So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 13 | 18.12.08 | Anaikulam | Farmers requested to Desilt the tank,Reconstrucstion of Sluice number secen and Repairs to sluice number three, repairs to weir, construcstion of retaining wall on both sides of sluice number seven.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 14 | 18.12.08 | Sethupuram | Farmers requested to Desilt the tank,Repair to Sluice and weir.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 15 | 18.12.08 | Mudukkankulam | Farmers requested to,Reconstrucstion of Sluice number one and two,construcstion of Leading Channel for sluice number five,repair to sluice three and four construction of retaining wall from sluice number three and five and also reconstruction of surplus escape.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 16 | 18.12.08 | M.Illuppaikulam | Farmers requested to Reconstrucstion of Sluice number two and construction of retaining wall from sluice one to two.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 17 | 23.12.08 | Pulvoikkarai | Farmers requested to reconstruction of first weir, reconstruction of 4 Nos. of sluices tank bund improvements, Construction of retaining wall near Iind weir.So that can use water at the end of crop period without any deficit. | All Works are fulfilled |

| | | | | |
|---|---|---|---|---|
| 18 | 23.12.08 | Kalathur | Farmers requested to reconstruction of sluice 3 Nos, reconstruction of surplus weir, tank bund improvements. So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 19 | 18.1.09 | Cholanguruni | Farmers requested to Repairs the two sluice & weir,desilt the tank,strengthening the tank bund desilt the supply channel.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 20 | 27.1.09 | Vembankudi | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No. I & 2 and to fix shutters for weir .So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 21 | 27.1.09 | Kurayaravasithan | Farmers requested to desilt the tank,Reconstrucstion of Sluices No. 3&4, Repairs to sluices 1,2&5, to fix shutters for weir.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 22 | 27.1.09 | Sullankudi | Farmers requested to desilt the tank,Reconstrucstion of Sluices No. 3, construction of retaining wall near 3rd sluice, repairs to weir. So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 23 | 27.1.09 | Nallukurichi | Farmers requested to desilt the tank,Reconstrucstion of Sluices 4Nos, Repairs to weir, to desilt the supply channel from Nallukurichi anicut. So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 24 | 27.1.09 | V.Alangulam | Farmers requested to Desilt the tank,Reconstrucstion of 3 Sluices .So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 25 | 27.1.09 | Akathakulam | Farmers requested to Desilt the tank,Construction of leading channel for 2 sluices.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 26 | 27.1.09 | Ambaneri | Farmers requested to Desilt the tank,Reconstrucstion of Sluice 3,4 & 5,Repair to weir , So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 27 | 27.1.09 | Sennilaikudi | Farmers requested to Desilt the tank in right flank,Construcstion of sand vent, retaining wall on bothsides of sand vent, Repairs to weir.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 28 | 28.1.09 | Pappanam | Farmers requested to Desilt the tank,Reconstrucstion of Sluices 2 &4, Repairs to sluice No.1,Repairs to weir and to desilt the supply channel.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |

| | | | | |
|---|---|---|---|---|
| 29 | 28.1.09 | T.Veppankulam | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No.2,Repair to weir to desilt supply channel entirely.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 30 | 28.1.09 | S. Maraikulam | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No.3& 4, Repair to Sluice No.2,Repair to weir So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 31 | 28.1.09 | Karunkulam | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No.1,Repair to Sluice No.2,Repair to weir..So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 32 | 28.1.09 | Anmaiperukki | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No.2,Repair to 2 Sluices. So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 33 | 28.1.09 | Thimmapuram | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No.1, Construction of leading channel for sluice no.2 ,Repair to weir, Construcstion of retaining wall near weir.So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 34 | 28.1.09 | K.Alankulam | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No 2 & 3,Construcstion of retaining wall near sluice no.2 and3. So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 35 | 28.1.09 | Melakallankulam | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No 2 & 4,Construcstion of retaining wall . So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 36 | 28.1.09 | Pallavarendal | Farmers requested to Desilt the tank,Repairs to sluice 2 Nos. Construction of leading channel and to fix shuttrs,Construcstion of retaining wall near sluices, repairs to weir . So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |
| 37 | 18.2.09 | Kottakarai | Farmers requested to Desilt the tank,Repairs to sluice two Nos.,Reconstruction of two Sluice,Repair to one Weir . So that they can use water at the end of crop period without any deficit. | All Works are fulfilled |

**STATEMENT SHOWING DETAILS OF WALK THROUGH SURVEY CONDUCTED IN KANAL ODAI SUB BASIN**

| S.No | Date of walk through survey | Location | Taluk | Farmers request | Technical solution | Proposal in the plan |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | 26.11.08 | Koovarkulam | Kariapatti | Farmers requested to reconstruct the retaining walls in weaker portion if tank bund, to desilt the tank, repairs to sluices,and fixing shutters.So that can use water at the end of crop period without any deficit. | Yes. Problem mentioned by the farmers are correct.Repairs to sluices,desilting the tank and construction of retaining wall may be carried out. | It is proposed to repairs to all sluices, fixing shutters and desilsting the tank. |
| 2 | 26.11.08 | Sooranur | Kariapatti | Farmers requested to desilt the tank, construction of retaining walls in weater portion of tank bund, repairs to second and third sluices, Demarking and fixing boundary stones, and construction of field bothies.So that can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are correct.Repairs to two Sluices,Construction of retaining wall.Desilting the tank and Demarking and fixing Boundary Stones may be carried out. | It is proposed to proposed to repairs to second and third Sluices,construction of Retaining Walls in weaker portion of bund, Desilting the tank and demarking and fixing Boundary stones. |
| 3 | 26.11.08 | ovarkulam | Kariapatti | Farmers requested to desilt the tank, fromL.S .0mto850m,construction of Retaining wall near second Sluice,Construction of Leading Channel for sluices, Repairs to weir. So that can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are correct. Desilt the tank from L.S. 0mto850m,construction of retaining Wall near Second Sluice, construction of leading Channel for Sluices,repairs to weir may be carried out. | It is proposed to Desilt the tank,construction of retaining wall,leading channel to sluices, repairs to weir. |
| 4 | 2.12.08 | V.Nangoor | Kariapatti | Farmers requested to reconstrucstion of first Sluice,Providing S.G.Shutters,Reconstruction of Weir.so that can use water at the end of crop peiod without any | Yes.Problem mentioned by the farmers are correct.Reconstruction of first Sluice,Construction of Leading Channels fixing Shutters for Sluice Numbers two,three and four may be carried out. | It is proposed to Reconstruction of first Sluice,Construction of Leading Channels fixing Shutters for Sluice Numbers two,three and four may be |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | deficit. | | carried out. |
| 5 | 2.12.08 | Esalimadai | Kariapatti | Farmers requested to reconstrucstion of all Sluices,to Desilt the tank and construcstion of Retaining walls .So that can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are correct.Reconstruction of all Sluices,to Desilt the tank and construcstion of retaining wall may be carried out. | It is proposed to Reconstruction of all Sluices,to Desilt the tank and construcstion of retaining wall may be carried out. |
| 6 | 2.12.08 | Thamaraikulam | Kariapatti | Farmers requested to Desilt the tank,Repairs to all Sluices and construcstion of Leading Channels,So that can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are correct.Desilt the tank,Repairs to all Sluices and construcstion of Leading Channel may be carried out. | It is proposed to Desilt the tank,Repairs to all Sluices and construcstion of Leading Channel may be carried out. |
| 7 | 2.12.08 | Thulukkankulam | Kariapatti | Farmers requested to Reconstrucst the two Sluices,construction of Retaining Wall near four Sluice and to Desilt the tank.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are correct.Reconstruction of Sluice one and three construction of Retaining wall near fouth Sluices and to desilt the tank may be carried out. | It is proposed to reconstruction of two Sluices,construcstion of retaining wall and desilting the tank. |
| 8 | 2.12.08 | Vidathakulam | Thiruchuli | Farmers requested to Desilt the tank and construcstion of Retaining Wall on both side of Sluice.so that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are correct.Desilting the tank,construction of Retaining wall on both side of Sluice may be carried out. | It is proposed to Desilting the tank and Construction of Retaining wall. |
| 9 | 2.12.08 | Mithilaikulam | Thiruchuli | Farmers requested to Desilt the tank and construcstion of two Sluices.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilting the tank,Reconstruction of two Sluices may be carried out. | It is proposed to Desilting the tank and Reconstruction of two Sluices. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 10 | 2.12.08 | Kokkulam | Thiruchuli | Farmers requested to Desilt the tank,Reconstrucstion of Sluices,construcstion of Retaining wall on both side of sluice and desilt the supply channel.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilting the tank and supply channel,Reconstruction of Sluice and construcstion of retaining wall may be carried out. | It is proposed to Desilting the tank and Reconstruction of Sluices and construction of Retaining wall. |
| 11 | 3.12.08 | Mustakuruchi | Kariapatti | Farmers requested to Desilt the tank,Repair to Sluicesand Construcstion of Sluice Leading Channels and also construction of Retaining walls in weaker portion of bund .So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct. Desilt the tank,Repair to Sluicesand Construcstion of Sluice Leading Channels and also construction of Retaining walls in weaker portion of bund may be carried out. | It is proposed to Desilt the tank,Repair to Sluicesand Construcstion of Sluice Leading Channels and also construction of Retaining walls in weaker portion of bund. |
| 12 | 11.12.08 | A. Mukkulam | Thiruchuli | Farmers requested to improve the tank bund,Reconstruction of 4 sluices, repairs to weir. So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Standards the tank bund,Reconstruction of 4 sluices ,repairs to weir may be carried out. | It is proposed to improve the tank bund,Reconstruction of 4 sluices ,repairs to weir |
| 13 | 18.12.08 | Anaikulam | Thiruchuli | Farmers requested to Desilt the tank,Reconstrucstion of Sluice number secen and Repairs to sluice number three, repairs to weir, construcstion of retaining wall on both sides of sluice number seven.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluice number secen and Repairs to sluice number three, repairs to weir, construcstion of retaining wall on both sides of sluice number seven may be carried out. | It is proposed to Desilt the tank,Reconstrucstion of Sluice number secen and Repairs to sluice number three, repairs to weir, construcstion of retaining wall on both sides of sluice number seven. |
| 14 | 18.12.08 | Sethupuram | Thiruchuli | Farmers requested to Desilt the tank,Repair to Sluice and weir.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Repair to Sluice and weir may be carried out. | It is proposed to Desilt the tank,Repair to Sluice and weir. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 15 | 18.12.08 | Mudukkankulam | Kariapatti | Farmers requested to,Reconstrucstion of Sluice number one and two,construcstion of Leading Channel for sluice number five,repair to sluice three and four construction of retaining wall from sluice number three and five and also reconstruction of surplus escape.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluice number one,two,three and four repairs to weir may be carried out. | It is proposed to Desilt the tank,Reconstrucstion of Sluice number one,two,three and four repairs to weir. |
| 16 | 18.12.08 | M.Illuppaikulam | Kariapatti | Farmers requested to Reconstrucstion of Sluice number two and construction of retaining wall from sluice one to two.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct. Reconstrucstion of Sluice number two and construction of retaining wall from sluice one to two may be carried out. | It is proposed to Reconstrucstion of Sluice number two and construction of retaining wall from sluice one to two. |
| 17 | 23.12.08 | Pulvoikkarai | Thiruchuli | Farmers requested to reconstruction of first weir, reconstruction of 4 Nos. of sluices tank bund improvements, Construction of retaining wall near lind weir.So that can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are correct. Reconstruction of first weir, reconstruction of 4 Nos. of sluices tank bund improvements, Construction of retaining wall near lind weir may be carried out. | It is proposed to reconstruction of first weir, reconstruction of 4 Nos. of sluices tank bund improvements, Construction of retaining wall near lind weir |
| 18 | 23.12.08 | Kalathur | Thiruchuli | Farmers requested to reconstruction of sluice 3 Nos, reconstruction of surplus weir, tank bund improvements. So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are correct. Reconstruction of sluice 3 Nos, reconstruction of surplus weir, tank bund improvements may be carried out. | It is proposed to recons-truction of sluice 3 Nos, reconstruction of surplus weir, tank bund improvements |
| 19 | 27.1.09 | Vembankudi | Thiruchuli | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No. I & 2 and to fix shutters for weir .So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluice number I & 2 and to fix shutters for weir may be carried out. | It is proposed to desilt the tank,Reconstrucstion of Sluice number I & 2 and to fix shutters for weir |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 18.1.09 | Cholanguruni | Madurai South | Farmers requested to Repairs the two sluice & weir,desilt the tank,strengthening the tank bund desilt the supply channel.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are scrutinised and found to be wedf all. | It is proposed to desilt the tank & supply channel and repairs to the two sluices and weir. |
| 20 | 27.1.09 | Kurayaravasithan | Thiruchuli | Farmers requested to desilt the tank,Reconstrucstion of Sluices No. 3&4, Repairs to sluices 1,2&5, to fix shutters for weir.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluices No. 3&4, Repairs to sluices 1,2&5, to fix shutters for weir. may be carried out. | It is proposed to desilt the tank,Reconstrucstion of Sluices No. 3&4, Repairs to sluices 1,2&5, to fix shutters for weir. |
| 21 | 27.1.09 | Sullankudi | Thiruchuli | Farmers requested to desilt the tank,Reconstrucstion of Sluices No. 3, construction of retaining wall near 3rd sluice, repairs to weir. So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.desilt the tank,Reconstrucstion of Sluices No. 3, construction of retaining wall near 3rd sluice, repairs to weir may be carried out. | It is proposed to desilt the tank,Reconstrucstion of Sluices No. 3, construction of retaining wall near 3rd sluice, repairs to weir |
| 22 | 27.1.09 | Nallukurichi | Thiruchuli | Farmers requested to desilt the tank,Reconstrucstion of Sluices 4Nos, Repairs to weir, to desilt the supply channel from Nallukurichi anicut. So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluices 4Nos, Repairs to weir, to desilt the supply channel from Nallukurichi anicut may be carried out. | It is proposed to desilt the tank,Reconstrucstion of Sluices 4Nos, Repairs to weir, to desilt the supply channel from Nallukurichi anicut |
| 23 | 27.1.09 | V.Alangulam | Thiruchuli | Farmers requested to Desilt the tank,Reconstrucstion of 3 Sluices .So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of 3 Sluices may be carried out. | It is proposed to desilt the tank,Reconstrucstion of 3 Sluices . |

| | | | | | | |
|---|---|---|---|---|---|---|
| 24 | 27.1.09 | Akathakulam | Thiruchuli | Farmers requested to Desilt the tank,Construction of leading channel for 2 sluices.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Construction of leading channel for 2 sluices.may be carried out. | It is proposed to desilt the tank,Construction of leading channel for 2 sluices. |
| 25 | 27.1.09 | Ambaneri | Thiruchuli | Farmers requested to Desilt the tank,Reconstrucstion of Sluice 3,4 & 5,Repair to weir , So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluice 3,4 & 5, Repair to weir may be carried out. | It is proposed to Desilt the tank,Reconstrucstion of Sluice 3,4 & 5,Repair to weir |
| 26 | 27.1.09 | Sennilaikudi | Thiruchuli | Farmers requested to Desilt the tank in right flank,Construcstion of sand vent, retaining wall on bothsides of sand vent, Repairs to weir.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank in right flank,Construcstion of sand vent, retaining wall on bothsides of sand vent, Repairs to weirmay be carried out. | It is proposed to desilt the tank in right flank,Construcstion of sand vent, retaining wall on bothsides of sand vent, Repairs to weir |
| 27 | 28.1.09 | Pappanam | Kariapatti | Farmers requested to Desilt the tank,Reconstrucstion of Sluices 2 &4, Repairs to sluice No.1,Repairs to weir and to desilt the supply channel.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluices 2 &4, Repairs to sluice No.1,Repairs to weir and to desilt the supply channel may be carried out. | It is proposed to Desilt the tank,Reconstrucstion of Sluices 2 &4, Repairs to sluice No.1,Repairs to weir and to desilt the supply channel. |
| 28 | 28.1.09 | T.Veppankulam | Kariapatti | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No.2,Repair to weir to desilt supply channel entirely.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank, Reconstrucstion of Sluice No.2,Repair to weir to desilt supply channel entirely may be carried out. | It is proposed to desilt the tank,Reconstrucstion of Sluice No.2,Repair to 2 Sluices |

| | | | | | | |
|---|---|---|---|---|---|---|
| 29 | 28.1.09 | S. Maraikulam | Kariapatti | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No.3& 4, Repair to Sluice No.2,Repair to weir So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluice No.3& 4, Repair to Sluice No.2,Repair to weir may be carried out. | It is proposed to Desilt the tank,Reconstrucstion of Sluice No.3& 4, Repair to Sluice No.2,Repair to weir |
| 30 | 28.1.09 | Karunkulam | Kariapatti | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No.1,Repair to Sluice No.2,Repair to weir..So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluice No.1,Repair to Sluice No.2,Repair to weir may be carried out. | It is proposed to Desilt the tank,Reconstrucstion of Sluice No.1,Repair to Sluice No.2,Repair to weir |
| 31 | 28.1.09 | Anmaiperukki | Kariapatti | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No.2,Repair to 2 Sluices. So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluice No.2,Repair to 2 Sluices may be carried out. | It is proposed to Desilt the tank,Reconstrucstion of Sluice No.2,Repair to 2 Sluices |
| 32 | 28.1.09 | Thimmapuram | Kariapatti | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No.1, Construction of leading channel for sluice no.2 ,Repair to weir, Construcstion of retaining wall near weir.So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluice No.1, Construction of leading channel for sluice no.2 ,Repair to weir, Construcstion of retaining wall near weir.may be carried out. | It is proposed to Desilt the tank,Reconstrucstion of Sluice No.1, Construction of leading channel for sluice no.2 ,Repair to weir, Construcstion of retaining wall near weir. |
| 33 | 28.1.09 | K.Alankulam | Kariapatti | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No 2 & 3,Construcstion of retaining wall near sluice no.2 and3. So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluice No 2 & 3,Construcstion of retaining wall near sluice no.2 and3.may be carried out. | It is proposed to Desilt the tank,Reconstrucstion of Sluice No 2 & 3,Construcstion of retaining wall near sluice no.2 and3. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 34 | 28.1.09 | Melakallankulam | Kariapatti | Farmers requested to Desilt the tank,Reconstrucstion of Sluice No 2 & 4,Construcstion of retaining wall . So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Reconstrucstion of Sluice No 2 & 4,Construcstion of retaining wall . may be carried out. | It is proposed to Desilt the tank,Reconstrucstion of Sluice No 2 & 4,Construcstion of retaining wall . |
| 35 | 28.1.09 | Pallavarendal | Kariapatti | Farmers requested to Desilt the tank,Repairs to sluice 2 Nos. Construction of leading channel and to fix shuttrs,Construcstion of retaining wall near sluices, repairs to weir . So that they can use water at the end of crop period without any deficit. | Yes.Problem mentioned by the farmers are found be correct.Desilt the tank,Repairs to sluice 2 Nos. Construction of leading channel and to fix shuttrs,Construcstion of retaining wall near sluices, repairs to weir may be carried out. | It is proposed to Desilt the tank,Repairs to sluice 2 Nos. Construction of leading channel and to fix shuttrs,Construcstion of retaining wall near sluices, repairs to weir |

**ABSTRACT**

1. Command Area already covered under WRCP and other projects / schemes **Nil**

2. Command Area Proposed to be covered under IAMWARM Project **3686.42 ha.**

3. Total Command area controlled by WRO of PWD in the sub basin **3686.42ha.**

4. Total No.of WUA's already formed under WRCP **Nil**

5. Total No.of WUA's proposed to be formed under IAMWARM **24 Nos.**

6.Total No.of WUA's that will cover the entire sub –basin **24 Nos.**

# 1.5 IRRIGATION INFRASTRUCTURE

## 1.5.1.List of Anicuts

**NAME OF THE SUB BASIN: KANAL ODAI**

| Sl. No | Anicuts | Village | Block | Taluk | District | Direct Ayacut Area in Ha | Capacity |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| _____ | | | **NIL** | _____ | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## 1.5.2. LIST OF NON SYSTEM TANKS

| Sl. N0 | Name of Tank | Village | Block | District | Ayacut Ha | Remarks |
|---|---|---|---|---|---|---|
| 1 | Solankuruni Tank | Solankuruni | Thirupparan-kundram | Madurai | 55.85 | |
| 2 | Nallur Periakulam Tank | Nallur | | | 117.02 | |
| 3 | Pudukottai | Pudukottai | Thirupuvanam | Sivagangai | 42.69 | |
| 4 | Mukkudi | Mukkudi | | | 82.57 | |
| 5 | Kanjirankulam | Kanjirankulam | | | 56.05 | |
| 6 | Sengulam | Sengulam | | | 59.44 | |
| 7 | Melakallankulam | Melakallankulam | Kariapatti | Virudhunagar | 67.17 | |
| 8 | Mustakurichi | Mustakurichi | | | 133.72 | |
| 9 | K. Alankulam | Alankulam | | | 68.47 | |
| 10 | Thimmapuram | Thimmapuram | Narikudi | | 68.37 | |
| 11 | Pappanam | Pappanam | | | 149.40 | |
| 12 | Pallavarendal | Pallavarendal | Kariapatti | | 68.17 | |
| 13 | V. Nangur | V. Nangur | | | 69.15 | |
| 14 | Anmaiperuki | Anmaiperuki | Kariapatti | Virudhunagar | 45.48 | |
| 15 | Allalaperi Kanmoy | Allalaperi | | | 234.09 | |
| 16 | M.Ilupaikulam | Ilupaikulam | | | 43.77 | |
| 17 | T.Veppankulam | Veppankulam | | | 44.38 | |
| 18 | Mudukkankulam | Mudukkankulam | | | 186.60 | |
| 19 | Thulukkankulam | Thulukkankulam | | | 50.12 | |
| 20 | S.Maraikulam Tank | Marikulam | | | 54.63 | |
| 21 | Sooranur | Sooranur | | | 61.75 | |
| 22 | Koovarkulam | Koovarkulam | | | 41.85 | |
| 23 | Karunkulam | Karunkulam | | | 71.11 | |
| 24 | Overkulam | Ovarkulam | | | 52.17 | |
| 25 | Mela kanchirankulam Tank | Mela kanchrankulam | | | 41.84 | |
| 26 | Thamaraikulam | Thamaraikulam | | | 62.46 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 27 | Esalimadai | Settikulam | | | 66.54 | |
| 28 | Sennilaikudi | Sennilaikudi | Thiruchuli | Virudhunagar | 178.76 | |
| 29 | Kokkulam | Kokkulam | | | 53.73 | |
| 30 | Ambaneri | Ambaneri | | | 95.46 | |
| 31 | Vidathakulam | Vidathakulam | | | 65.25 | |
| 32 | Midhilaikulam | Midhilaikulam | | | 54.38 | |
| 33 | Vembankudi | Vembankudi | | | 43.75 | |
| 34 | Kuraiaraivasithan | Kuraiaraivasithan | | | 63.05 | |
| 35 | Sedhupuram | Sedhupuram | | | 44.07 | |
| 36 | Anaikulam Periakanmoy | Anaikulam | | | 534.86 | |
| 37 | Akkathakulam | Akkathakulam | | | 43.09 | |
| 38 | V.Alankulam | Alankulam | Narikudi | | 45.20 | |
| 39 | Nallukurichi | Nallukurichi | | | 78.10 | |
| 40 | Sullankudi | Sullankudi | | | 52.02 | |
| 41 | A.Mukkulam | Mukkulam | | | 40.59 | |
| 42 | Kottakarai | Kottakarai | | | 89.88 | |
| 43 | Pulvoikarai | Pulvoikarai | | | 63.21 | |
| 44 | Kalathur | Kalathur | | | 46.16 | |
| | | **Total** | | | **3686.42** | |

## 1.5.3. List of Supply Channel

| SI.No | Name of Supply Channel | Off take point | Length in Km | Village | Block | Taluk | District | Direct Ayacut in Ha |
|---|---|---|---|---|---|---|---|---|
| 1 | Ambaneri | | 0.579 | Ambaneri | Narikudi | Thiruchuli | Virudhunagar | |
| 2 | Anaikulam | | 8.100 | Anaikulam | | | | |
| 3 | Nallukurichi | | 6.736 | Nallukurichi | | | | |
| 4 | Melakanchirankulam | | 0.732 | Melakanchirankulam | Karia-patti | Karia-patti | | |

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

**NAME OF THE SUB BASIN: KANAL**
**ODAI**

| Sl. No. | Name of Anicut / Tank | Ayacut | Scheme in which executed | Amount (lakhs) | Details of components executed | Details of Components proposed in IAMWARM |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | Allalaperi | 234.09 | NABARD | 65.00 | Earth Work for bund,construction of Sluice,sluice Repair,Field bothies Surplus course,Supply Channel. | Constn. Of RW,RC of Sluice,Boundary Stone. |
| 2 | Anaikulam | 534.86 | NABARD | 84.00 | Earth Work for Bund,Weir Repairs,Supply Channel,Sluice Repairs. | Constn RW,RE of Sluice and Weir,RC of Sluice,DS chl ,Providing S.G.Shutter and Boundary Stone.<br>E.W. for damaged portion of bund for 500M length (during floods 2008 only proposed) |
| 3 | Sennilaikudi | 178.76 | PART-II Scheme | 27.50 | Earth Work for Bund(Part),Second Sluices Reconstruction. | St.TB,RE of Weir ,Providing S.G.Shutter,constn.H.S., and Boundary Stone.<br>E.W. for bund balance portion only proposed |
| 4 | Ambaneri | 95.46 | MP/MLA Scheme | 15.00 | Earth Work for Bund,Reconstruction of Sluice number two. | Constn. Of RW,RC of Sluice,RE of Sluice&Weir and Boundary Stone,constn.,H.S.,DS chl. |

**1.5.5.ABSTRACT ON THE DETAILS OF IRRIGATION INFRASTRUCTURE AVAILABLE AND WORKS TAKEUP UNDER IAMWARM PROJECT**

**Name of Sub Basin:** Kanal Odai

| SI.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 | LENGTH | DIRECT AYACUT | |
| 1 | Available Infrastructure in sub basin | -- | -- | -- | -- | -- | -- | 44 | 12.61 | 3686.42 | -- | -- | |
| 2 | Infrastructure excluded in iamwarm project since works carried out under various schemes from 2000 | -- | -- | -- | -- | -- | -- | 4 | -- | 1043.17 | -- | -- | |
| 3 | Infrastructures that does not require any rehabilitation works | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| 4 | Works taken up in iamwarm project i)Works taken up under WRCP but also in IAMWARM | -- | -- | -- | -- | -- | -- | 4 | -- | 1043.17 | -- | | Though the 4Nos.of tanks taken up in other scheme,they are included in this scheme also balance components works are only proposed in this scheme. |
| | ii)Work proposed in IAMWARM | -- | -- | -- | -- | -- | -- | 40 | 12.61 | 2643.25 | -- | -- | |

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

## 1.6. REHABILITATION OF IRRIGATION INFRASTRUCTURE OF THE KANAL ODAI SUB-BASIN

### 1.6.1 STRUCTURAL STATUS & DEFICIENCIES IN THE SYSTEM

The following are the present structural condition of the Kanal Odai sub basin system.

1. This system is a old system existing for more than 100 Years, as such requires Rehabilitation of tanks and its supply channels.
2. The tanks and its supply channels are heavily silted up which require Strengthening of tank bund and Improvements to Supply Channels.
3. The damaged (or) dilapidated condition of the Sluices, Weirs of tanks and Head Sluices of Supply Channels need Repairs.

In order to improve the conveyance and Operational Efficiency in Irriagtion, it is now proposed to improve and modernize the Irrigation Infrastructures in Kanal Odai Sub basin.

1. Strengthening of tank bund by earthwork excavation using machineries.
2. Desilting the supply channels by earthwork excavation using machineries
3. Providing Bed bars to maintain the bed level and inner slopes of the supply channels
4. Repairing, Restoring the traditional water bodies (i.e. tanks)
   a. Restoring the capacity of the tanks, supply channels by desilting
   b. Strengthening the tank bund with Free board of 1.50m with consolidation by power roller for effective storing the water and conveying it to the entire command area and also for conveying agriculture inputs to the field.
   c. Reconstruction of Collapsed weirs
   d. Repairs to the damaged weirs
   e. Reconstruction of Collapsed Sluices
   f. Repairs to the damaged Sluices
   g. Providing Model Sections and Retaining walls in selective area of the tanks
   h. Providing S.G. Shutter / Plug arrangements to Sluices, Head sluices, Scour vents etc.,
   i. Fixing Boundary Stones in the tanks to prevent encroachment

j. Removing, Repairing and refixing in position of the existing S.G. shuttering arrangements and providing locking arrangements etc.,

k. Provisions for Turfing the rear side slopes of the tank bund near Sluices and Weir

**Desilting the Supply channel:**

There are 44tanks situated within Kanal Odai Sub Basin catchment area. The Supply origin from its own water spread area of the tanks.. These supply channels are heavily silted up, which results adequate quantum of water is not carried out through these channels to these tanks; and finds its way though adjacent cultivated fields. Lesser quantum of water flows to the tanks and balance water is over flanked and flows into agricultural lands.

By restoring these supply channel to the original section to carry adequate discharge to the tanks without over flanking, the desilting of supply channel is proposed in this project, with necessary Bed bars.

**1.6.2 Outcome of the Project**

**1.** Increase in conveyance efficiency from 53% to 60%

**2.** The present Gap area of 1299.36 ha. is to be reduced as 607.30 ha and 556.60 ha converted as fully irrigated area.

**3.** The following irrigation infrastructure development works are proposed in the sub basin

Rehabilitation works for 44 tanks (4 Nos of Tanks were taken up during the year 2002-2007 in Nabard and Part II scheme, for which balance components of work only proposed, which were not done in those Schemes.

Rehabilitation of supply channel for 12.61KM.

**Kanal Odai - Details of proposals in each Infrastructure of the sub basin**

| Sl. No | Name of tank/ Anicut/ Reservoir | Tank Bund and Model section | | | Sluice | | | | | Shutter for Sluice | | Weir | | | | | Shutter for Weir | | Supply Channel | | Measuring Device | | Amount in Lakhs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Length | Proposed Length | Amt | Total No of Sluice | No.of Recons | Amt | No.of.Repairs | Amt | Nos | Amt | Total No.of Weir | Reconstruction | | Repair | | Nos | Amt | Length(m) | Amt | NOS | Amt | |
| | | | | | | | | | | | | | Nos | Amt | Nos | Amt | | | | | | | |
| 1 | 2 | | 3 | 4 | | 5 | | 6 | | 9 | 10 | | 7 | | 8 | | 9 | 10 | 11 | 12 | 11 | 12 | 13 |
| | **Madurai South** | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Nalur Periyakulam | 1560 | 1560 | 12.46 | 4 | | 0 | 2 | 4.07 | | | 1 | | | | | | | 2.3 | 4.1 | 4 | 0.63 | 21.26 |
| 2 | Cholankurini | 1530 | 1530 | 12.55 | 3 | | 0 | 2 | 1.12 | | | 1 | | | | | | | 1.7 | 3.2 | 3 | 0.47 | 17.34 |
| | **Kariapatty** | | | | | | | | | | | | | | | | | | | | | | 0.00 |
| 3 | Allalaperi | 3962 | | 0.00 | 11 | 3 | 9.3 | | | | | 1 | | | | | | | | | 11 | 1.81 | 11.11 |
| 4 | Anmaiperukki | 2134 | 2134 | 10.84 | 3 | 1 | 3.66 | 2 | 1.01 | | | 2 | | | 1 | 2 | | | | | 3 | 0.5 | 18.05 |
| 5 | Pappanam | 1311 | 1311 | 10.31 | 2 | 2 | 5.89 | | | | | 2 | | | 1 | 1.9 | | | | | 2 | 0.33 | 18.47 |
| 6 | Pallavarendal | 1707 | 1707 | 13.59 | 2 | | 0 | 2 | 3.05 | | | 1 | | | 1 | 1.3 | | | | | 2 | 0.33 | 18.22 |
| 7 | Mustakurichi | 1320 | 1320 | 10.84 | 2 | | 0 | 2 | 2.96 | | | 1 | | | | | | | | | 2 | 0.33 | 14.13 |
| 8 | Melakallankulam | 1890 | 1890 | 14.81 | 4 | 2 | 5.93 | 2 | 2.46 | | | 1 | | | | | | | | | 4 | 0.66 | 23.86 |
| 9 | Thimmapuram | 2756 | 2756 | 16.15 | 3 | 1 | 4.4 | 2 | 2.71 | | | 2 | | | | | | | | | 3 | 0.5 | 23.76 |
| 10 | V. Nangoor | 3200 | 3200 | 17.47 | 3 | 1 | 3.56 | 2 | 2.44 | | | 1 | | | 1 | 4.1 | | | | | 3 | 0.5 | 28.02 |
| 11 | T. Veppankulam | 1067 | 1067 | 8.78 | 2 | 1 | 3.41 | 1 | 0.6 | | | 1 | | | | | | | | | 2 | 0.33 | 13.12 |
| 12 | M. Iluppaikulam | 2134 | 1768 | 6.14 | 3 | 1 | 3.61 | 2 | 2.48 | | | 2 | | | | | | | | | 2 | 0.33 | 12.56 |
| 13 | Mudukkankulam | 3018 | 3018 | 12.46 | 5 | 2 | 6.38 | 3 | 1.68 | | | 3 | | | 1 | 1.9 | | | | | 3 | 0.5 | 22.95 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | S. Maraikulam | 1676 | 1676 | 13.33 | 4 | 2 | 5.76 | 2 | 2.5 | | | 1 | | | 1 | 1.5 | | | | | 3 | 0.5 | 23.61 |
| 15 | Karungulam | 1402 | 1402 | 11.4 | 3 | 1 | 2.96 | 2 | 1.14 | | | 1 | | | 1 | 1.9 | | | | | 3 | 0.5 | 17.90 |
| 16 | Sooranur | 2865 | 2012 | 11.98 | 5 | | | 3 | 4.08 | | | 2 | | | | | | | | | 4 | 0.67 | 16.73 |
| 17 | Koovarkulam | 2103 | 2103 | 12.37 | 4 | | | 4 | 2.26 | | | 1 | | | | | | | | | 4 | 0.68 | 15.31 |
| 18 | Overkulam | 2100 | 800 | 6.86 | 3 | | 0 | 3 | 4.34 | | | 1 | | | | | | | | | 3 | 0.5 | 11.70 |
| 19 | Esalimadai | 3200 | 3200 | 16.44 | 5 | 3 | 8.5 | 2 | 2.42 | | | 1 | | | | | | | | | 3 | 0.49 | 27.85 |
| 20 | Melakanchirankulam | 1982 | 1982 | 13.84 | 4 | 3 | 8.97 | 1 | 2.45 | | | 1 | | | 1 | 1.6 | | | | | 4 | 0.66 | 27.52 |
| 21 | Thamaraikulam | 1798 | 1798 | 12.7 | 2 | | 0 | 2 | 1.16 | | | 1 | | | | 0 | | | | | 2 | 0.33 | 14.19 |
| 22 | K. Alangulam | 1912 | 1912 | 12.54 | 3 | 2 | 6.56 | 1 | 2.06 | | | 1 | | | | | | | | | 3 | 0.5 | 21.66 |
| 23 | Thulukkankulam | 2400 | 2400 | 15.77 | 4 | 2 | 4.67 | | 0 | | | 1 | | | | | | | | | 4 | 0.66 | 21.10 |
| | **Total** | **49027.00** | **42546.00** | **273.63** | **84.00** | **27.000** | **83.56** | **42.00** | **46.99** | **0.00** | **0.00** | **30.00** | **0.00** | **0.00** | **8.00** | **16.20** | **0.00** | **0.00** | **4.00** | **7.30** | **77.00** | **12.71** | **440.37** |
| | **Thiruchuli** | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Sennilaikudi | 5548 | 1800 | 10.61 | 8 | 0 | 0 | 1 | 1.42 | | | 1 | | | 1 | 2.8 | | | | | 11 | 1.27 | 16.13 |
| 2 | Kokkulam | 1890 | 1890 | 12.83 | 1 | 1 | 3.14 | | 0 | | | 1 | | | 1 | 0.8 | | | | | 3 | 0.16 | 16.95 |
| 3 | Vidathakulam | 2256 | 2256 | 14.89 | 1 | 1 | 3.33 | | 3.08 | | | 1 | | | | | | | | | 2 | 0.16 | 21.46 |
| 4 | Ambaneri | 4481 | 0 | 0 | 4 | 3 | 9.13 | 1 | 3.79 | | | 1 | | | | | | | 1.9 | 1.3 | 2 | 0.61 | 14.87 |
| 5 | Mithilaikulam | 2195 | 2195 | 12.28 | 3 | 2 | 5.81 | | 0 | | | 1 | | | | | | | | | 2 | 0.48 | 18.57 |
| 6 | Sethupuram | 3220 | 3220 | 19.61 | 1 | 1 | 2.55 | | | | | 1 | | | 1 | 0.4 | | | | | 4 | 0.17 | 22.74 |
| 7 | Anaikulam | 7220 | 250 | 11.41 | 7 | 1 | 3.15 | 1 | 8.19 | | | 2 | | | 1 | 3.1 | | | | | 3 | 0.96 | 26.83 |
| 8 | Agathakulam | 1960 | 1960 | 12.82 | 3 | | 0 | 2 | 1.26 | | | 1 | | | 1 | 0.8 | | | | | 3 | 0.49 | 15.41 |
| 9 | Kurayara vasithan | 2235 | 2235 | 15.11 | 5 | 2 | 6.1 | 3 | 1.73 | | | 1 | | | | 0 | | | | | 2 | 0.81 | 23.75 |

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | Nallukurichi | 2820 | 2820 | 19.72 | 4 | 4 | 12.2 | | 0 | | | 1 | | | 1 | 1.2 | | | 6.7 | 4.6 | 2 | 0.64 | 38.33 |
| 11 | Sullankudi | 1950 | 1950 | 14.6 | 4 | 1 | 3.47 | 3 | 4.34 | | | 1 | | | | | | | | | 3 | 0.65 | 23.06 |
| 12 | Vembankudi | 1126 | 1126 | 7.12 | 3 | 2 | 6.32 | | 0 | | | 1 | | | | | | | | | 3 | 0.49 | 13.93 |
| 13 | V. Alangulam | 1830 | 1830 | 14.62 | 3 | 2 | 8.1 | | | | | 1 | | | | | | | | | 3 | 0.5 | 23.22 |
| 14 | A.Mukkulam | 1620 | 1620 | 11.07 | 4 | 1 | 2.97 | 3 | 1.74 | | | 1 | | | 1 | 1.5 | | | | | 4 | 0.65 | 17.89 |
| 15 | Kalathur | 1708 | 1708 | 11.89 | 3 | 1 | 3.14 | 2 | 3.02 | | | 1 | | | 1 | 0.6 | | | | | 4 | 0.49 | 19.09 |
| 16 | Pulvaikarai | 2440 | 2440 | 16.97 | 6 | 2 | 5.66 | 2 | 1.21 | | | 2 | | | 1 | 1.8 | | | | | 3 | 1 | 26.65 |
| 17 | Kottakarai | 2074 | 2074 | 13.62 | 4 | 2 | 6.14 | 2 | 2.83 | | | 1 | | | 1 | 0.9 | | | | | 3 | 0.65 | 24.15 |
| | **Total** | **46573.00** | **31374.00** | **219.17** | **64.00** | **26.00** | **81.21** | **20.00** | **32.61** | **0.00** | **0.00** | **19.00** | **0.00** | **0.00** | **10.00** | **13.90** | **0.00** | **0.00** | **8.60** | **5.90** | **57.00** | **10.18** | **363.03** |
| | **Manamadurai** | | | | | | | | | | | | | | | | | | | | | | |
| 41 | Pudukottai | 1250 | 1250 | 8.26 | 4.00 | 1 | 2.52 | | | | | 1 | 1 | 6.13 | | | | | | | 3 | 0.45 | 17.37 |
| 42 | Mukkudi | 2438 | 2438 | 14.66 | 3.00 | 1 | 3.28 | | | | | 1 | | 0 | | | | | | | 3 | 0.45 | 18.39 |
| 43 | Kanjirankulam | 1829 | 1829 | 9.02 | 4.00 | 1 | 2.23 | | | | | 1 | | 0 | | | | | | | 3 | 0.45 | 11.70 |
| 44 | Sengulam | 1463 | 1463 | 9.60 | 3.00 | 1 | 2.28 | 1 | 1.68 | | | 1 | | 0 | | | | | | | 3 | 0.45 | 14.02 |
| | **Total** | **6980** | **6980** | **41.54** | **14** | **4** | **10.31** | **1** | **1.68** | **0** | **0** | **4** | **1** | **6.13** | **0** | **0** | **0** | **0** | **0** | **0** | **12** | **1.8** | **61.48** |
| | **Grand Total** | **102580.00** | **80900.00** | **534.34** | **162.00** | **57.00** | **175.08** | **63.00** | **81.28** | **0.00** | **0.00** | **53.00** | **1.00** | **6.13** | **18.00** | **30.10** | **0.00** | **0.00** | **12.60** | **13.20** | **146.00** | **24.69** | **864.88** |

| 1.6.3. TANK DETAILS WITH FREE BOARD PROVIDED | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| **NAME OF THE SUB BASIN: KANALODAI** | | | | | |
| **Sl.NO** | **Name of the Tank** | **Maximum Height of Bund** | **Free Board** | | **Length of Bund(M)** |
| | | | **Provided previously** | **Provided now** | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | Solankuruni Tank | 3.850 | 0.90 | 1.50 | 1530 |
| 2 | Nallur Periakulam Tank | 1.980 | 0.90 | 1.25 | 1560 |
| 3 | Pudukottai | 3.820 | 0.90 | 1.50 | 1250 |
| 4 | Mukkudi | 4.720 | 1.20 | 1.50 | 2438 |
| 5 | Kanjirankulam | 3.500 | 0.90 | 1.50 | 1829 |
| 6 | Sengulam | 3.475 | 0.90 | 1.50 | 1463 |
| 7 | Melakallankulam | 3.630 | 1.00 | 1.50 | 1890 |
| 8 | Mustakurichi | 4.230 | 1.00 | 1.50 | 1320 |
| 9 | K. Alankulam | 4.380 | 1.00 | 1.50 | 1780 |
| 10 | Thimmapuram | 5.200 | 1.40 | 1.50 | 2756 |
| 11 | Pappanam | 3.800 | 1.00 | 1.50 | 1311 |
| 12 | Pallavarendal | 3.030 | 0.90 | 1.50 | 1707 |
| 13 | V. Nangur | 4.530 | 1.00 | 1.50 | 3200 |
| 14 | Anmaiperuki | 3.390 | 0.90 | 1.50 | 2314 |
| 15 | M.Ilupaikulam | 3.615 | 1.00 | 1.50 | 2134 |
| 16 | T.Veppankulam | 3.980 | 1.00 | 1.50 | 1067 |
| 17 | Mudukkankulam | 5.500 | 1.10 | 1.50 | 3018 |
| 18 | Thulukkankulam | 3.050 | 1.00 | 1.50 | 1000 |
| 19 | S.Maraikulam Tank | 3.425 | 0.900 | 1.50 | 1676 |
| 20 | Sooranur | 2.930 | 1.00 | 1.25 | 2865 |
| 21 | Koovarkulam | 3.710 | 0.90 | 1.50 | 2103 |
| 22 | Karunkulam | 3.495 | 0.90 | 1.50 | 1402 |
| 23 | Overkulam | 3.855 | 1.00 | 1.50 | 850 |
| 24 | Mela kanchirankulam Tank | 4.395 | 0.90 | 1.50 | 1981 |
| 25 | Thamaraikulam | 3.210 | 1.00 | 1.50 | 1798 |
| 26 | Esalimadai | 3.700 | 0.90 | 1.50 | 3249 |
| 27 | Sennilaikudi | 3.900 | 1.00 | 1.50 | 1800 |
| 28 | Kokkulam | 4.000 | 1.00 | 1.50 | 1890 |
| 29 | Vidathakulam | 4.440 | 1.00 | 1.50 | 2256 |

| | | | | | |
|---|---|---|---|---|---|
| 30 | Midhilaikulam | 3.600 | 1.00 | 1.50 | 2195 |
| 31 | Vembankudi | 4.100 | 1.00 | 1.50 | 1126 |
| 32 | Kuraiaraivasithan | 4.100 | 1.00 | 1.50 | 2235 |
| 33 | Sedhupuram | 4.290 | 1.00 | 1.50 | 3120 |
| 34 | Anaikulam Periakanmoy | 4.400 | 1.00 | 1.50 | 500 |
| 35 | Akkathakulam | 4.100 | 1.00 | 1.50 | 1960 |
| 36 | V.Alankulam | 3.600 | 1.00 | 1.50 | 1830 |
| 37 | Nallukurichi | 4.445 | 1.20 | 1.50 | 2820 |
| 38 | Sullankudi | 4.550 | 1.00 | 1.50 | 1950 |
| 39 | A.Mukkulam | 3.505 | 1.00 | 1.50 | 1620 |
| 40 | Kottakarai | 3.770 | 1.00 | 1.50 | 2074 |
| 41 | Pulvoikarai | 3.320 | 1.00 | 1.50 | 2440 |
| 42 | Kalathur | 3.855 | 1.00 | 1.50 | 1708 |
| | | | | | |
| **Note:-** | | | | | |
| 1) For height of bund up to 3.0 m – Free board is 1.25m | | | | | |
| 2) For height of bund more than 3.0m – Free board is 1.50 m | | | | | |

## 1.6.3.WRO COST TABLE

### NAME OF THE SUB BASIN: KANAL ODAI

| Sl. No | Description of work | Quantity | Amount in Lakhs | Remarks |
|---|---|---|---|---|
| **I. Tank Component** | | | | |
| 1 | Improvements to Bund | 80900M | 534.35 | |
| 2 | Improvements to Supply Channel | 12600M | 13.22 | |
| 3 | Reconstruction of Sluices | 57 Nos | 175.05 | |
| 4 | Repairs to Sluices | 65 Nos | 81.28 | |
| 5 | Reconstruction of weir | 1 No | 6.13 | |
| 6 | Repairs to weir | 18 Nos | 30.16 | |
| 7 | Measuring Devices | 146 | 24.69 | |
| | **SubTotal** | | **864.88** | |
| | **Environment cell** | | 7.00 | |
| | **Ground water** | | | |
| | **Total** | | **871.88** | |

## 1.6.4. PHYSICAL AND FINANCIAL PROGRAM

**NAME OF THE SUB BASIN: KANAL ODAI**

| Sl. No | Description | I Year(2009-2010) | | II Year(2010-2011) | | Total | |
|---|---|---|---|---|---|---|---|
| | | Quantity | Amount in Lakhs | Quantity | Amount in Lakhs | Quantity (Component Wise) | Amount in Lakhs |
| 1 | Improvements to Bund | 38000 | 250.99 | 42900 | 283.35 | 80900 | 534.34 |
| 2 | Improvements to Supply Channel | 6120 | 6.40 | 6490 | 6.80 | 12610 | 13.20 |
| 3 | Reconstruction of sluice | 30 | 92.16 | 27 | 82.92 | 57 | 175.08 |
| 4 | Repairs to Sluice | 34 | 44.45 | 29 | 36.83 | 63 | 81.28 |
| 5 | Reconstruction of weirs | 1 | 6.13 | 0 | 0 | 1 | 6.13 |
| 5 | Repairs to Weir | 10 | 16.76 | 8 | 13.40 | 18 | 30.16 |
| 6 | Merauring device | 86 | 14.54 | 60 | 10.15 | 146 | 24.69 |
| | **Total** | | 431.43 | | 433.45 | | 864.88 |

## 1.6.5.Package Details
## Package - 1

### NAME OF THE SUB BASIN: KANAL ODAI

| Sl. No. | Name of Tank / Anicut | Amount in Lakhs |
|---|---|---|
| 1 | Rehabilation of Non-System tank and its Supply Channel under Kanal Odai Sub Basin in Kariapatti Taluk of Virudhunagar District and Madurai South Taluk ofMadurai District. | 440.37 |
| | **Total** | **440.37** |

## 1.6.5.Package Details
## Package - 2

**NAME OF THE SUB BASIN: KANAL ODAI**

| Sl. No. | Name of Tank / Anicut | Amount in Lakhs |
|---|---|---|
| 1 | Rehabilation of Non-System tank and its Supply Channel under Kanal Odai Sub Basin in ThiruchuliTaluk in Virudunagar District. | 363.03 |
| | **Total** | **363.03** |

## 1.6.5.Package Details
## Package - 3

**NAME OF THE SUB BASIN: KANAL ODAI**

| Sl. No. | Name of Tank / Anicut | Amount in Lakhs |
|---|---|---|
| 1 | Rehabilation of Non-System tank and its Supply Channel under Kanal Odai Sub Basin in Manamadurai Taluk in Sivagangai District. | 61.48 |
| | **Total** | **61.48** |

**Package Details**

**Abstract for Kanal Odai Packages**

Name of Sub Basin : **Kanal Odai**

| Sl.No | Package No | Amount in Lakhs |
|---|---|---|
| 1 | Package No :I | 440.37 |
| 2 | Package No :II | 363.03 |
| 3 | Package No :III | 61.48 |
| | | **864.88** |

## 1.6.7.PACKAGE I
## Calculation of machineries Requirement

**NAME OF THE SUB BASIN: KANAL ODAI**

| | | | | |
|---|---|---|---|---|
| **Hydraulic excavator & 4 Tippers/Lorries** | | 6 Hours / Day | | |
| ( 4 No x 2 loads/ hour x 6 Hr x 4 $m^3$/ trip) | | | 192 $m^3$ /Day | |
| For 1 month ( 20 Working days ) | | 20 x 192 $m^3$ | 3840 $m^3$/ month | |
| Total quantity of earth work | | 430000 $m^3$ | | |
| Working period for earth work | | 6 months + 3 Months rainy season | | |
| **Machineries required for earth work:** | | | | |
| 1. Hydraulic excavator - 8 nos | | | | |
| 2. Tippers / Lorries - 32nos | | | | |
| 3. Power roller - 8 nos | | | | |
| 4. Vibrated compactor - 8 nos | | | | |
| 5. Water lorries - 8 nos | | | | |
| **Mixer machine** | 2 $m^3$ / hour | For 6 hours / day | | 12 $m^3$ / day |
| Total quantity of concrete | | 5517$m^3$ | | |
| **Mixer machine required** | | **4 Nos** for 12 days / month -- 10 months | | |
| **Material conveyence** | | **Tippers / Lorries** | | |
| Cement | 10 mt / Trip | 1 trip / day | | 10 mt / day |
| | | | | |
| Sand | 5.66 $m^3$ / Trip | 2 trips / day | | 11.32$m^3$ /day |
| | | | | |
| Metal / stone | 5.60 $m^3$ / Trip | 3 trips / day | | 16.80 $m^3$ /day |
| Total quantity of cement | | 1133MT | | |
| Lorry required for conveyence | | 1133/10 | | 114 Lorries |
| | | | | |
| Total quantity of sand | | 2500 $m^3$ | | |
| Lorry required for conveyence | | 2500/11.32 | | 221 Lorries |
| | | | | |
| Total quantity of metal | | 5000 $m^3$ | | |
| Lorry required for conveyence | | 5000/16.8 | | 298 Lorries |
| | | | | |
| Total quantity of stone | | | | |
| Lorry required for conveyence | | | | 633 |
| | | | | |
| **Tipper / Lorries for conveyance of materials** | | **5 Nos** for 15 days for 8 months | | |

## 1.6.7.PACKAGE II
## Calculation of machineries Requirement

| | | | | |
|---|---|---|---|---|
| **Hydraulic excavator & 4 Tippers/Lorries** | | 6 Hours / Day | | |
| ( 4 No x 2 loads/ hour x 6 Hr x 4 $m^3$/ trip) | | | 192 $m^3$ /Day | |
| For 1 month ( 20 Working days ) | | 20 x 192 $m^3$ | 3840 $m^3$/ month | |
| Total quantity of earth work | | 380000 $m^3$ | | |
| Working period for earth work | | 6 months + 3 Months rainy season | | |
| **Machineries required for earth work:** | | | | |
| 1. Hydraulic excavator - 7 nos | | | | |
| 2. Tippers / Lorries - 28nos | | | | |
| 3. Power roller - 7 nos | | | | |
| 4. Vibrated compactor - 7 nos | | | | |
| 5. Water lorries - 7 nos | | | | |
| **Mixer machine** | 2 $m^3$ / hour | For 6 hours / day | | 12 $m^3$ / day |
| Total quantity of concrete | | 2550m3 | | |
| **Mixer machine required** | | **2 Nos** for 12 days / month -- 10 months | | |
| **Material conveyence** | | **Tippers / Lorries** | | |
| Cement | 10 mt / Trip | 1 trip / day | | 10 mt / day |
| | | | | |
| Sand | 5.66 $m^3$ / Trip | 2 trips / day | | 11.32$m^3$ /day |
| | | | | |
| Metal / stone | 5.60 $m^3$ / Trip | 3 trips / day | | 16.80 $m^3$ /day |
| Total quantity of cement | | 527MT | | |
| Lorry required for conveyence | | 527/10 | | 53 Lorries |
| | | | | |
| Total quantity of sand | | 1171 $m^3$ | | |
| Lorry required for conveyence | | 1171/11.32 | | 103 Lorries |
| | | | | |
| Total quantity of metal | | 2300 $m^3$ | | |
| Lorry required for conveyence | | 2300/16.8 | | 137 Lorries |
| | | | | |
| Total quantity of stone | | | | |
| Lorry required for conveyence | | | | 293 |
| | | | | |
| **Tipper / Lorries for conveyance of materials** | | **3 Nos** for 15 days for 7 months | | |

## 1.6.7.PACKAGE III
## Calculation of machineries Requirement

| | | | | |
|---|---|---|---|---|
| **Hydraulic excavator & 4 Tippers/Lorries** | | 6 Hours / Day | | |
| ( 4 No x 2 loads/ hour x 6 Hr x 4 $m^3$/ trip) | | | 192 $m^3$ /Day | |
| For 1 month ( 20 Working days ) | | 20 x 192 $m^3$ | 3840 $m^3$/ month | |
| Total quantity of earth work | | 36000 $m^3$ | | |
| Working period for earth work | | 1 months + 3 Months rainy season | | |
| **Machineries required for earth work:** | | | | |
| 1. Hydraulic excavator - 1 nos | | | | |
| 2. Tippers / Lorries - 4nos | | | | |
| 3. Power roller - 1 nos | | | | |
| 4. Vibrated compactor - 1 nos | | | | |
| 5. Water lorries - 1 nos | | | | |
| **Mixer machine** | 2 $m^3$ / hour | For 6 hours / day | | 12 $m^3$ / day |
| Total quantity of concrete | | 359m3 | | |
| **Mixer machine required** | | **1 Nos** for 10 days / month -- 3 months | | |
| **Material conveyence** | | **Tippers / Lorries** | | |
| Cement | 10 mt / Trip | 1 trip / day | | 10 mt / day |
| | | | | |
| Sand | 5.66 $m^3$ / Trip | 2 trips / day | | 11.32$m^3$ /day |
| | | | | |
| Metal / stone | 5.60 $m^3$ / Trip | 3 trips / day | | 16.80 $m^3$ /day |
| Total quantity of cement | | 74MT | | |
| Lorry required for conveyence | | 74/10 | | 8 Lorries |
| | | | | |
| Total quantity of sand | | 165 $m^3$ | | |
| Lorry required for conveyence | | 165/11.32 | | 15 Lorries |
| | | | | |
| Total quantity of metal | | 324 $m^3$ | | |
| Lorry required for conveyence | | 324/16.8 | | 29 Lorries |
| | | | | |
| Total quantity of stone | | | | |
| Lorry required for conveyence | | | | 42 |
| | | | | |
| **Tipper / Lorries for conveyance of materials** | | **2 Nos** for 10 days for 2 months | | |

## PACKAGE I

## 1.6.8.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 $m^3$ | STEEL IN M.T. | METAL 40MM IN $m^3$ | METAL 20MM IN $m^3$ | RR IN $m^3$ | FUEL |
| Package I | 8 | 8 | 8 | 32 | 8 | 4 | 4 | 1133 | 2500 | 5 | 1035 | 3950 | -- | -- |

## PACKAGE II

## 1.6.8.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 $m^3$ | STEEL IN M.T. | METAL 40MM IN $m^3$ | METAL 20MM IN $m^3$ | RR IN $m^3$ | FUEL |
| Package III | 7 | 7 | 7 | 28 | 7 | 2 | 2 | 527 | 1171 | 6 | 630 | 1668 | -- | -- |

## PACKAGE III
## 1.6.8.REQUIREMENT OF EQUIPMENTS AND MATERIALS

**NAME OF THE SUB BASIN: KANAL ODAI**

| 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 $m^3$ | STEEL IN M.T. | METAL 40MM IN $m^3$ | METAL 20MM IN $m^3$ | RR IN $m^3$ | FUEL |
| Package II | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 74 | 105 | 1 | 82 | 242 | -- | -- |

**PACKAGE I**

**1.6.9.Construction Methodology**

**Name of Work:Rehabilitation of non system tanks under Kanal Odai sub basin in Kariapatti Taluk in Virudhunagar District Madurai South Taluk in Madurai District.**

| Sl No | Description of Item | Working Months | | | | | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| | **Earth work excavation** | | | | | | **Rainy season** | | | | | | | | | | | | | |
| 1 | Bund | 28700 | 28700 | 28700 | 28700 | 28700 | | | | 28700 | 28700 | 28700 | 28700 | 28700 | 28700 | 28700 | 28700 | 28700 | 28200 | 430000 $m^3$ |
| 2 | Channel | | | 2520 | 2520 | 2520 | | | | 2520 | 2520 | 2520 | 2520 | 2520 | 2520 | 2520 | | | | 25200 $m^3$ |
| 3 | Foundation | | | | 420 | 420 | | | | 420 | 420 | 420 | | | | | | | | 2100 $m^3$ |
| | **Concrete** | | | | | | | | | | | | | | | | | | | |
| 4 | M 7.5 grade | | | | 150 | 300 | | | | 300 | 200 | 200 | | | | | | | | 1150 $m^3$ |
| 5 | M 10 grade | | | | 300 | 600 | | | | 450 | 400 | 450 | 400 | 600 | 700 | 410 | | | | 4310 $m^3$ |
| 6 | M 15 grade | | | | | | | | | 11 | 11 | 11 | 12 | 12 | | | | | | 57 $m^3$ |
| 7 | M 20 grade | | | | | | | | | | | | | | | | | | | |
| 8 | Random rubble masonry | | | | | | | | | | | | | | | | | | | |
| 9 | Plastering | | | | | | | | | | 125 | 250 | 200 | 250 | 175 | | | | | 1000 $m^2$ |

**PACKAGE II**

**1.6.9.Construction Methodology**

**Name of Work:Rehabilitation of non system tanks under Kanal Odai sub basin in Thiruchuli Taluk in Virudhunagar District.**

| Sl No | Description of Item | Working Months | | | | | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| | **Earth work excavation** | | | | | | Rainy season | | | | | | | | | | | | | |
| 1 | Bund | 25400 | 25400 | 25400 | 25400 | 25400 | | | | 25400 | 25400 | 25400 | 25400 | 25400 | 25400 | 25400 | 25400 | 25400 | 24400 | 380000 $m^3$ |
| 2 | Channel | | | 2200 | 2200 | 2200 | | | | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | 2200 | | | | 22000 $m^3$ |
| 3 | Foundation | | | | 200 | 200 | | | | 200 | 200 | 200 | 100 | | | | | | | 1100 $m^3$ |
| | **Concrete** | | | | | | | | | | | | | | | | | | | |
| 4 | M 7.5 grade | | | | 100 | 150 | | | | 200 | 150 | 100 | | | | | | | | 700 $m^3$ |
| 5 | M 10 grade | | | | 100 | 150 | | | | 250 | 200 | 300 | 300 | 300 | 300 | 125 | | | | 2025 $m^3$ |
| 6 | M 15 grade | | | | | | | | | 15 | 15 | 15 | 15 | 15 | | | | | | 75 $m^3$ |
| 7 | M 20 grade | | | | | | | | | | | | | | | | | | | |
| 8 | Random rubble masonry | | | | | | | | | | | | | | | | | | | |
| 9 | Plastering | | | | | | | | | | 100 | 200 | 200 | 250 | 250 | | | | | 1000 $m^2$ |

# PACKAGE III

## 1.6.9.Construction Methodology

**Name of Work:Rehabilitation of non system tanks under Kanal Odai sub basin in Manamadurai Taluk in Sivagangai District.**

| Sl No | Description of Item | Working Months | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| | **Earth work excavation** | | | | | | **Rainy season** | | | | | | | |
| 1 | Bund | 4000 | 4000 | 4000 | 4000 | 4000 | | | | 4000 | 4000 | 4000 | 4000 | 36000 $m^3$ |
| 2 | Channel | | | | | | | | | | | | | |
| 3 | Foundation | | | | 50 | 50 | | | | | 50 | | | 150 $m^3$ |
| | **Concrete** | | | | | | | | | | | | | |
| 4 | M 7.5 grade | | | | | 20 | | | | 20 | 20 | 30 | | 90 $m^3$ |
| 5 | M 10 grade | | | | | 50 | | | | 50 | 50 | 50 | 60 | 260 $m^3$ |
| 6 | M 15 grade | | | | | | | | | 3 | 3 | 3 | | 9 $m^3$ |
| 7 | M 20 grade | | | | | | | | | | | | | |
| 8 | Random rubble masonry | | | | | | | | | | | | | |
| 9 | Plastering | | | | | | | | | | 40 | 40 | 40 | 120 $m^2$ |

# 1.7 ENVIRONMENTAL CELL

**ENVIRONMENTAL MONITORING ON WATER AND SOIL QUALITY AND CREATING AWARENESS & UPDATING OF "ENVIRONMENTAL AND SOCIAL ASSESSMENT REPORT" FOR KANALODAI SUB-BASIN IN GUNDAR BASIN.**

# INDEX

## IAMWARM PROJECT

**(ENVIRONMENT COMPONENT IN SUB BASINS)**

| | |
|---|---|
| *Name of River Basin:* | **GUNDAR BASIN** |
| *Name of Sub Basin:* | **KANALODAI SUB BASIN** |
| *Name of WUA:* | Yet to be Formed |
| *Name of Division:* | **Gundar Basin Division, Madurai-2.** |
| *Name of Sub Division:* | **1) Gundar Basin Sub Division, Thirumangalam.**<br>**2) Gundar Basin Sub Division Kariyapatti.** |
| *District:* | **1) Madurai.2) Virdhunagar**<br>**3) Sivagangai** |
| *Taluk:* | **1) Manamadurai 2 Kariyapatti**<br>**3) Madurai South**<br>**4) Thiruchuli** |
| *Block:* | **1) Thirupuvanam. 2) Madurai South**<br>**3) Kariyapatti.4) Narikudi 5) Thiruchili** |

| | |
|---|---|
| *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

## KANALODAI SUB BASIN

| Sl No | Name of Tank | Name of Village | Block | Taluk | District | Ayacut in Ha. | Water weeds<br>Prosopis Juliflora/Ipomeacarnea/water Hyacinth |
|---|---|---|---|---|---|---|---|
| 1 | Solankuruni Tank | Solankuruni | Madurai South | Madurai south | Madurai | 55.85 | Prosopis Juliflora |
| 2 | Nallur Periyakulam | Nallur | | | | 117.02 | Prosopis Juliflora |
| 3 | Pudukottai | Pudukottai | Thitupuvanam | Manamadurai | Sivaganga | 42.69 | Prosopis Juliflora |
| 4 | Mukudi | Mukudi | | | | 82.57 | Prosopis Juliflora |
| 5 | Kanchirankulam | Kanchirankulam | | | | 56.05 | Prosopis Juliflora |
| 6 | Sengulam | Sengulam | | | | 59.44 | Prosopis Juliflora |
| 7 | Melakallankulam | Melakallankulam | Kariyapatti | Kariyapatti | Virdhunagar | 67.17 | Prosopis Juliflora |
| 8 | Mustakurichi | Mustakurichi | | | | 133.72 | Prosopis Juliflora |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9 | K.Alangulam | K.Alangulam | | | | 68.47 | Prosopis Juliflora | | |
| 10 | Pallavarendal | Pallavarendal | | | | 68.17 | Prosopis Juliflora | | |
| SlNo | Name of Tank | Name of Village | Block | Taluk | District | Ayacut in Ha. | Prosopis Juliflora/Ipomeacarnea/water Hyacinth | | |
| 11 | V.Nangur | V.Nangur | Kariyapatti | Kariyapatti | Virdhunagar | 69.15 | Prosopis Juliflora Ipomea carnea | | |
| 12 | Thimmapuram | Thimmapuram | | | | 68.37 | Prosopis Juliflora | | |
| 13 | Pappanam | Pappanam | | | | 149.40 | Juliflora Ipomea carnea | | |
| 14 | Anmaiperuki | Anmaiperuki | | | | 45.48 | Prosopis Juliflora | | |
| 15 | Veppankulam Periya Kanmoi | Veppankulam | | | | 44.38 | Prosopis Juliflora | | |
| 16 | M.Iluppaikulam | M.Iluppaikulam | | | | 43.77 | Nil | | |
| 17 | Allalaperi kanmoi | Allalaperi | | | | 234.09 | Prosopis Juliflora | | |
| 18 | Mudukkankulam | Mudukkankulam | | | | 186.60 | Nil | | |
| 19 | Karunkulam | Karunkulam | | | | 71.11 | Prosopis Juliflora | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 20 | Sooranur | Sooranur | | | | 61.75 | Prosopis Juliflora | | |
| 21 | S.Maraikulam | S.Maraikulam | | | | 54.63 | Prosopis Juliflora | | |
| SlNo | Name of Tank | Name of Village | Block | Taluk | District | Ayacut in Ha. | Water weeds | | |
| | | | | | | | Prosopis Juliflora/Ipomeacarnea/water Hyacinth | | |
| 22 | Koovarkulam | Koovarkulam | Kariyapatti | Kariyapatti | Virdhunagar | 41.85 | Prosopis Juliflora | | |
| 23 | Ovarkulam | Ovarkulam | | | | 52.17 | Prosopis Juliflora | | |
| 24 | Melakanchirankulam | Mela-kanchirankulam | | | | 41.84 | Prosopis Juliflora | | |
| 25 | Esalimadai | Esalimadai | | | | 66.54 | Prosopis Juliflora | | |
| 26 | Thamaraikulam | Thamaraikulam | | | | 62.46 | Prosopis Juliflora | | |
| 27 | Thulukkankulam | Thulukkankulam | | | | 50.12 | Prosopis Juliflora | | |
| 28 | Sennilaikudi | Sennilaikudi | Thiruchili | Thiruchili | | 178.76 | Prosopis Juliflora | | |
| 29 | Midhilaikulam | Midhilaikulam | | | | 54.38 | Prosopis Juliflora | | |
| 30 | Kokkulam | Kokkulam | | | | 53.73 | Prosopis Juliflora | | |
| 31 | Ambaneri | Ambaneri | | | | 95.46 | Prosopis Juliflora | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 32 | Vidathakulam | Vidathakulam | | | | 65.25 | Prosopis Juliflora | | |
| 33 | Sedhupuram | Sedhupuram | Narikudi | | | 44.07 | Prosopis Juliflora | | |
| SlNo | Name of Tank | Name of Village | Block | Taluk | District | Ayacut in Ha. | Water weeds | | |
| | | | | | | | Prosopis Juliflora/Ipomeacarnea/water Hyacinth | | |
| 34 | Anaikulam Periya kanmoi | Anaikulam | Narikudi | Thiruchili | Virdhunagar | 534.86 | Prosopis Juliflora | | |
| 35 | Vembankudi | Vembankudi | | | | 43.75 | Prosopis Juliflora | | |
| 36 | Kuraiaraivasithan | Kuraiaraivasithan | | | | 63.05 | Prosopis Juliflora | | |
| 37 | Akathakulam | Akathakulam | | | | 43.09 | Prosopis Juliflora | | |
| 38 | Sullankudi | Sullankudi | | | | 52.02 | Prosopis Juliflora | | |
| 39 | Nallukuruchi | Nallukuruchi | | | | 78.10 | Prosopis Juliflora | | |
| 40 | V.Alangulam | V.Alangulam | | | | 45.20 | Prosopis Juliflora | | |
| 41 | A.Mukkulam | A.Mukkulam | | | | 40.59 | Prosopis Juliflora | | |
| 42 | Kottakkarai | Kottakkarai | | | | 89.88 | Prosopis Juliflora | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **43** | **Pulvaikarai** | **Pulvaikarai** | | | | **63.21** | **Prosopis Juliflora** | | |
| **44** | **Kalathur** | **Kalathur** | | | | **46.16** | **Prosopis Juliflora** | | |

# ANNEXURE-I I

## KANALODAI SUB BASIN

## DOMESTIC SEWAGE

| Sl. No. | Name of Town | Sewage discharged into |
|---|---|---|
| 1 | Kamuthi | Urani near busstand |
| 2 | Kariyapatti | Urani and Land |
| 3 | Thirumangalam | Vadagarai Channel |
| 4 | Aruppukottai | Aruppukottai big Tank<br>Thumbaikulam Tank |
| 5 | Thiruchili | Urani and Gundar |
| 6 | Narikudi | Urani and Land |
| 7 | Pappanam | Pappanam Tank |

# ANNEXURE- III

## KANALODAI SUB BASIN

## SOLID WASTE

| Sl No | Name of Place | Solid Waste Qty.in M.T. | Disposal of solid waste into |
|---|---|---|---|
| 1 | Kamuthi | 2.5 | Urani near Busstand |
| 2 | Kariyapatti | 2 | Compost yard |
| 3 | Thirumangalam | 17 | Vadakarai Tank |
| 4 | Aruppukottai | 2.5 | Partly in compost yard |
| 5 | Thiruchili | 1.5 | Compost yard |
| 6 | Narikudi | 1.5 | Urani near Busstand |

## ANNEXURE -I V

## LIST OF INDUSTRIES IN KANALODAI SUB BASIN

| Sl. No | Name of Industry & Address | | Category | Type |
|---|---|---|---|---|
| **INDUSTRIES IN VIRUDHUNAGAR DISTRICT** | | | | |
| **KARIAPATTI TALUK** | | | | |
| 1 | R.R.S Food Products Pvt.Ltd K.Karisakulam, Kariapatti. | Kariapatti | Food & Beverages | OS |
| 2 | Sri Ganga Mills Meenakshipuram , Kambikudi | Kariapatti | Spinning | OS |
| 3 | Sundaram breaklinings ltd 1-Kanjamanayakkanpatti | Kariapatti | Engineering | RL |
| 4 | Sundaram Fasteners Ltd Aiyoor | Kariapatti | Engineering | RL |
| **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 SIVAGANGAI DISTRICT** | | | | |
| **MANAMADURAI TALUK** | | | | |
| 1 | TN Chlorate Limited S.No.21, Nedungula Road,Sayanapuram. Samanatham | Manamadurai | Chemical | OS |
| 2 | Kalaimagal Natraj Paper Mills Private Mndapam Road,Nelmudikarai. | Manamadurai | Papers | OS |
| 3 | Prakash Paper Mills S.No.119/2B, Pattan Village,Kondagai. | Manamadurai | Papers | OS |
| 4 | Vivek Paper Boards S.No.18/1A, Sayanapuram, Samanatham. | Manamadurai | Papers | OS |
| 5 | M/S Yen Tiyes Match Industries Keeladi Village | Manamadurai | Splink | GS |
| 6 | Abthaheer Bricks S.No.143/1-3,Nainar Patel, Thiruppuvanam. | Manamadurai | Bricks | OS |
| 7 | Abthakir Bricks Thiruppuvanam Pudur | Manamadurai | Bricks | OS |
| 8 | Amman Brick Works S.No.350/7,8,JothipuramRoad, Konthagai. | Manamadurai | Bricks | OS |
| 9 | Ananadan chamber Bricks, Nandapan Road, Keelapasali | Manamadurai | Bricks | OS |
| 10 | Anandam Champer Bricks Keelaparasalai | Manamadurai | Bricks | OS |
| 11 | Anipa Bricks S.No.224/2, Melanthigarai,Tiruppuvanam. | Manamadurai | Bricks | OS |
| 12 | Ascard Spinners Pvt.Ltd S.No.3/41 Madurai-Mandapam Road, Manalur. | Manamadurai | Bricks | OS |
| 13 | Guna Prints S.No.174/5A Madurai-Mandabam Road, Manalur. | Manamadurai | Bricks | OS |
| 14 | Jhothi Bricks, Keeladi. | Manamadurai | Bricks | OS |
| 15 | Kannimar Brick Works S.No.5/124,Old Kalaiyar Kovil Road, Manamadurai. | Manamadurai | Bricks | OS |
| 16 | M/S Abthakir Bricks Thiruppuvanam Pudur | Manamadurai | Bricks | OS |

| | | | | |
|---|---|---|---|---|
| 17 | M/S Anandam Chamber Bricks Keelaparasalai village, | Manamadurai | Bricks | OS |
| 18 | M/S Krishnasamy Bricks 236/3, T.Pudukottai Road, Manamadurai. | Manamadurai | Bricks | OS |
| 19 | M/S NPS Wire Bricks (P) Ltd Mannaranthal-Keeladi,Manamadurai, | Manamadurai | Bricks | OS |
| 20 | M/S Sri Periyandavar Chamber works Keelapasali Village | Manamadurai | Bricks | OS |
| 21 | M/S Thayar Bricks Thiruppachethi village, | Manamadurai | Bricks | OS |
| 22 | Murugan Bricks Sathanur Road, Avarankadu, Thiruppachetti. | Manamadurai | Bricks | OS |
| 23 | Nps Wire Bricks (P) Limited Mannarenthal | Manamadurai | Bricks | OS |
| 24 | R.N.Jayaraman Bricks,Jothipuram Road,Keeladi,. Kondagai | Manamadurai | Bricks | OS |
| 25 | S.P.J. Bricks S.No.10/2, Madurai Mandapam Road, Manalur. | Manamadurai | Bricks | OS |
| 26 | Sakthi Bricks S.F.No.4/1,6a,5,6,7, Mandabam Road, Manalur. | Manamadurai | Bricks | OS |
| 27 | Siva Bricks S.No.38.A-C Mandabam Road, Manalur | Manamadurai | Bricks | OS |
| 28 | Sri Kamatchi Chamber Works S.F.No.4/1C,Kalpiravu ,Manamadurai. | Manamadurai | Bricks | OS |
| 29 | Sri Karpaga Vinayagar Chamber Works, 3, North Santhanoor, Manamadurai. | Manamadurai | Bricks | OS |
| 30 | Sri Mahalakshmi Bricks 330/2, Jothipuram Road, Kondagai | Manamadurai | Bricks | OS |
| 31 | Sri Periandavar Chamber Works S.No.205/2A,Vallanadu Road, Manamadurai. | Manamadurai | Bricks | OS |
| 32 | Sri Periyandavar Champer Works Keelapasali | Manamadurai | Bricks | OS |
| 33 | Sri Sudharsan Bricks R.S. No.91/1, Jothipuram Road.Keeladi | Manamadurai | Bricks | OS |
| 34 | Standared Bricks S.No.126/1,Konthagai Road,Keeladi. | Manamadurai | Bricks | OS |
| 35 | Star Brikcs Industries D.No.2/57-2,Rameswaram Road, Manalur. | Manamadurai | Bricks | OS |
| 36 | Thangam Bricks works S.No.98/2B, Thoothai, Thiruppachetti. | Manamadurai | Bricks | OS |
| 37 | Thayar Bricks Kattanur Main Road, Thiruppachetty | Manamadurai | Bricks | OS |
| 38 | Thayar Bricks Thiruppachethi Village | Manamadurai | Bricks | OS |
| 39 | Santhya Charcoal Company, Rameswaram Road, Melapasalai | Manamadurai | Charcoal | OS |
| 40 | M/S Rukmini Electronics Ltd Pottapalayam, Konthaagai (P.o) | Manamadurai | Conveyor Belt | OS |
| 41 | M /S Maduri Agar Agar Industry Manalur | Manamadurai | Food & Beverages | OS |
| 42 | M/S Rao & Rao Bottlers Pvt Ltd Kallukarkadai, Manalur, | Manamadurai | Food & Beverages | OS |
| 43 | Madurai Agar Agar Industry Manalur | Manamadurai | Food & Beverages | OS |
| 44 | Rao & Rao Bottlers Private Limited Kalukarkadai, Manalur | Manamadurai | Food & Beverages | OS |

| | | | | |
|---|---|---|---|---|
| 45 | Tnstc Ltd Thiruppuvanam Branch, Thiruppuvanam | Manamadurai | Food & Beverages | OS |
| 46 | Indian Foods Pvt.Ltd S.No.160/1.River Side,Tiruppuvanam. | Manamadurai | Food products | OS |
| 47 | Prakash Paper Mills, Pottapalayam | Manamadurai | Hand Made paper | OS |
| 48 | Prakash Paper Mills, Pottapalayam | Manamadurai | Hand Made Paper Board | OS |
| 49 | The Indian Poultry Farm 1/26,Othaveedu, Mandapam Road, Manalur | Manamadurai | Hatchery | OS |
| 50 | The Indian Poultry Farm, Othaveedu, Mandapam Road, Manalur | Manamadurai | Hatchery | OS |
| 51 | M/S The Indian Hume Pipe Co Keeladi Village,Silaiman | Manamadurai | Hume Pipe | OS |
| 52 | The Indian Hume Pipe Company Keeladi village, Silaiman | Manamadurai | Hume Pipe | OS |
| 53 | The Indian Hume pipe Company S.No.27,Manalur. | Manamadurai | Hume Pipe | OS |
| 54 | Instalities Pottapalayam Village, Konthagai (P.o) | Manamadurai | Lighters | OS |
| 55 | M/S Instalities Pottapalayam Village,Konthagai (P.O) | Manamadurai | Lighters | OS |
| 56 | Yen Tiyes Match Industries Keeladi Village | Manamadurai | Misc Splink | OS |
| 57 | Geetha Papers Madurai-Mandapam Road, Manalur | Manamadurai | Packing | OS |
| 58 | Ksas Paper Industries S.No.3/4A-2,Mandapam Road,Manalur. | Manamadurai | Papers | OS |
| 59 | Golden Bricks S.No.15/2,18/1,15.4, Keeladi. | Manamadurai | Pulp & Paper | OS |
| 60 | Geetha Papers Mandapam road, Manalu | Manamadurai | Pulp & Paper | OS |
| 61 | Kalaimagal natraja pape r mills pvt. Ltd., Thirupuvanam | Manamadurai | Pulp & Paper | OS |
| 62 | Kalaimagal Natraja Paper Mills Pvt Ltd. Nelmudikarai,Thiruppuvanam | Manamadurai | Pulp & Paper | OS |
| 63 | Ksas Paper Industry Manalur | Manamadurai | Pulp & Paper | OS |
| 64 | Ksas Paper Industry Manalur | Manamadurai | Pulp & Paper | OS |
| 65 | Kwality Paper Mills Nel Mudikarai, Thirupuvanam | Manamadurai | Pulp & Paper | OS |
| 66 | Kwality paper mills, Nel Mudikarai, Thirupuvanam | Manamadurai | Pulp & paper | OS |
| 67 | M/ S Tnstc Ltd Thirupuvanam Branch,Thirupuvanam | Manamadurai | Service Station | OS |
| 68 | Aswin Polymers S.No.5/99A,Raasipuram ,Keeladi. | Manamadurai | Spinning | OS |
| 69 | Rukmani Mills Pvt Ltd S.No.27,Manalur Village | Manamadurai | Spinning | OS |
| 70 | The Visalakshmi Mills Limited Paper Divison,S.No.175/23 ,Manalur Village. | Manamadurai | Spinning | OS |
| 71 | Varadhalakshmi Mills Ltd S.No.14/4 ,Rajagampeeram. | Manamadurai | Spinning | OS |
| 72 | M/S Sri Jothi Steel Rolling Mill, Manalur | Manamadurai | Steel Rolling | OS |

| | | | | |
|---|---|---|---|---|
| 73 | M/S Sri Jothi Steel Rolling Mill Manalur | Manamadurai | Steel Rolling | OS |
| 74 | Sri Jothi Steel Rolling Mill Manalur | Manamadurai | Steel Rolling | OS |
| 75 | Indiana Rocks, Keeladi | Manamadurai | Stone Polishing | OS |
| 76 | M/S Indian Rocks Keeladi Village | Manamadurai | Stone Polishing | OS |
| 77 | M /S Sri Kasi Viswanath Products, Sayanpuram | Manamadurai | Textile Processing Bleaching | OS |
| 78 | M/S Sri Kasi Viswanath Produts Sayanapuram, | Manamadurai | Textile Processing Bleaching | OS |
| 79 | Royal Faabrics, Rajagambeeram. | Manamadurai | Textiles | OS |
| 80 | Dhanush Packing S.No.2/566, Madurai Mandabam Road, Manalur. | Manamadurai | Tile works | OS |
| 81 | The Gowri Tile Works 5/55, Kannar Street,Manamadurai. | Manamadurai | Tiles | OS |
| 82 | Jasmine Towels Private Limited S..No.46/3 ,Kanjarankulam. | Manamadurai | Towels | OS |
| 83 | Indra Metal Components S.No.5/2, Keeladi ,Silaiman. | Manamadurai | Vessels | OS |
| 84 | Sirius Zip Manufacturing Pvte Ltd, Sipcot Industrial Complex, Manamadurai. | Manamadurai | Zip manufacturing | OS |
| 85 | Patel Brothers Rameswaram Road,Naran101 Estate Melapasalai, Manamadurai. | Manamadurai | | OS |
| 86 | Southern Polymers Pvt. Ltd,Pottapalayam,Kondagai. | Manamadurai | | OS |
| 87 | Sri Balaji Associates 60/20,Rameswaram Road, Melapasalai | Manamadurai | | OS |
| 88 | Sri Devi Corporation S.No.3/4A-3.Madurai Mandabam Road, Manalur. | Manamadurai | | OS |
| 89 | Sri Rajasundarai Industries RS:327/2 Konthagai. | Manamadurai | | OS |
| 90 | Super Polytex Private Limited .No.174/3 Madurai, Mandapam Road, Manalur. | Manamadurai | | OS |
| 91 | The TN State Pampkar & Fibre Marketing Co-op. Ltd, Sivagangai Road. | Manamadurai | | OS |
| 92 | The TNSTCorporation Limited Divison 1, Nelmudikarai, Thiruppuvanam. | Manamadurai | Automobiles | RS |
| 93 | Rukmini Electronics Limited Pottapalayam, Konthagai (Po) | Manamadurai | Conveyar Belt | RS |
| 94 | Chitra Tile Works S.No.5/126A,Old Kalayar Kovil,Manamadurai. | Manamadurai | Polymers | RS |
| 95 | Suni Rubber Industries S.No.5/4 , Madurai-Mandapam Road, Manalur. | Manamadurai | Rubber | RS |
| 96 | Indiayana Rocks S.No.42/1B,Part Pasiyapuram,Keeladi. | Manamadurai | | RS |
| 97 | Kasirajan Industries S.No.53/3, Sottathatti,,Keeladi, Silaiman. | Manamadurai | | RS |
| 98 | Kuttuva Silicates 5-1-2 Silaiman,Kondagai Road,Keeladi. | Manamadurai | | RS |
| 99 | Mahesh Elastomers Private Limited 1/82, Mandabam Road, Manalur. | Manamadurai | | RS |
| 100 | Polygraphs S.No.171/5,Madurai Mandapam Road, Manalur. | Manamadurai | | RS |

| | | | | |
|---|---|---|---|---|
| 101 | Rotographs S.No.171/5 ,Madurai Mandapam Road, Manalur. | Manamadurai | | RS |
| 102 | Rukmini Electronics Limited Pottom village,Konthagai. | Manamadurai | | RS |

# ANNEXURE- V
# SURFACE WATER SAMPLE TEST RESULTS OF KANALODAI SUB BASIN

| Parameter | | 00 2 | 00 2 | v.. 20 03 |
|---|---|---|---|---|
| | | 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

GROUND WATER SAMPLING STATIONS LOCATIONS

| Sl.No | Station code No. | Location |
|---|---|---|
| 1 | 21001 | Avaniyapuram |
| 2 | 83109 | Thiruchili |
| 3 | 83218A | Paniyur |
| 4 | 83220 | Vidathakulam |
| 5 | 83218 | Pulvaikarai |
| 6 | 25006 | Thiruchili |
| 7 | 83223 | Maraikulam |
| 8 | 83123B | Manamadurai |
| 9 | 83028 | Manaloor |
| 10 | 83305A | Manadalamanickam |

ANNEXURE- V I

## GROUND WATER TEST RESULTS IN KANALODAI SUB BASIN

| Station code | Date of collection | General | | | | Alkalinity | | Hardness | | Major Ions | | | | | | | | | Biol |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PH | | | | | | | | | | | | | | | | | SAR |
| 21001 | 02.01.08 | 8.1 | 2280 | 1267 | 4 | 0 | 450 | 400 | 130 | 52.0 | 66 | 345 | 2 | 390 | 118 | 0 | 549 | 1.40 | 7.5 |
| 83109 | 09.01.08 | 8.0 | 360 | 199 | 1 | 0 | 150 | 150 | 70 | 28 | 19 | 21 | 1 | 21 | 12 | 0 | 183 | 0.12 | 1 |
| 83218A | 09.01.08 | 7.9 | 3570 | 2183 | 17 | 0 | 350 | 480 | 240 | 96 | 58 | 621 | 2 | 638 | 480 | 0 | 427 | 0.24 | 17.4 |
| 83220 | 09.01.08 | 7.9 | 1000 | 500 | 9 | 0 | 210 | 215 | 115 | 46 | 24 | 136 | 2 | 163 | 53 | 0 | 256 | 0.37 | 5.7 |
| 83228 | 09.01.08 | 7.7 | 160 | 94.5 | 3 | 0 | 45 | 60 | 40 | 16 | 5.0 | 11 | 1 | 11 | 10 | 0 | 55 | 0.30 | 0.8 |
| 25006 | 09.01.08 | 8.2 | 580 | 319 | 4 | 0 | 235 | 260 | 95 | 38.0 | 40 | 25 | 4 | 35 | 17 | 0 | 287 | 0.63 | 1 |
| 83223 | 09.01.08 | 8.0 | 650 | 362 | 7 | 0 | 160 | 180 | 90 | 36 | 22 | 69 | 4 | 60 | 41 | 0 | 195 | 0.64 | 3.2 |
| 83123B | 09.01.08 | 8.0 | 1720 | 943 | 21 | 0 | 120 | 680 | 160 | 64 | 126 | 90 | 6 | 461 | 29 | 0 | 146 | 0.30 | 1.5 |
| 83028 | 09.01.08 | 8.2 | 2820 | 1633 | 10 | 0 | 420 | 410 | 100 | 40 | 75 | 460 | 17 | 596 | 144 | 0 | 512 | 0.89 | 9.9 |
| 83305A | 02.01.08 | 8.3 | 630 | 358 | 1 | 10 | 220 | 115 | 70 | 28 | 11 | 87 | 3 | 32 | 58 | 12 | 244 | 0.32 | 5 |

ENVIRONMENTAL MONITORING ON WATER AND SOIL QUALITY AND CREATING AWARENESS & UPDATING OF "ENVIRONMENTAL AND SOCIAL ASSESSMENT REPORT" FOR KANALODAI 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) Prosopis 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 organization.

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 unto 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 Dindugul, Ramanathapuram and Thoothukudi Districts.

Kanalodai originates from the surplus of Mudakkankulam Kanmoi near Allalaperi Village in Kariyapatti Taluk. After passing about 30 Km along Thiruchuli and Kamudhi Taluk in its natural course, Kanalodai joins with Gundar River near Mandalamanickam village of Kamudhi Taluk in Ramanathapuram District. There is no Anicut constructed across Kanalodai.

Kanalodai flows through Thiruchuli, Kariyapatti Taluks of Virudhunagar District, Manamadurai Taluk of Sivagangai District and Madurai south Taluk of Madurai District.

## ENVIRONMENTAL PROBLEMS IN THIS SUB BASIN

### SAND MINING

In Kanalodai near S.Anaaikulam Tank in Sadayaneri village the, Public Works Department is mining sand from river bed. At this location sand deposited over decades forming natural aquifer is being mined.

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 industries situated in this sub basin area are lying in the small scale and orange category. The effluent from these industries is meager.

The details of Industries are given in Annexure-IV.

### CATCHMENT DEGRADATION

Forest cover in the basin is only 3.25% of the basin area which is quite inadequate. Most of forest is deciduous.

### 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 Panchayats.

**SEWAGE DISPOSAL IN MUNICIPALITY, TOWN PANCHYATS AND VILLAGES.**

Thirupparankunram, Thiruppuvanam, Harvipatti, Avaniyapuram, Thirumangalm Municipality, Usilampatti Municipality 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* has invaded the cultivable lands in Kanalodai sub basin, in the beds and 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 Prosopis 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.

## ACTIVITIES PROPOSED

### I. COLLECTION AND TESTING OF WATER AND SOIL SAMPLES, 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. Water samples will be collected at the following locations once in 3 months, when flow occurs.

1. **KO1- Kanal odai at Mudakkankulam Tank.**
2. **KO2- At Causeway in the Thiruchili-Narikudy road**
3. **KO3 - Kanalodai at Mandalamanickam Village.**

Soil samples are to be collected from selected locations to Asses the impact on the quality of soil due to various Environmental problems like use of chemical fertilizer and using the polluted water. From these locations 2 numbers of samples at regular one-year interval have to be collected and tested to determine precisely the impact on the degradation of the quality of the soil. Testing of soil samples are essential and will be tested in the educational Institutions.

### II. ENVIRONMENTAL AND SOCIAL KNOWLEDGE BASE:

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. CONDUCTING AWARENESS PROGRAMS:

Awareness Programs are necessary to create awareness among the public about Environmental aspects and the action to be taken by them to remove or reduce the impacts due to the Environmental problems. 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 2Nos of Awareness Meeting for public and 2 Nos. of awareness programs 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 three 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.

**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 KANALODAI SUB BASIN**

**DETAILED ESTIMATE**

| Sl no | Description of work | No | Measurement | | | Contents |
|---|---|---|---|---|---|---|
| | | | L | B | D | |
| **I.Water & Soil Quality, Project works Monitoring** | | | | | | |
| a) | Water samples from rivers in 3 locations collected once in four months for a period of Three years 3X 3 x3 = 27 Nos. | | | | | 27 Nos |
| b) | Water samples from rivers in 3 locations collected once in a year for a period of Three years 3X 3 = 9 Nos. (pesticides) | | | | | 9 Nos |
| b) | Testing charges for soil samples collected from polluted site 3 places/year/3years | 2 X 3 | | | | 6 Nos |
| c) | Hiring Jeep driver | 1No | LS | | | 4 Man months |
| d) | Conveyance, Purchases of Cans, Bottles, Chemicals hire Purchase of Still camera etc and Documentation of Water quality data and Engaging labour. | 3yrs | - | - | - | 3yrs |
| e) | Provisions for field Visits for environmental monitoring of project activities with respect to environmental safe guards. | 3 years. | | | | 3years |
| **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 | LS | | | | LS |

| | | | |
|---|---|---|---|
| c) | Impact Studies due to project investments. | LS | 10 Man months |
| d) | Expert Analysis and Development Reporting | LS | L.S |
| **III. Environmental Social Awareness Creation** | | | |
| a) | Propagation through Stickers, Tin Sheets, pamphlets,Banners | 3yrs | 3yrs |
| b) | Awareness Programs for Public | 2 Nos | 2 Nos |
| c) | Formation of Herbal Garden in Institutions | 1No./in 3 years | 1 Nos |
| 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, and HirePurchase of LCD , Up gradation of Computer and Accessories, Video films and Web site development and engaging computer operator | LS | LS |
| **IV.** | **Variation in Rates and unforeseen items** | **LS** | **LS** |

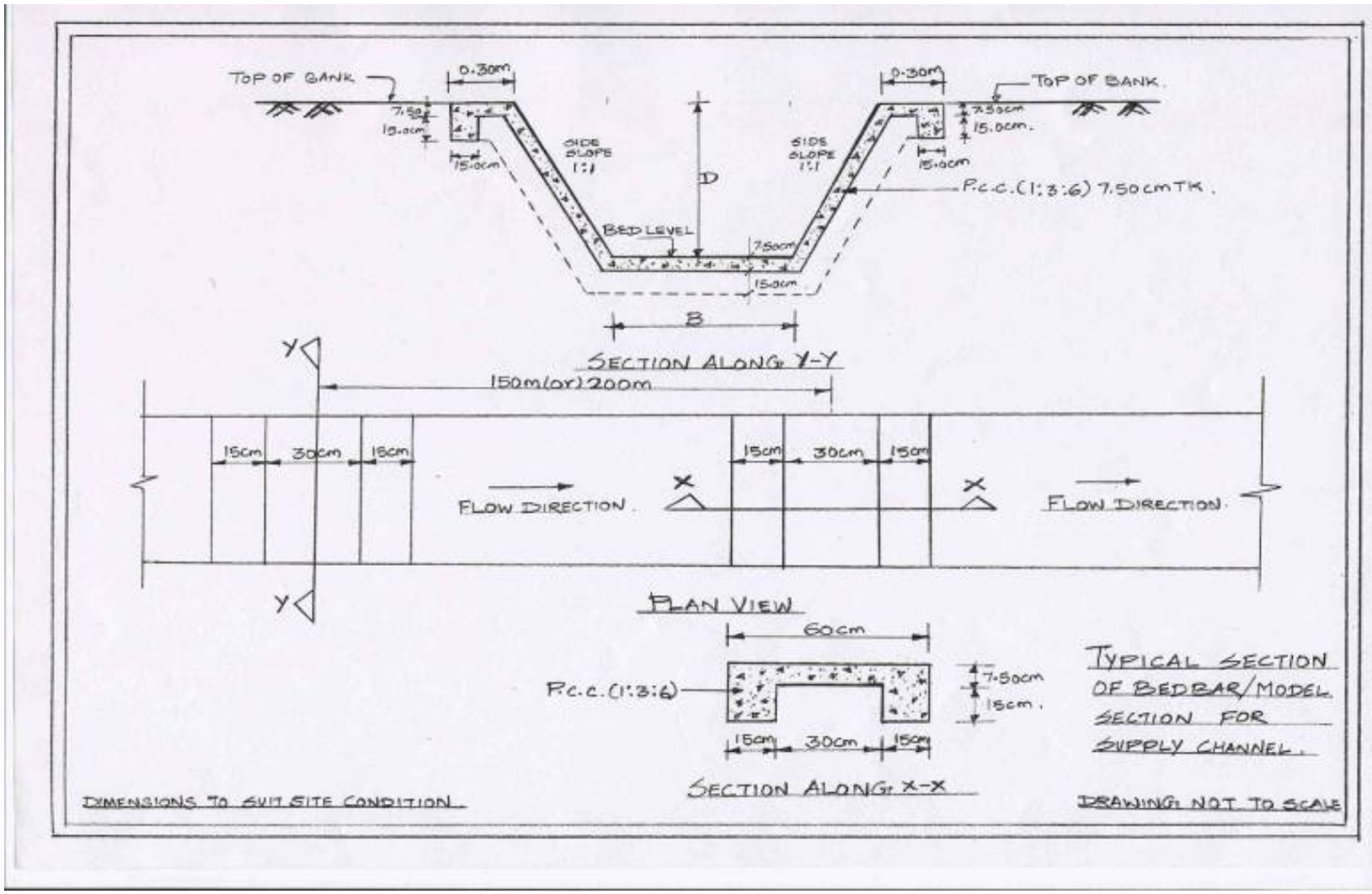
# Environmental Monitoring on Water and Soil quality and Creating awareness, updating of " Environmental and Social Assessment report" for KANALODAI SUB-BASIN. IN GUNDAR RIVER BASIN.

## ABSTRACT ESTIMATE

| Sl.No. | Qty. | Description of Work | Rate | Per | Amount |
|---|---|---|---|---|---|
| **I.Water & Soil Quality, Project works Monitoring** | | | | | |
| a) | 27 Nos. | Water Sample Testing charges | 1400 | each | 37,800 |
| b) | 9 Nos | Water Sample Testing charges (pesticides) | 12000 | each | 108,000 |
| b) | 6 Nos | Soil Sample Testing | 7350 | L.S | 44,100 |
| c) | 4 Man months | Hiring Jeep Driver | 3500 | 1 Man month | 14,000 |
| d) | 3 years | Conveyance, Purchases like cans,Bottles,Chemicals hire Purchase of camera etc and Documentation of Water and Soil quality data including labour charges. | 12000 | per year | 36,000 |
| e) | 3 years | Provisions for field Visits for environmental monitoring of project activities with respect to environmental safe guards. | 15000 | year | 45,000 |
| **II Environmetal, Social Knowledge base** | | | | | |
| a) | 25 Man months | Village Level Data Collection on Envirnmntal and Social State regarding other impacts | 5000 | month | 125,000 |
| b) | L.S | Expert Analysis and Development Reporting on other impacts | L.S | | 20,000 |
| 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 (after project) | L.S | | 30,000 |

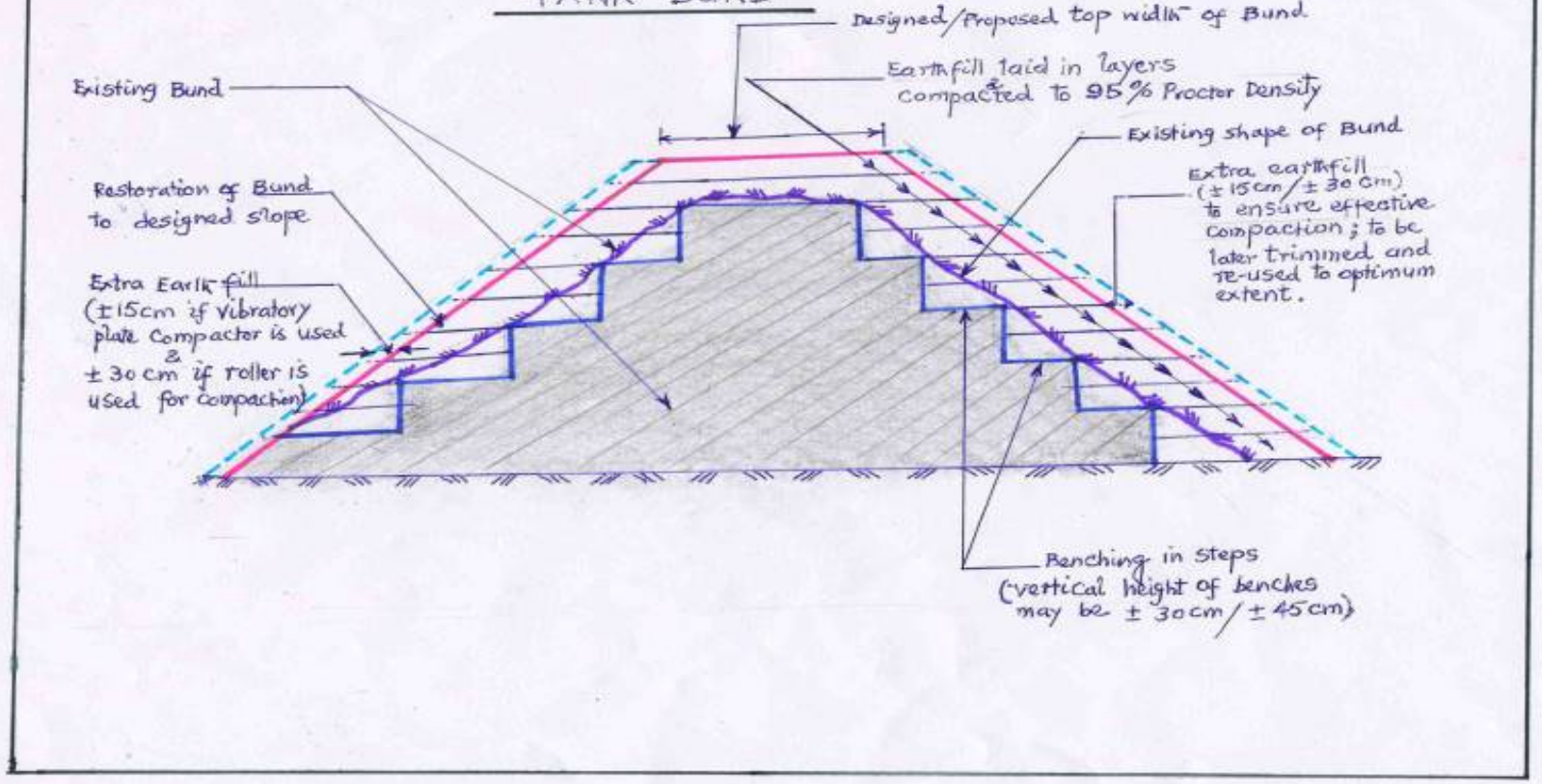
| Sl.No. | Qty. | Description of Work | Rate | Per | Amount |
|---|---|---|---|---|---|
| **III. Environmental Social Awareness Creation** | | | | | |
| a) | 3 years | Propagation through stickers, Tin Sheets, pamphlets, banners. | 3000 | per year | 9000 |
| b) | 2 Nos. | Awareness Program for Public | 15000 | each | 30000 |
| c) | 1 Nos | Providing Herbal Gardens in School/Institutions | 25000 | each | 25000 |
| 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 | | 50,000 |
| e) | LS | 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 | L.S | | 36,000 |
| **IV.Variation in rates and unforeseen items.** | | | | | **4,100** |
| | | **Total** | | | **700,000** |
| **Rupees Seven Lakhs only** | | | | | |

# DESIGN AND DRAWING

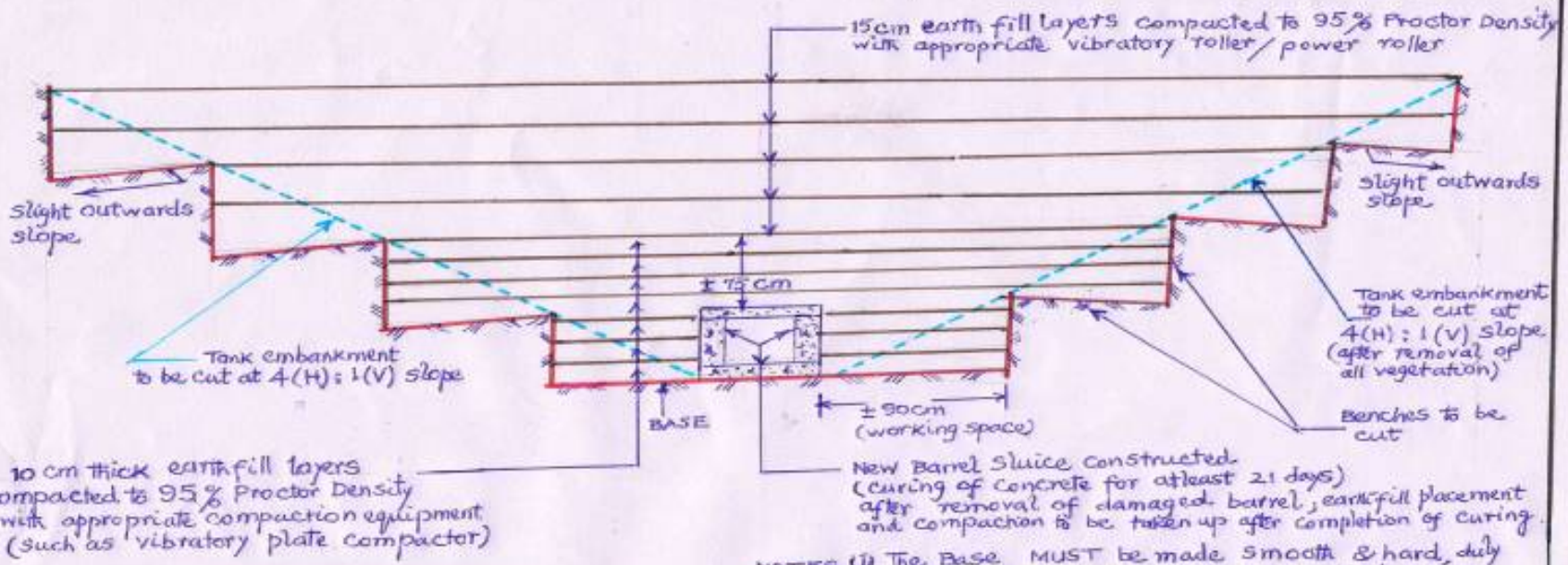

TOP OF BANK
0.30m
7.5cm
15.0cm
15.0cm
SIDE SLOPE 1:1
D
BED LEVEL
7.5cm
15.0cm
B
SIDE SLOPE 1:1
0.30m
TOP OF BANK.
7.5cm
15.0cm.
15.0cm
P.C.C.(1:3:6) 7.50cm TK.
SECTION ALONG Y-Y
Y
150m(or)200m
15cm
30cm
15cm
FLOW DIRECTION.
X
X
FLOW DIRECTION.
Y
PLAN VIEW
60cm
P.C.C.(1:3:6)
7.5cm
15cm.
15cm
30cm
15cm
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




## RECONSTRUCTION OF SLUICES

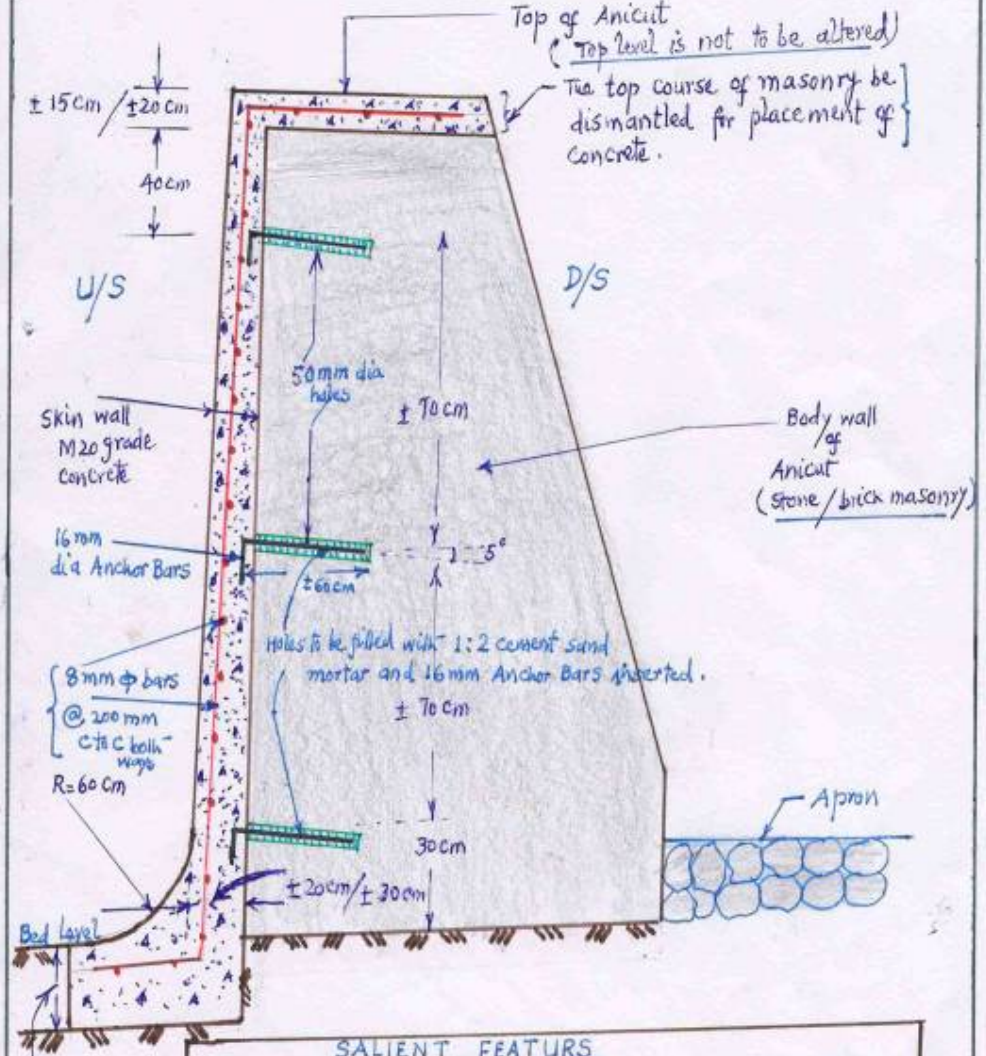
NOTES (i) The Base MUST be made smooth & hard, duly compacted with compactors / pneumatic tampers.

(ii) Earth fill compaction adjoining the Barrel and Benches should be compacted by mechanical / pneumatic tampers to ensure effective compaction.

(iii) Earth obtained from "benching" be reused (after removal of clods (bigger than 7.5cm), vegetation etc) in earth fill layers.

# TYPICAL SKETCH

## Rehabilitation of Anicut through SKIN WALL Concrete




### SALIENT FEATURS

- Joints on u/s surface to be raked to 25 mm depth & Surface roughened by Chipping.
- Drill holes of 50 mm to be filled with 1:2 mortar and 16 mm Anchor Bars to be pushed in.
- The roughened surface to be kept wet for 72 hours and cement slurry (1:2·5) of 0.70 water-cement ratio be applied over the surface prior to placement of Skin Concrete.
- Concrete of M20 Grade is to be used with 20 mm maximum aggregate size.
- Curing is to be done for 21 days.
- Thickness of Skin Concrete : 15 cm at top & 20 cm 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 ± 1.50 m